

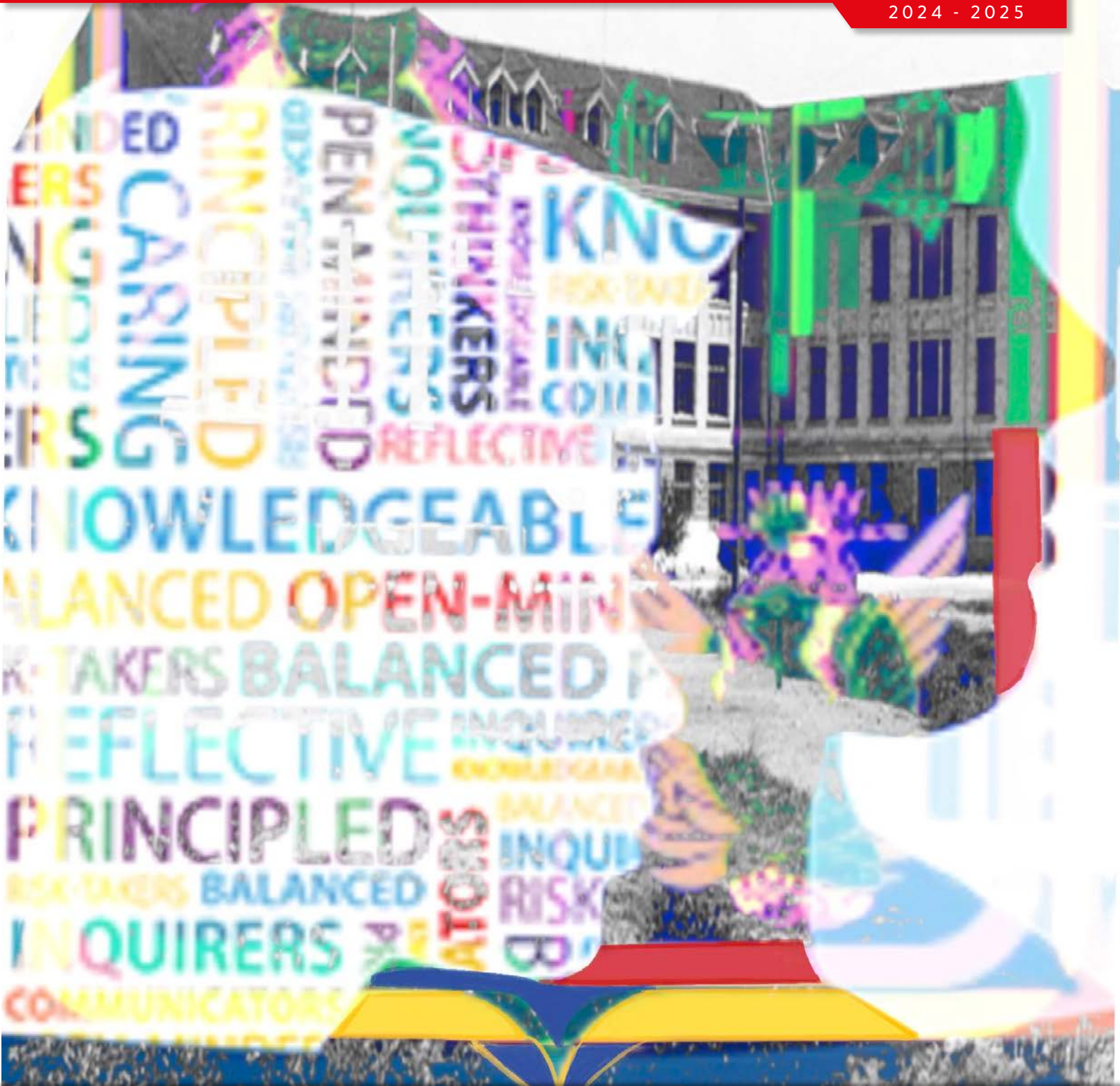
# IB VISIONS

PSYCHICO COLLEGE INTERNATIONAL BACCALAUREATE DIPLOMA PROGRAMME



1925 - 2025  
ATHENS COLLEGE

2024 - 2025



Athens College  
1925-2025

Politics &  
Culture

Humanities

Business &  
Economics

Arts &  
Sciences

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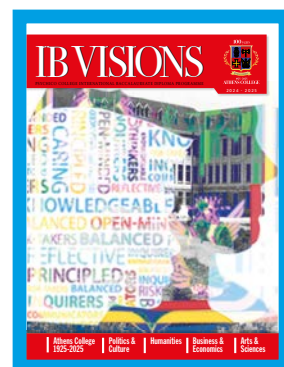
# From the Editors

**W**elcome to this special centennial edition of *IB Visions*, created in celebration of our school's 100-year anniversary. This year's theme honors a century of learning, growth, and global-minded education—values that continue to thrive in our school community today. Producing *IB Visions* is a collaborative endeavor, and we are deeply grateful to the many individuals who made it possible. A heartfelt thank you to our talented student editors, whose dedication, leadership, and editorial judgment have shaped every page. Finally, we thank our school administration for their ongoing support of student-led initiatives and for recognizing the importance of giving young voices a platform.

**Athina Foka** – *Chief Editor/Coordinator*  
**Elisabeth Neiada** – *Assistant Chief Editor*

**M**y time as an editor for *IB Visions* has been an incredibly rewarding experience, offering me the chance to engage with a variety of writing styles and perspectives. Beyond refining my own writing through articles on topics I am passionate about, such as Finance and Data Science, I have also gained a deeper appreciation for the editorial process—helping shape the work of others to ensure clarity and impact. Working with students with diverse interests has allowed me to see the power of language in action, especially when writers bring their unique viewpoints to the table. Editing has also taught me the importance of structure and coherence in communication, skills that extend far beyond the pages of this magazine. I am very grateful that I had the chance to participate in *IB Visions*, and I encourage everyone to partake in it.

**Apostolos Anastasopoulos**  
*Editor, IB DP Year 2*



*Producing IB Visions is a collaborative endeavor, and we are deeply grateful to the many individuals who made it possible.*



**B**eing a senior editor has been an incredibly creative and insightful experience. I was honored to take on the responsibility of organizing the editing team and coordinating with all members to ensure everything ran smoothly. I met new people and grew closer to those I already knew. This role helped me understand my own limits while strengthening my organizational and communication skills. I also improved my time-management abilities as I learned to balance my academic workload with the responsibilities of being an editor.

**Maria Lymperiadi**  
*Senior Editor, IB DP Year 2*

*Each student may view this magazine as an opportunity to delve into a realm not yet explored; a boundless sea of subjects not yet discovered.*

**I** did not expect to be thrust into the world of journalism in high school – and certainly not through a school magazine. And yet, *IB Visions* is so much more than that; it is a collection of stories, each page representing an interest of a student taken that much further. “Writing an article” – although seemingly elementary, is actually a very engaging and intriguing process. From pondering on the topic to reflecting on the tone and style, each piece is an expression of an IB student’s inner machinations. The student taking music choosing to write about biochemical processes, or the physicist discussing Shakespeare’s *Hamlet* – each student may view this magazine as an opportunity to delve into a realm not yet explored; a boundless sea of subjects not yet discovered. And as an editor, I had the utmost honor to oversee these texts – a glimpse into my classmates’ inner world, their dreams, hopes and aspirations. All pieces that we, at *IB Visions*, are so glad to share with you, for this magazine is a testament to our close-knit community, a talisman of cooperation and communal support. May you find in each and every article its own, unique tale – and immerse yourself in the worlds they unveil, the questions they pose, and the wonder they ignite.

**Charilaos Valsamis**  
*Senior Editor, IB DP Year 2*



ATHENS COLLEGE 1925-2025

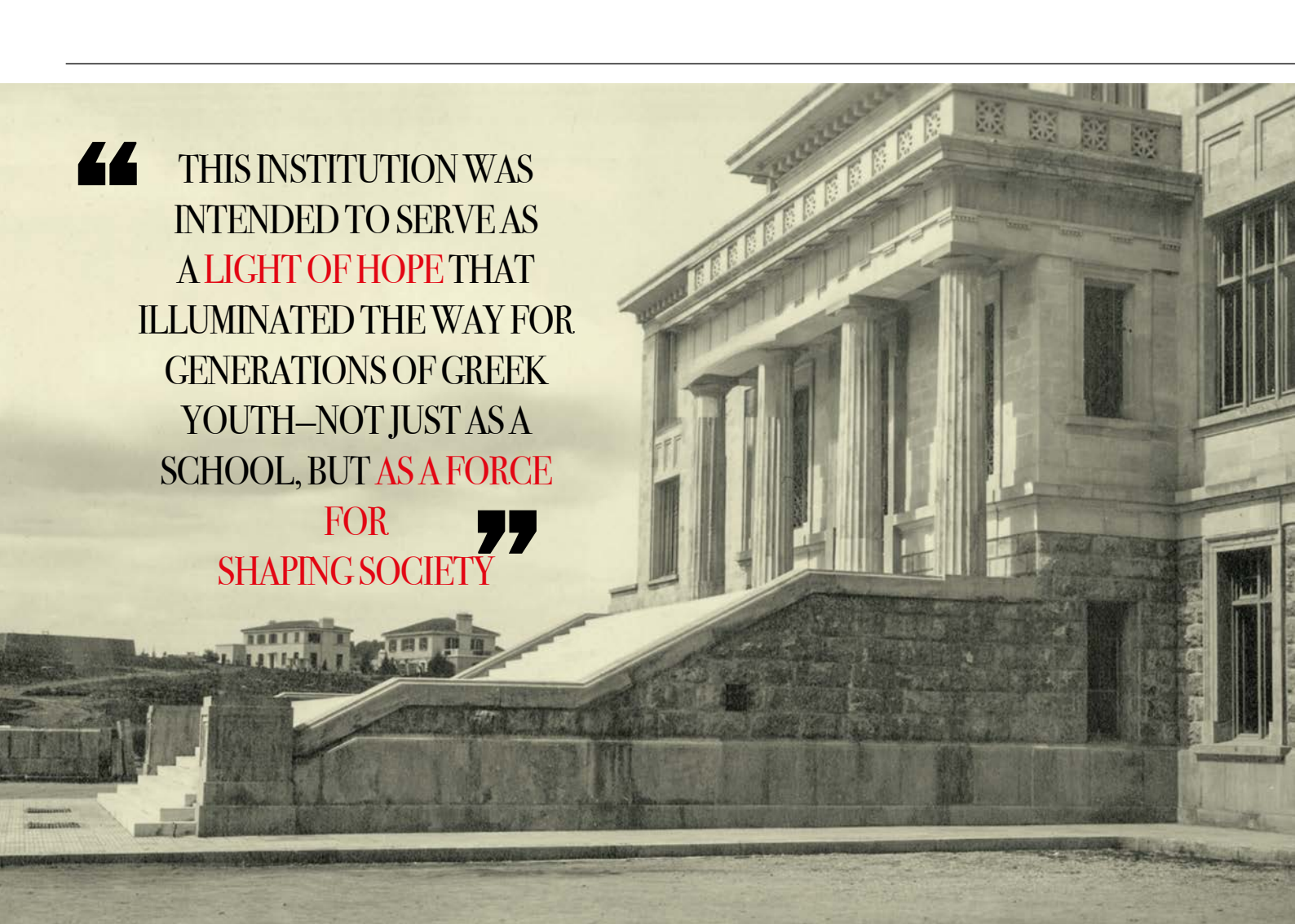
# A Century of Contribution to Education, Society, and Our Homeland

An Editorial

by IB DP Year 1 Editors: Marilia Petroleka, Danai Tatsopoulou, Dafni Tsimpre

It is the year 2025... We find ourselves at a significant juncture in time. As we stand on the threshold of a remarkable milestone and momentous occasion, Athens College proudly celebrates a century. A venerable tapestry woven from the threads of vision, resilience, dreams, tenacity, and a profound commitment to education. Much like a phoenix rising from the ashes of history and ascending from the remnants of its past, etched onto our school's emblem, Athens College was established in 1925. It was birthed by the foresight and

benevolence of enlightened Greeks led by the determined Emmanuel Benakis, and Stephanos Delta, alongside their American philhellene allies. This institution was intended to serve as a light of hope that illuminated the way for generations of Greek youth, not just as a school. It has fostered and mentored not only academics but also humanists and patriots who have ignited and continue to brighten the world. Throughout history's unravelling and as each decade passed, our school continued to develop, acquiring more responsibilities in aiding our country in the form of new building infrastructures which



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**FOR** **”**  
**SHAPING SOCIETY**

broadened pupils' sphere of interests, like the Science Building we now call our home, the International Baccalaureate Building, and by welcoming more levels of education, and therefore providing more opportunities. Wandering around Benaki Hall, the heart of our esteemed institution, a witness to the ebb and flow of history, one can hear the laughter and aspirations of thousands of students who have passed through its consecrated doors echoing through its walls. Athens College has persevered, a firm pillar amid the storms and tides of change, from its modest origins, with only a few students, to its thriving and blossoming community today. Every decade has left its mark on history, creating a legacy rich of scholarly achievements (**παιδεία**), cultural contributions (**πατριδα**), and a steadfast dedication to improving society (**κοινωνία**).

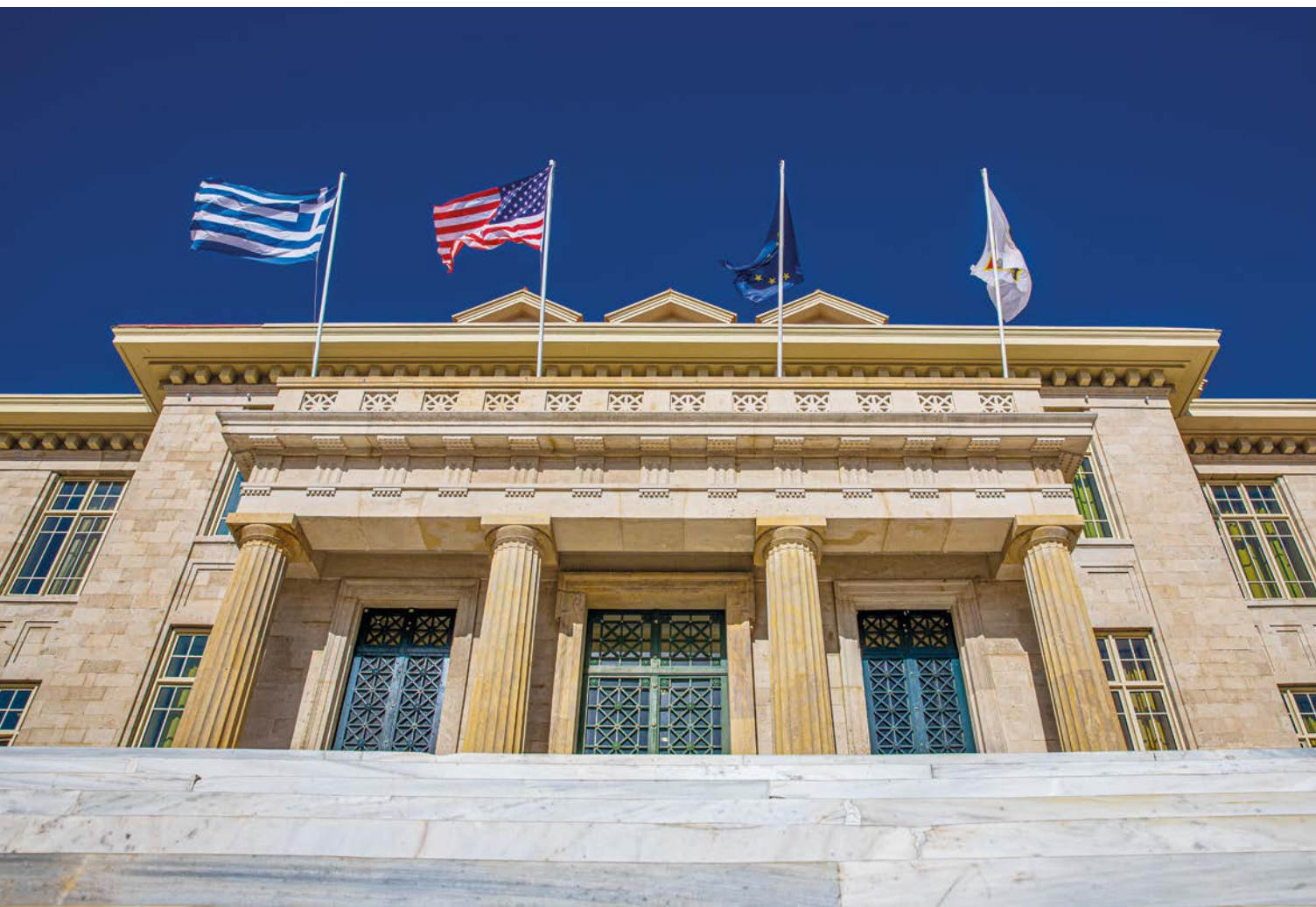
**A**thens College does not merely aim to educate the youth, but aspires to cultivate responsible global citizens, serving as a beacon of excellence in Greek education and an instrument for future leaders. Since its foundation in August 1925, the institution has sought to provide equal educational opportunities to students from diverse backgrounds, equipping them with the knowledge and guidance necessary for their integration in society as conscientious citizens of tomorrow. A testament

to its commitment to social responsibility, Athens College understands the economic adversities that some families face and is more than willing to help. The School Project exemplifies its unwavering commitment to provide not only academic access to students from diverse backgrounds, but also allow its existing students to effectively apply their acquired knowledge in a meaningful way. The students incarnate the roles of teachers, using this knowledge to educate their less fortunate peers. Through this endeavour, Athens College fosters a spirit of collaboration and intellectual enrichment, ensuring

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THE SCHOLARSHIP FUND,  
ESTABLISHED IN 1925, MADE IT  
POSSIBLE FOR HUNDREDS OF  
STUDENTS TO ATTEND DESPITE  
FINANCIAL DIFFICULTIES.

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that education serves as a bridge connecting students of diverse backgrounds rather than a divisive issue.

**B**eyond its efforts to promote inclusivity and equitable access to education, Athens College offers a wide variety of opportunities to its students that guide them towards deciding their career path. By the age of 16, students, having developed their mental, psychological and intellectual faculties, are called upon to make a rational decision between the Greek National Curriculum and the International Baccalaureate (IB DP) Diploma Programme. The former culminates in the Greek high school certificate at the end of 12th grade and is structured into two 2 fields in Grade 10: humanities or mathematics and 4 specialized streams in Grade 11: humanities, mathematics and sciences, health sciences or economics and



**Emmanuel Benakis**  
(1843- 1929)



**Stephanos Delta**  
(1863- 1947)

computer science. Alongside their chosen subjects, students continue to engage with the regular classes they have been studying in the past years, ensuring that they spend time acquiring specialized expertise on their subject choice as well as a well-rounded academic foundation. The IB is a two-year programme taught in English, which promotes a holistic learning environment. Students have the ability to tailor their list of subjects from five categories: Languages, Mathematics, Sciences, Social Sciences and Arts. This path is suited for the students that intend to pursue their studies abroad, exemplifying Athens College's commitment to nurturing autonomy and freedom of choice. By offering the flexibility for students to study both in their homeland and abroad, the school contributes to their academic development, enabling them to choose their career path and guiding them along the way.

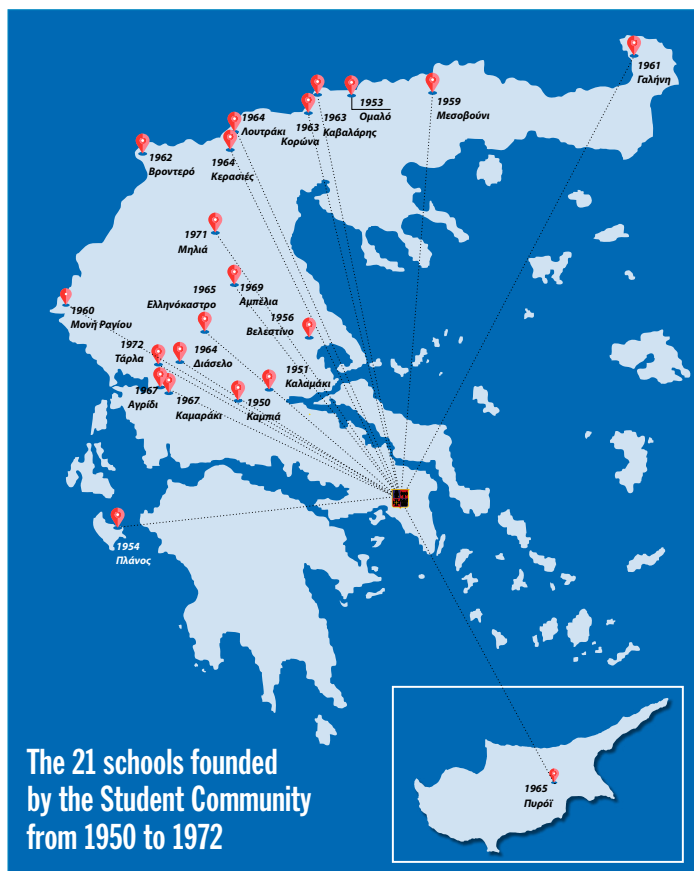
In the realm of equitable access to education for all and the plethora of opportunities for its students, Athens College's mission is to holistically develop well-rounded individuals through its immense contributions to education.

**T**hroughout the centennial of its existence, Athens College has contributed immensely to our Homeland. Despite many years of economic crisis, enemy occupation, poverty, dictatorship and political instability encountered during these 100 years, Athens College has consistently served the youth of Greece and has, therefore, significantly benefited our country. The vision itself of our School's founders underline its duty to help our Homeland. Stephanos Delta stated that the mission of Athens College would be to provide an education that will enlighten students from Greece and from abroad. The founders envisioned a school that would provide the Greek society with patriotic men, along with other characteristics. Also, thanks to the Scholarship Fund, created in 1925, hundreds of students have been able since then to attend Athens

a result, the Student Community took initiatives to cover the reconstruction costs of schools in the Greek provinces starting with a school in Kampia, Fthiotida. The students raised money by putting aside the proceeds of a Christmas fundraiser organized by the Student Council and of simple meals supported by the College community. This effort continued for more than two decades. In 1962, the Academy of Athens bestowed upon the Athens College Student Association an award recognizing "that for fifteen years it actively served public-spirited and patriotic projects through the financial support of the students." In addition, after the war, the Boarding School experienced an impressive growth having more than 230 boarders, mostly Greeks from abroad and from the Greek province. It is therefore evident that Athens College has been supporting our homeland by supporting its youth that were in need while also uniting Greeks from all around the world.

The result of such a noble cause and efforts made throughout the years has been impressive. Many Athens College alumni, thanks to the education that they have received, leave their mark. They enter reputable universities around the world and build their country's reputation or acquire leading positions. Five Greek prime ministers and many other politicians have graduated from our school. Moreover, Athens College has always set the bar high, and all other schools have been using it as a point of reference. This has created competition raising the overall standard of education offered to Greeks.

**E**ducation is of detrimental value to society. It equips a nation's citizens with all the necessary tools to reach their full potential. Athens College not only excels as a provider of such education but also as a contributor to Greek society as a whole. This contribution happens on two levels. Within the school, be it the Scholarship Fund - established in 1925 by Stefanos and Penelope Delta - including programs such as the Financial Support Scholarships whereby financial aid is provided, based on merit, to exceptional students who may not have been able to otherwise attend, to the 15 Member Student Council, where pupils are called upon to vote for their representatives who in turn, engage in a plethora of activities which are beneficial to all, such as establishing the Recycling program and the anti-smoking campaign throughout the high school. These internal mechanisms of the school ensure firstly, an increased amount of equitability as far as access to quality education is concerned, and secondly, an environment through which all students are exposed from a young age to the democratic system and thus can transfer such values into society in the future. Besides the actions taken by Athens College internally, the school frequently works with charities. Athens College has partnered up with a plethora of organizations ranging from *Make a Wish* to *Power of a Flower*, giving its students plenty of opportunities for civic engagement. Through projects, whether that is students actively engaging in the organizations' affairs or organizing fundraising events,



College despite their financial difficulties. Our School, thus, contributes significantly to our Homeland by educating Greeks irrespective of their social or financial status.

Athens College's great offer was also present in times particularly difficult for our country. Soon after the liberation of Greece in 1949, the College's students felt in their duty to participate actively in their country's rehabilitation. As



**The first students of Athens College  
at the 18 Androu Street building**



**Commencement 2024**

students get to contribute to society through the school and take initiative. Often students organize their own events raising money for an important cause. It was recently, under the auspices of the IB CAS Department, that a “CAS Day” was organized to introduce a large number of charities with which the students may collaborate. Athens College for years has contributed to society by producing excellent scholars but most importantly by making civic responsibility a core part of its education.

**A**s we embark on this commemorative journey, we reflect upon the ideals set forth by our founders, of an education that transcends mere academic achievement and embraces the holistic and anthropocentric development of the individual. Athens College’s ethos resonates like a timeless symphony. An enduring symphony which harmonizes and intertwines the wisdom of the ancients with the innovative spirit of the modern world. We honor the past, celebrate the present, and eagerly look forward to the future, when the legacy of Athens College will continue to inspire minds, ignite passions, and nurture the leaders of tomorrow. From 18 Odos Androu on the 19<sup>th</sup> of October 1925, where the College resided for three years to Stefanou Delta 15, Psychiko 154 52 of Phylactopoulou’s description “Επί χρόνια το Μπενάκειο, με λειψή τη δυτική του πτέρυγα, στεκόταν ολομόναχο πάνω στο

γυμνό του λόφο σαν φρουρός αγέρωχος του Αττικού πεδίου.” (“*For years Benakeio, with its western wing missing, stood all alone on its bare hill like a proud sentinel/ guardian of the Attic field.*”)<sup>1</sup> to the version we cherish today; abundant in life and dreams, and finally to a more prosperous one in the future. In this centennial celebration, we are not merely marking a date, but rather we are honoring a living legacy. One that thrives through each student, each teacher, and each moment that unfolds within our hallowed halls.

It is the year 2025...

We find ourselves at a diminutive, yet always meaningful, juncture in time.

A part of an intricate, more illustrious and colossal puzzle of which each of our contributions marks an important piece, yet its fabrication will eclipse beyond us.

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<sup>1</sup> Κολλέγιον Αθηνών, 1925-1975: πενήντα χρόνια από την ίδρυσή του (Κολλέγιον Αθηνών, 1976)

IN THIS CENTENNIAL CELEBRATION, WE ARE NOT MERELY MARKING A DATE,  
BUT HONORING A LIVING LEGACY  
ONE THAT THRIVES THROUGH EACH STUDENT,  
EACH TEACHER, AND EACH MOMENT WITHIN OUR HALLOWED HALLS.

# Treasure Hunt Tasks

## FOR IB VISIONS



### Rose Petal Sweet

#### The Traditional Delicacy of Kalavryta

By: **Marinaki Eleni, Beraha Monika, Eleonora Katsampi, Fenareti Chassapi, Stavros Giannidis, Alexandros Armaos**

**T**he rose petal sweet, *also known as rodozhari (rose sugar)*, has been produced by the local community since old times, with no specific moment marking the origin of the product. Through a brief conversation/interview with a local producer and seller, we uncovered the secrets behind this unique product, which comes from just two rose fields in total.

This one-of-a-kind ingredient is the rose petal of the flower. When initially collected, the total weight of the harvest is up to 2 tons. Mixed with sugar, lemon juice and water, and after a long period of waiting, the final product is created, put in a jar, and sold to the consumer.

The sweet tastes wonderful when used with a piece of bread, with a texture similar to marmalade but a taste similar to a meal in heaven. It's a necessary part of the to-buy-list whenever visiting the area. **V**

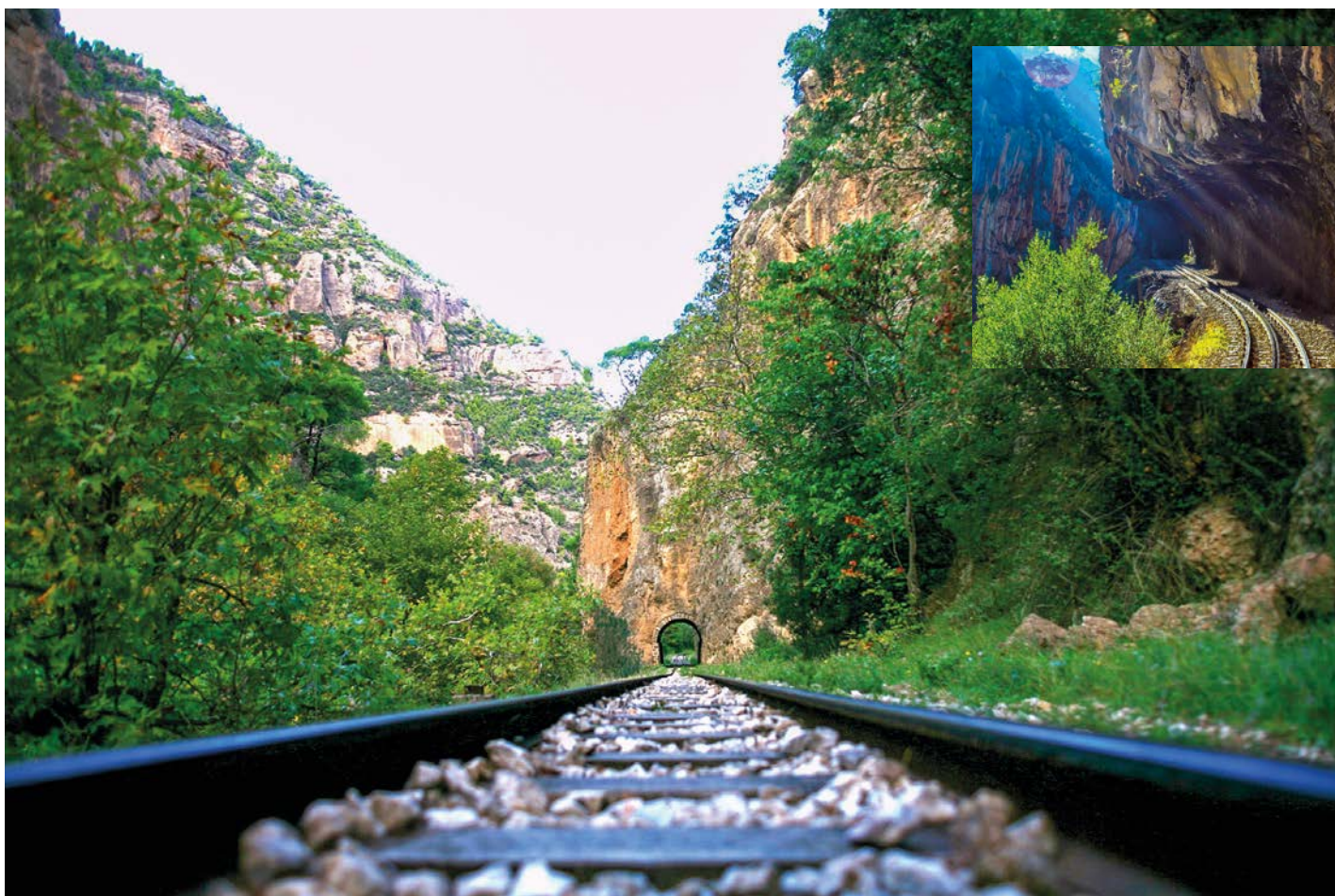
### Galaktoboureko

By: **Katerina Kostantakou, Eleni Mela, Myrto Bampatsikou, Elena Kokotou, Stella Mili, Zafeira Lazaraki**

**G**alaktoboureko is a traditional Greek dessert known for its distinctive taste and appearance — sweet custard in crispy layers of pastry and topped with syrup. Its origins lie in the fusion of Byzantine and Ottoman culinary traditions, where dairy-based desserts were popular. Over time, galaktoboureko became a staple across Greece, particularly in areas with strong dairy cultures. In Kalavryta, galaktoboureko is a staple of its culture and culinary identity. With its fresh local milk and handmade pastries, Kalavryta has embraced the specific dessert as a representative part of its culinary heritage. Local bakers also often follow family recipes passed down through generations, using regional ingredients that are locally produced and collected to create their own version of the dessert that's rich and flavorful in a unique way. It's commonly served during festivals and family gatherings, making it more than a dessert, but a way of uniting people and rendering it a symbol of tradition, hospitality, and societal unity. **V**



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# Odontotos Rack Railway

By: Dimitra Lampaki, Nefeli Makridi, Melina Pelekanaki,  
George Konstantinidis, Anastasis Papaliolios

Our journey begins where the waves caress the Peloponnese in Diakopto and continues all the way up to the historical municipality of Kalavryta, where mist lays its damp touch on everything it encounters like a biblical deluge. Our companion in this mountainous journey is the Odontotos rack railway. The construction of Odontotos, which cost around 1 million euros, began in 1889 and it has been in use every day of the year come rain or shine. After visiting Kalavryta's station and asking locals about the train's main purpose and any special experiences they had, we concluded that the train is valuable to the area

because of its role in tourism. Every day, it harbors many tourists, Greeks and visitors from abroad, enabling them to visit the town and explore its abundant archives, according to the woman working at the front desk at the train station. Odontotos is so deeply embedded in their daily life, that no special recollection stands out in the mind of the locals. If one is possessed by a sudden urge for further exploration after a refreshing break for baklava along the cozy cobblestones of Kalavryta, the impressive Chelmos-Vouraikos UNESCO Global Geopark is the ideal trail for a hike, which of course is engulfed by our most loyal trusted companion, the old-fashioned Odontotos.



# What is the significance of the Kalavryta clock tower in history?

By: Thanos Chrysovergis, Smaragda Vasilaki, Maria Stokidi, Leandros Karouzos, Lenia Olympiou, Antonis Elliott

The clock tower of Kalavryta has a major historical significance for the town – it serves as a constant reminder of the massacre carried out by the German army on December 13, 1943, during WWII. This mass execution involved the tragic death of more than 500 male citizens of the Kalavryta municipality aged 13 and above on the hill overlooking the whole town. When the German army set the town on fire, the whole city was burned to pieces. These catastrophic events started exactly at 2:34 PM; hence, the clock on the clock tower stopped exactly at that time. This, of course, serves as a constant, timeless reminder of the fateful and criminal actions of the German army, which marked the end for many lives while also ruining those of many others. Also, the clock being stopped at that



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exact time also pays tribute to the lost lives of those who partook in this massacre. Suffice it to say, this historical monument holds great symbolism for the town of Kalavryta.

The photo depicts the clock tower located in the central square of Kalavryta. It is permanently “frozen in time” at 2:34, the exact time the massacre at the hill just outside Kalavryta took place. This is a reminder of the sacrifice of the 696 men and young boys who were executed in cold blood, while witnessing their town being

burned to the ground. The clock symbolizes the trauma and resilience of the town. It is a symbol of loss and the strength of the people of Kalavryta who were able to move on after this horrific and inhumane act. Its location, the center of the town, is significant, as it acts as a bridge between the past and the misfortune this town has endured, and its future. 

## The Heart of Kalavryta

By: Foteini Giakoumatou, Konstantinos Kostakis, Axilleas Letsios, Haris Mantouvalos, Konstantinos Patsis, Elli Saloustrou

The heart of Kalavryta is the city hall, the square and the church. The reconstruction of the square took place 1.5 years ago. They changed the tiles, and they added some statues on the square. According to a local, there is a legend within the village saying that the clock of the left tower of the two clock towers found in the central square of Kalavryta, miraculously malfunctioned during the exact day and hour of the slaughter.

The museum composition with the name “Nazism’s tomb” aims to show how the tragic nature of the slaughter in Kalavryta by the Nazi army helped uncover the fundamental brutality and misanthropy of the Nazi reign to the world. The fallen Nazi’s flag at the center of the room is positioned beneath the names of the slaughtered village folk creating a contrast given that these people literally fell to the ground on the day of their murder. This contradiction aims to show that despite Germany’s dominance over the world, the sacrifice of the villagers of Kalavryta and of people all around Europe, stands supreme against any monstrosity or milestone that the Nazi Germany ever achieved. It is an absolute tribute to the humanity of the victims and all they stood for. 



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# Pardon Me?

## The power which has been endlessly abused by presidents

By: Danae Tatsopoulou



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“I am satisfied that I am not going to do anything, I said I would abide by the jury decision, and I will do that, and I will not pardon him.”

– President **Joe Biden on pardoning his son**  
on the 13th of June 2024 at a press conference in Fasano, Italy.

“To All to Whom These Presents Shall Come, Greeting:  
Be It Known, That This Day, I, Joseph R. Biden, Jr., President of the United States, Pursuant to My Powers Under Article II, Section 2, Clause 1, of the Constitution, Have Granted Unto

ROBERT HUNTER BIDEN  
A Full and Unconditional Pardon”  
– the full and unconditional pardon given on the  
1st of December 2024 by Joe Biden to his son, Hunter Biden.

**F**ord pardoned Nixon after Watergate. Clinton pardoned his half-brother. Trump pardoned the father of his son-in-law, Charles Kushner, his political adviser, Steve Bannon, a top official of his 2016 campaign, Paul Manafort, a Republican donor, Elliot Broidy and more.

There is a clear political weaponization of presidential pardons with many granting clemencies to campaign donors and allies. However, it may be argued that this method can be justified when used to correct injustices of the federal courts. George Washington was the first to pardon two men who were a part of the Whiskey Rebellion, a protest regarding taxes on whiskey. Carter issued a pardon to all men who had evaded the Vietnam War draft. Obama issued pardons to hundreds of individuals who had been convicted of nonviolent drug offenses. There is some truth to the fact that this power may be used to undo injustices and serve the people when they have been failed by the very system that claims to be protecting them.

Given that completely banning the power may cause more harm than good - the issue on whether there should be restrictions on whom a president may pardon, remains. Biden's main line of defense, according to his official Statement regarding Hunter's pardon, is: “I have watched my son being selectively, and unfairly, prosecuted” and “The charges in his cases came about only after several of my political opponents in Congress instigated them to attack me and oppose my election.” It is likely that these claims have some validity to them, but in my opinion fail to convince for the following reasons. Firstly, it is almost inherently true that the family members of the president are going to be subject to severe criticism by the media, given that more often than not the



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private lives of politicians are reported on, so regardless of the alleged interference of political opposition, Hunter Biden's case would have been to some extent influenced by the extraordinary amount of criticism received by the public and media. Furthermore, even if the charges against Hunter Biden were exaggerated by the media to an extent, this may be balanced out by the fact that Hunter Biden's resources and legal defense are presumably the best in the country given that his father is the president, and hence can deal with the increased level of difficulty of the case at hand. Moreover, the decision of Biden to pardon his son arguably outweighs (as far as degree of harm is concerned) the consequences that his son would have had to face given that it undermines both his reputation and legacy but also, gives room for future presidents to justify their own controversial pardons such as Trump's idea of issuing a mass pardon for those involved in the January 6 attacks.

Taking into account all of the above, it seems to be the case that restricting pardons so that presidents may not pardon their family members, is the safest way to ensure that this right is going to be abused to a lesser extent without depriving the American people of the chance to be granted clemency for being unjustly prosecuted. 

# Neo-Colonialism or Security Imperative?

## Unraveling Israel's Role in Gaza

By: Maria Petroleka

Is it possible for a nation to be occupied by a foreign power, yet be considered independent by the international community? This paradox encapsulates Gaza's reality. Over 2 million people<sup>1</sup> live confined and controlled with no access to famine under conditions widely criticised as inhumane, that largely stem from Israel's occupation. Despite this, Gaza is recognised as having gained independence through the Oslo Agreement in 1995, that defined borders intended to separate the two states. However, beneath this facade of independence, lies a more complex reality that many believe resembles neo-colonialism.

Described by Kwame Nkrumah as "the last stage of imperialism"<sup>2</sup>, neo-colonialism's essence is that the subjected state is in theory independent, yet remains under

1 Fletcher, Tom. "Israel Deliberately, Unashamedly Imposing Inhumane Conditions on Civilians in Gaza, Under-Secretary-General Tells Security Council, as Risk of Famine Grows." *ReliefWeb*, 13 May 2025, <https://reliefweb.int/report/occupied-palestinian-territory/israel-deliberately-unashamedly-imposing-inhumane-conditions-civilians-gaza-under-secretary-general-tells-security-council-risk-famine-grows>. Accessed 3 June 2025.

2 Nkrumah, Kwame. "Introduction." *Neo-Colonialism: The Last Stage of Imperialism*. 1965. Marxists Internet Archive, <https://www.marxists.org/subject/africa/nkrumah/neo-colonialism/introduction.htm>. Accessed 3 June 2025.



indirect control of an external power.<sup>3</sup> In Gaza's case, while Israel does not formally occupy the territory, it exerts influence over the nation through economic restrictions, political dominance, and military oversight. Therefore, this article will examine the extent to which Gaza can be considered a modern case of neo-colonialism.<sup>4</sup>

The relations between Israel and Gaza have been formed through decades of conflict, shifting borders and political agreements. Israel's victory in the Six-Day War in 1967 marked the beginning of Gaza's subjugation to its neighboring state and Israel's control over the territory. However, the resolution of the UN in the same year condemned Israel's

3 Nkrumah, Kwame. "Introduction." *Neo-Colonialism: The Last Stage of Imperialism*. 1965. Marxists Internet Archive, <https://www.marxists.org/subject/africa/nkrumah/neo-colonialism/introduction.htm>. Accessed 3 June 2025.

4 Oslo Accords." *Encyclopaedia Britannica*, <https://www.britannica.com/topic/Oslo-Accords>. Accessed 3 June 2025.



For the past 15 years, Gaza has operated under a façade of independence. Gaza remains dependent to Israel for its economic survival and military capacity. Thus, the situation fulfills the criteria of neo-colonialism...



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actions, demanding its withdrawal from the territory. Even though the Oslo II Accords in 1995 granted Palestinians control over parts of the West Bank, it was not until 2005 that Israel unilaterally withdrew the settlers and military forces from the Gaza Strip, retaining however control of Gaza's borders, airspace and coastal waters.<sup>5</sup>

To analyse Gaza's situation through the lens of neo-colonialism, the first question that must be answered is "what is neo colonialism?". Kwame Nkrumah, the philosophical mind behind this theory, described it in his book «Neo Colonialism: the last stage of imperialism» as "the practice by which major powers indirectly maintain influence over former colonies through economic and political means, ensuring dependency while avoiding direct rule."<sup>6</sup> Thus, neo-colonialism occurs subtly and tacitly often creates a façade of sovereignty that contradicts the reality of dependence and subjugation to foreign powers.

In Gaza's case, these dynamics are evident since 2006, following the victory of the Hamas movement in the Palestinian Council elections, when Israel imposed a tight, unprecedented blockade on Gaza, restraining almost every aspect of life. Declaring Gaza as a "closed area", Israel placed harsh limitations on the Hamas-led government, exerting pressure on Gaza's leaders by curbing imports and exports or even restricting human capital.

This isolation has deepened over the past 18 years, with the most impactful decision being the separation policy, which formally recognized the West Bank and Gaza as two distinct entities, and thus barred Palestinians from entering or exiting Gaza. As a result, university students could not attend West Bank institutions, professionals were denied access to continuing education, patients could not access vital healthcare, and many families and businesses were separated.<sup>7</sup> Therefore, this blockade restricted the movement of people and goods in and out of the area, leaving Israel with significant control over Gaza's resource capacity and access to humanitarian aid and economic opportunities, causing the economy to stagnate and resulting in a 64% poverty rate, which underscores the economic decline due to isolation<sup>8</sup>.

The control is further enhanced when taking into consideration the stark discrepancy between the military forces of the two



5 "Israeli-Palestinian Conflict Timeline." *CFR Education*, <https://education.cfr.org/learn/timeline/israeli-palestinian-conflict-timeline>. Accessed 3 June 2025.

6 Nkrumah, Kwame. *Neo-Colonialism: The Last Stage of Imperialism*. Thomas Nelson & Sons, 1965. Marxists Internet Archive, <https://www.marxists.org/ebooks/nkrumah/nkrumah-neocolonialism.pdf>. Accessed 3 June 2025.

7 "Suffocation and Isolation: 17 Years of Israeli Blockade on Gaza." *Euro-Mediterranean Human Rights Monitor*, <https://euromedmonitor.org/en/gaza>. Accessed 3 June 2025.

8 "World Bank Issues New Update on the Palestinian Economy." *World Bank*, 23 May 2024, <https://www.worldbank.org/en/news/press-release/2024/05/23/world-bank-issues-new-update-on-the-palestinian-economy>. Accessed 3 June 2025.



SLATE.COM/NEWS-AND-POLITICS/2014/07/GAZA-CIVILIAN-CASUALTIES-WHILE-HAMAS-TARGETS-INNOCENT-PEOPLE-ISRAEL-TRIES-TO-SPARE-THEM.HTML

sides, which leads to asymmetric warfare. The Israel Defence Forces (IDF) possess technologically advanced military equipment, while Gaza's military capabilities are more limited, due to Israel's control over supply of external military support. As a result, Israel frequently employs military power to enforce its policies and assert its dominance in Gaza, with examples including the "Operation Cast Lead" in 2008, and "Operation Pillar of Defense" in 2012. The most typical strategies utilized, include airstrikes, targeted assassinations, and military incursions into Gaza that have led to significant civilian casualties, destruction of infrastructure, and a long-term humanitarian crisis. Through the imposition of this economic and political blockade and the use of military force to control over Gaza's policies, Israel ensures that Gaza, despite being recognized as a sovereign state, remains in a situation of dependency and subjugation to its neighbour. This dynamic validates the principles of neo-colonialism, as it reveals a facade of independence in Gaza that covers the tacit, indirect control by Israel.<sup>9</sup>

9 Harel, Dan. "Asymmetrical Warfare in the Gaza Strip: A Test Case." *Military and Strategic Affairs*, vol. 4, no. 1, Apr. 2012, pp. 17–24. Institute for National Security Studies, <https://www.inss.org.il/publication/asymmetrical-warfare-in-the-gaza-strip-a-test-case/>. Accessed 3 June 2025.

On the other hand, some could argue that Israel's actions in Gaza stem from legitimate security concerns rather than neo-colonial aspirations. They contend that Gaza has never been a colony, but an independent territory led by Hamas, which Israel and other nations consider a terrorist organisation. Since Hamas rose to power in 2006, it has rejected all the agreements between the Palestine Liberation Organisation (PLO) and Israel and has advocated the



Artwork by Thekli Kabani (IB DP Year 2)



establishment of a Palestinian state in place of Israel<sup>10</sup>. As a result, Israel views them as a hostile force that threatens national security. From its perspective, the imposition of the blockade, is a defence mechanism aimed to restrict the importation of weapons and the external funding of militant activities, particularly after rocket attacks on Israeli territory, thereby maximising Israel's security. From a realist perspective, this is a legitimate justification. The supporters of this view further argue that the unilateral withdrawal from Gaza in 2005 serves as evidence that the state operates independently, with Israel adopting a policy of limited interference. Furthermore, the Israeli government has emphasised its willingness to ease restrictions if the security threat from Gaza diminishes, suggesting a conditional rather than total control dynamic. This is encapsulated in prime minister Netanyahu's 2018 statement: "We will continue to act firmly to defend ourselves. We are proud of our soldiers who are guarding the country's borders and allowing Israeli citizens to celebrate the holidays in peace"<sup>11</sup>. This highlights the Israeli government's commitment to defend and protect its citizens.

Ultimately, the argument about security imperative, adopted by the Israeli state to justify its actions, can be deemed valid insofar as it is a response to provocations by Hamas, rather than based on mere speculation. However, accepting such reasoning could set a dangerous precedent in international politics, where states may justify the restriction of another nation's sovereignty in the name of a noble cause, such as security, raising ethical and legal concerns. Regardless of whether this perspective is accepted or rejected, the facts remain the same. For the past 15 years, Gaza has operated under a façade of independence. Even though it gained independence from direct Israeli control in 2005, it has remained firmly within Israel's sphere of influence. The reasons for this dynamic may vary, yet the result is the same: Gaza remains dependent to Israel for its economic survival and military capacity while being formally recognized as a sovereign state. Thus, the situation fulfills the criteria of neo-colonialism to the extent to which Gaza remains economically and politically subjugated to Israel. 

<sup>10</sup>"Hamas." *National Counterterrorism Center*, January 2014, <https://www.dni.gov/nctc/groups/hamas.html>. Accessed 3 June 2025.

<sup>11</sup>"Netanyahu Hails Troops on Gaza Border, Says Israel Acts Firmly to Defend Itself." *The Times of Israel*, 31 Mar. 2018, <https://www.timesofisrael.com/netanyahu-hails-troops-on-gaza-border-says-israel-acts-firmly-to-defend-itself/>. Accessed 3 June 2025.

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# Totalitarianism & Social Networks:



Artwork by Elli Sourli (IB DP Year 2)

## Fascism Through the Lens of a New World

By Antonis Misthos

“WHEN YOU CONDEMN THE EXCLUSION, VIOLENCE, AND EXPLOITATION OF ALL SOCIAL GROUPS, YOU AUTOMATICALLY ENSURE THAT SUCH A SYSTEM WILL NEVER ALLOW EXCLUSION, VIOLENCE, AND EXPLOITATION AGAINST YOURSELF.”

W

elcome to the 21<sup>st</sup> century, the age of technological advancements, of social networks, of ceaseless noise, and at the same time, of a paralyzing silence. In a world endlessly bombarded with information, yet increasingly powerless to derive meaning from it. A society that is beginning to fracture, and we nearly catch a glimpse of the mirror hiding behind the veil, a reflection of fragments reminiscent of past times. Ground zero.

It is undeniable that democracy, as a system of governance, is inherently dysfunctional. This is one of its fundamental tenets that we accept by default when we try to apply it to any social structure. However, democracy is also the only system of governance that defends the essence of being human, protecting the inalienable rights to life, liberty, and dignity, and establishing social justice and a sense of morality – precisely because it treats us all as equals. It relies

on mutual respect, the acceptance of different interpretations of reality that may not necessarily align with our own, and the recognition of humanity’s primitive call to pursue happiness – which applies even when a person’s means of achieving self-determination directly challenges our personal worldviews. The political power of democracy, therefore, derives from the collective of society, whose members are all represented as equals



before the Law. Because when you condemn the exclusion, violence, and exploitation of all social groups, you automatically ensure that such a system will never allow exclusion, violence, and exploitation against yourself.

Nonetheless, the thorn of fascism has always lurked when a functional democracy begins to decay. And this danger has never been more prevalent than today, at the first major crossroad of the post-World War II era. The alarming rise of far-right parties across the Western World, combined with severe incidents of xenophobia in Europe and America, are alarming signs of the imminent explosion. We look around us and see, as in slow motion, how the fire is spreading: rallying of entire political parties on the basis of bigoted rhetoric; incitement of racist ideologies targeting marginalized social groups; polarization across all areas of politics; division of the world into “extremes”; desperate searches for imaginary “enemies” and their relentless demonization (and/or deportation). And this raises the question: Where does this stop? At what point do we draw the red line? When can we bear to look into the mirror and wonder, Why am I, a civilized man, allowing this to continue?

Perhaps this happens because democracy has failed to work adequately to protect the average person. Perhaps because, in a world that is constantly changing and the future is uncertain, some people are turning to extremes to feel that they belong somewhere, to feel secure, to feel that their existence connotes some external significance due to their supposed superiority. Perhaps because it is a curse of human nature for our history to be marked by repeated eras of darkness, only to be interrupted by a rare speck of light. Perhaps because when the Platonic Gyges wears his ring and suddenly everything is permitted, when we allow the rules we have set to ourselves to collapse, our true identity is revealed. And it is frightening.

In this light, our world is currently facing a harsh revival of the political landscape of the *Interbellum* – an era marked by totalitarian regimes, extreme far-right rhetoric, and a dark vision for humanity, one whose culmination nearly led to our extinction. Modern society, however, is vastly different from the world of the 1930s: everything now is interconnected, globalization is increasingly dominant in many areas of everyday life, and social networks serve as platforms for the spread of propaganda to levels we have never seen before. We now live in virtual social environments, governed by programmed algorithms that replicate the political views of their owners. We now live in the age of misinformation, in a time where every “fact” turns out to be uncertain, and this fluidity proves ideal for aspiring politicians weaving their lie-filled narratives. We now interact in an artificial world, with racial assaults hiding behind the masks of anonymity and freedom of speech, while “truth” takes whichever form



its distributor desires.

In such extreme circumstances, it is the responsibility of our democracy to stand firm in its values. Censorship is not the solution – on the contrary, such

policies admit democracy's weakness and sacrifice the moral superiority of our system against totalitarianism. If we respond to fire with fire, all that will remain in the world is ashes. The only rational measure that can be taken, therefore, is investing in education. Only thereby shall we address the root of modern fascism. Not by banning the expression of opinions with which we disagree – such a thing could only happen in a fascist regime – but instead by honing the critical thinking skills of children, the offspring of our society, our future leaders, so that they will be able to recognize themselves the flaws in fascist narratives. Education is, after all, the greatest enemy of totalitarianism and, consequently, the greatest weapon of our democracy.

“EDUCATION IS THE GREATEST ENEMY OF TOTALITARIANISM AND, CONSEQUENTLY, THE GREATEST WEAPON OF OUR DEMOCRACY”

The famous Nobel laureate Sinclair Lewis is apocryphally said to have written, nearly a century ago, “When fascism comes to America, it will be wrapped in a flag and carrying a cross.” And today, this warning seems nothing short of prophetic. For indeed, fascism is being reborn. Society is fracturing, pretenses are evaporating, and the dangers of these times are placing us face-to-face with our responsibilities as human beings. Because the future is still open. It is predetermined, yet still remains to be played. It still remains for us to make our choice. But deep down, we are frightened. Perhaps because, behind the veil, we recognize these fragments as the reflection of our very selves.



# The Russian Language

## What You Need to Know

By: Athanasios Chrysovergis

| Russian Alphabets / Русский Алфавит |                   |                    |                |                    |
|-------------------------------------|-------------------|--------------------|----------------|--------------------|
| А<br>Ah (A)                         | Б<br>Beh (B)      | В<br>Veh (V)       | Г<br>Geh (G)   | Д<br>Deh (D)       |
| Е<br>Yeh (Ye)                       | Ё<br>Yo           | Ж<br>Zheh (Zh/J)   | З<br>Zeh (Z)   | И<br>Ee (I)        |
| Й<br>Ee (Iy)                        | К<br>Kah (K)      | Л<br>El (L)        | М<br>Em (M)    | Н<br>En (N)        |
| О<br>O                              | П<br>Peh (P)      | Р<br>Er (R)        | С<br>Es (S)    | Т<br>The (T)       |
| У<br>Oo (U)                         | Ф<br>Ef (F)       | Х<br>Ha (H/Kh)     | Ц<br>Tseh (Ts) | Ч<br>Cheh (Ch)     |
| Ш<br>Sha (Sh)                       | Щ<br>Shcha (Shch) | Ъ<br>Hard Sign (') | Ы<br>Iy (Ay)   | Ь<br>Soft Sign (') |
|                                     | Э<br>Eh (E)       | Ю<br>Yoo (Yu)      | Я<br>Ya        |                    |

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The Russian language has a robust place in the linguistic world. It is not hard to imagine why, as it is spoken by many, as well as by one of the major global superpowers – Russia. Mostly due to history and the differentiation between the “eastern” and “western” worlds, Russian is deemed as distant by the latter. Most think of Russian as being exceptionally hard and having pronunciation that is strenuous for the mouth. However, having studied the language for three years and counting, I believe that the Russian language is much more than that.

Russian has undergone huge transformations throughout history to become what it is today. The languages of the Slavs were not initially written ones.<sup>1</sup> The Slavic languages were divided into three dialectal groups: West Slavic, North Slavic, and East Slavic – the ascendant of the modern Russian language.<sup>2</sup> As many might know, it was Cyril and Methodius, the two missionaries from Byzantium, who created the Cyrillic alphabet in the 9<sup>th</sup> century, used for translating the scriptures of the Bible.<sup>3</sup> This alphabet was based on the

Greek one, with approximately a dozen more letters to signify original Slavic sounds. The missionaries translated the scriptures in a language synthesized by the South Slavic dialects, Old Church Slavonic. This new formal, written-only language worked in tandem with the oracle East Slavic dialects to create the modern Russian language spoken today.

Today, the Russian language has been standardized to a very large extent with many people using it. Before the Soviet era, each region had its own dialect. From the Communist period and onwards, dialectal distinctions slowly disappeared. Nowadays, Russian remains the same throughout the Russophone world. What is fascinating is that even people from the easternmost point of Russia will speak the exact same as those from the westernmost. The language serves as a lingua franca for all the post-soviet countries (e.g. Kazakhstan, Armenia, Estonia etc.), having approximately 240 million speakers – making it the 7<sup>th</sup> most spoken in the world.<sup>4</sup>

Russian has its peculiarities that distinguish it from the other Indo-European languages. One of the most infamous are its grammatical cases. These are responsible for denoting the role of a noun or an adjective in a sentence, for example the subject, the object, the predicate, etc. Six in number, they often become a hassle for learners. Another grammatical phenomenon that is unique to the Slavic languages, thus to Russian also, is the two verb aspects: perfective and imperfective. These denote whether the action of a verb has finished or not. They often influence not the suffix or prefix

1 “Cyril and Methodius.” *Wikipedia*, [https://en.wikipedia.org/wiki/Cyril\\_and\\_Methodius](https://en.wikipedia.org/wiki/Cyril_and_Methodius). Accessed 3 June 2025.

2 “Culture.ru.” *Ministry of Culture of the Russian Federation*, <https://www.culture.ru/>. Accessed 3 June 2025.

3 “Cyril and Methodius.” *Wikipedia*, [https://en.wikipedia.org/wiki/Cyril\\_and\\_Methodius](https://en.wikipedia.org/wiki/Cyril_and_Methodius). Accessed 3 June 2025.

4 Pavlenko, Aneta. “Russian as a Lingua Franca.” *Annual Review of Applied Linguistics*, vol. 26, 2006, pp. 78–99. Cambridge University Press. [https://www.anetapavlenko.com/pdf/ARAL\\_2006.pdf](https://www.anetapavlenko.com/pdf/ARAL_2006.pdf). Accessed 3 June 2025.

# “ IT IS OUR DUTY, AS IB STUDENTS, TO THINK CRITICALLY, ABOLISH THE STEREOTYPES CREATED AND ENJOY THE ASTONISHING DIVERSITY THE RUSSOPHONE WORLD HAS TO OFFER. ”

of a verb, but the stem (e.g. объяснять/объяснить – to explain). Sometimes the verb might even change entirely depending on the aspect (e.g. говорить/сказать – to speak).

However, being an Indo-European language, Russian showcases various similarities with other languages of the same origin. Most Eurasian languages derive from Proto-Indo-European, a language spoken until the Early Bronze age. Thus, descendant languages all share similar characteristics. Cases, for example, are present in various Indo-European languages, such as Greek, German, Armenian among many others. Surely, the six cases of the Russian language may be hard to master, but they are intuitive to speakers of languages with grammatical case systems. Another similarity that Russian has with languages familiar to us is the vocabulary.

There are countless loanwords from Greek, German, French and English, which results in a surprisingly rich vocabulary. The phenomenon of loanwords is always evident among languages that are in contact. With globalization and the internet, loanwords – especially of English origin – are becoming more and more incorporated into other languages, and Russian is no exception.

The Russian language has been exclusively regarded as distant and arduous. The language is rich, it is a language of the fine arts. Let us not forget that there have been countless writers, poets, painters as well as classical musicians that spoke Russian as a mother tongue – Dostoevsky, Pushkin, Tschaikovsky and Kandinsky serve as examples. These, often had a *quid pro quo* with the most famous European artists. Apart from the arts, the Russophone world offers a variety of different traditions, food, stories, just because it covers so much land area. There are even minority groups within the Russian-speaking countries – Russia alone has over 190 of them. Consequently, it is naive to focus on the

hard parts of the Russian language and to continue a stereotype that was created due to political quarrels. One should instead be open to discover new possibilities and become closer to others, regardless of their background.

In conclusion, Russian, with its great history, has established a prominent place in the world of languages as it is spoken by many. Its complex grammar and rich vocabulary surely distinguish it from other languages and create an exciting challenge for learners. However, the “western” bias still exists and has sequestered the Russian language. It is our duty, as IB students, to think critically, abolish the stereotypes created and enjoy the astonishing diversity the Russophone world has to offer. ■

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Artwork by Ioli Iliopoulou (IB DP Year 2)

# Gisèle Pélicot

and the **4B**  
Movement

“ **SUFFERING**  
MUST NEVER BE  
NORMALIZED,  
AND **SILENCE** MUST  
NEVER BE  
THE ANSWER ”



HTTPS://WWW.LA-CROIX.COM/LA-CLASSE-POLITIQUE

By Eleni Zampelis

The inspiring story of Gisèle Pélicot has sparked a lot of discussion in carrying a timeless, yet powerful message and finding its place in pop culture. Integral to the movement is an engaging message strengthened by its four key slogans: “Be Bold, Be Brave, BE Bright, and Be Courageous.” When she was 64 years old, Gisèle discovered the heinous crimes she had unknowingly suffered at the hands of her husband, Dominique Pélicot. She had been drugged and raped for years, which later became what was known as the Mazan rapes. The audience was captivated by the story of Gisèle. Her



Artwork  
by Dafni Delli  
(IB DP Year 2)

**4B Movement:**  
No to men till  
respect for  
women

A movement in  
Korea named the  
4B movement has  
declared to force  
the nation and its  
men to respect  
women and wom-  
en must not have  
any intimate  
relationships  
with men



words spread across the globe despite the unbearable pain. Her message was detrimental to standing up to domestic abuse she advocated for suffering not being acceptable, and change can't be done if one doesn't take action.

Meanwhile, the establishment of the 4B movement took place in South Korea. The reality of young feminists can now be brought into reality with the help of 4B movement. Generation Z has welcomed the social media that says, "Be Bold, Be Brave, Be Bright, and Be Boundless" as part of its philosophy. This collaboration compromises students, influencers, and artists who are sharing TikTok videos on Instagram, promoting Gisèle's message with their voice. Pop culture has merged its dimensions to uphold the perseverance message and emphasize feminist resistance.

The 4B Movement became extremely successful due to its association with youth who were fed up with the oppressive patriarchal society and its ideals, which no longer fit modern times. It encourages people to pursue whatever they want and to break all barriers and resist the notion that life should be inherently violence or inequality-marked. Through taking active positions, the 4B movement provides a backbone toward change for innumerable societies, youth, and grassroots organizations.

Out of her tragic experience, Gisèle Pélicot's strength and determination have turned her into a beacon of hope. Her story preaches that any person, from whatever generation or background, can contribute to

changing what is assumed to be norms in society.

Year after year, the influence of the 4B Movement has grown. It has become clear that young people are determined to take forward what Gisèle began: youngsters want to be bold enough to face injustice, to show their true identities, brave enough for knowledge, and unshakeable in the search for a better world. This message is increasingly important in a world that is becoming ever more hostile, full of hate. From schools to protests, from blogs to campaigns, the 4B Movement has stirred conversations and sparked creativity.<sup>1</sup> It reminds each and all-particularly the young-that change is possible with courage and kindness. And as for Gisèle, well, her legacy isn't some story of survival. It is through the 4B Movement that youth gain the power to envision a just and equitable future, and Gisèle's strength will continue to inspire many generations. ▣

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1 Lee, Jieun, and Euisol Jeong. "The 4B Movement: Envisioning a Feminist Future With/In a Non-Reproductive Future in Korea." *Journal of Gender Studies*, vol. 30, no. 5, 2021, pp. 633–644. <https://doi.org/10.1080/09589236.2021.1929097>. Accessed 3 June 2025.

“ BE BOLD, BE BRAVE, BE BRIGHT, AND BE COURAGEOUS ”



# The Swallows of Tehran



## The Aftermath of the Iranian Revolution and the Woman, Life, Freedom Movement

Four and a half  
decades  
down the line...

by Nepheli Makridi

Y

asmina Khadra, or really - uncensored Mohammed Moulessehoul, writes **“In Kabul, dreams became tiny fragments, floating in the dust-filled air.”** His words echo deeply and remind us of the dire conditions ubiquitous in various countries in the Middle East where suppression, and especially oppression of women, prevails. Just on December 11<sup>th</sup> of 2024, The Guardian publishes an article with the title **“Iranian women could face death penalty for defying new morality laws.”**<sup>1</sup> The contemporary audience is shocked. Silence follows. It is the year 2025. How could this be?



HTTPS://WWW.FLICR.COM/PHOTOS/SINA\_TEHRANCHI/4415356158/

Joyous expressions  
partaking in fun  
experiences

The key to unraveling this mystery is hidden within the intricate tapestry of Iran's rich and tumultuous history. The answer lies somewhere in the complex history of once monumental and expansive Persia. However, the age of being lavishly gold gilded ultimately came to a distasteful end. The 20<sup>th</sup> century saw Iran struggle under relentless political conflict and civil unrest. The year 1979 posed as an ostensible breath of fresh air. But it further maliciously crushed Iran's lungs; the country's pro-western authoritarian monarchy had been replaced by an anti-western totalitarian theocracy. The premise of the Iranian, also referred to as Islamic Revolution was the abolition of the country's autocratic monarchy of the Pahlavi dynasty under **Shah Mohammad Reza Pahlavi**. The widespread discontent was rooted in political repression, economic issues, and Western influence in Iran, all of which served as catalysts for the protests which erupted in 1978, leading to extensive turmoil. The Shah's modernization policies alienated religious and traditional sectors, and his regime faced criticism for human rights abuses. As demonstrations intensified, the

1 “Iranian Women Could Face Death Penalty for Defying New Morality Laws.” *The Guardian*, Guardian News and Media, 11 Dec. 2024, [www.theguardian.com/global-development/2024/dec/11/iranian-women-death-penalty-jail-fine-defy-new-morality-hijab-improper-dressing-islamic-penal-code](https://www.theguardian.com/global-development/2024/dec/11/iranian-women-death-penalty-jail-fine-defy-new-morality-hijab-improper-dressing-islamic-penal-code).

# “ SHARIA LAW IS THE INTERSECTION OF ISLAM AND THE LAW; SHARIA DIRECTS THE PERSONAL RELIGIOUS PRACTICES OF MUSLIMS GLOBALLY ”

country descended into extensive disorder eventually forcing the Shah to flee in January 1979. Shortly after, **Ayatollah Khomeini**, a leading figure of the opposition, returned from exile. Upon his arrival in Iran, the citizens, hungry for change and blinded by this lust of an alleged liberation from the Shah's egomaniac ruling, welcomed him with unanimous cheers and open arms. However, they were unaware of what would ensue...

Following the revolution, Khomeini established an Islamic Republic, implementing Sharia Law and suppressing dissidents. Sharia Law is the Intersection of Islam and the Law; Sharia directs the personal religious practices of Muslims globally, but whether it should impact modern legal systems remains a subject of passionate discussion. The revolution resulted in a shift from secular governance to a theocratic regime, where the religion and law intertwined and the line separating them became very blurred and indiscernible. This would mean that women's rights would be severely restricted; harsh dress codes were enforced, and many women became activ-



**Female Students**

ists against such measures. Just a year later Iran was stricken by yet another calamity, the Iran-Iraq War, against Saddam Hussein's government, which lasted from 1980 to 1988 and further shaped the national identity, resulting in widespread devastation and loss. Simultaneously, in the cultural sector the revolution and its aftermath led to a diaspora of intellectuals, artists, and writers. These combined culminated in a tarnished image of Iran, which we still hold today. This tainted

preconceived view of Iran includes the massification of its people and the loss of individuality under veils, which concealed the once colorful country. Visual testimonies, disintegrating in archives, of a pre-revolutionary Iran still stun and reveal a long-stolen truth. They testify of a time of freedom as seen in the activities, clothing, positions held by women, and access to education depicted but most saliently as is ironically divulged by their facial expressions that are unreservedly exposed and not restricted to their glistening eyes.

HTTPS://WWW.DANCESHISTORICALMISCELLANY.COM/BEFORE-THE-REVOLUTION-IMAGES-OF-SECULAR-IRAN/



**Group of women protesting wearing the veil, while waving their veils in the air outside the office of the prime minister in Tehran, Iran, in March 1979, a photograph by Kaveh Kazemi**



*Women hold up signs with the image of 22-year-old Mahsa Amini, who died while in the custody of Iranian authorities*

Today, these images are foreign and unrecognizable to us. Decade by decade women are fading into mere silhouettes. Drifting, fluttering, vanishing... The established regime harshly and tactically worked towards stripping women of their fundamental rights and erasing them into distant memories. One method was the forceful imposition of the veil which served as a method of submission and as a weapon in the hands of the fundamentalists, who turned it from a religious into a political symbol. In March of 1979, 100,000 women took the streets to protest the introduction of the compulsory veil. In September of 2022 thousands of women took the streets to mourn the death of young courageous Masha Amini and to protest for women's freedom and equality, while demanding accountability. This sparked the movement known as "Woman, Life, Freedom". **"She was only a silhouette, swallowed by the darkness, her eyes shining with despair."** Masha Amini, 22 years old, refused to be defined as such. She was arrested by Iran's morality police for the crime of wearing her headscarf improperly, which ultimately led to her death in custody after she was brought to Iran's Vozara detention facility according to a UN report. But the bloodshed did not end there. It has

been estimated by rights groups that more than 500 protesters got killed during the demonstrations<sup>2</sup>. The Morality Police, also known as the Gasht-e Ershad (Guidance Patrol), is a law enforcement entity in Iran that enforces restrictions on modest clothes and chaste behavior. Article 638 of Iran's Islamic Penal Code stipulates that neglecting to respect clothing standards, including not wearing a Hijab, can result in penalties. The punishments vary from fines to jail, while the period of imprisonment and the number of fines may differ based on the conditions.

**"I don't just see the Hijab looming over it. I see the women, the solidarity, the joy – and the strength we felt"**

– HENGAMEH GOLESTAN

Yet, proposals to increase reprimands directly pose as an oxymoron concerning the extent of freedom available to women. The mere suggestion that was modelled implying that such severe penalties would be implemented connotes the intentions held about the liberty of women. While the concept of the Hijab is sacred and intricately connected to religion, it is a matter that should remain reserved for an individual's own faith and connection to their beliefs and not forcibly imposed.

Providing the freedom to choose how to practice your religion within your own definition of its percepts allows for a more meaningful connection. Most saliently, the welfare of women should never be under threat and the poignant struggle against authoritarian oppression ought to be addressed. Nevertheless, it is also important to delve into personal inquiries and allow our curiosity to travel outside the confines that the Western media has crafted of Iran. Its people are real and have stories to share, and they also experience pain. WE ought to listen to them. And WE ought to stand in solidarity with its women, because being human is enough.

It is the year 2025. How can we let this be?



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<sup>2</sup> <https://www.voanews.com/a/at-least-537-killed-in-iran-protest-crack-down-rights-group-says/7036125.html>

# Roe vs Wade

## The Never-Ending Case

By Fenareti Hassapi

One of the most striking and significant Supreme Court decisions in the United States' history, has been the *Roe v. Wade* case, a case that forever altered the landscape of American law, politics and human rights. It was first introduced in 1973, but its impact still affects an important percentage of the US's population.

This landmark case began in 1969, when Norma McCorvey, then a 20-year-old girl from Dallas County, Texas was denied an abortion because her pregnancy did not pose a medical risk to her life. Using the alias "Jane Roe", she filed suit against Henry Wade, the district attorney for Dallas County, Texas.<sup>1</sup> McCorvey was lucky enough to find by her side a group of Texas lawyers, Sarah Weddington and Linda Coffee, American attorneys, advocates for women's rights and *reproductive health*, and members of the *Texas House of Representatives*. The two were working to find a means through which to challenge the country's widespread abortion bans, considering that at the time, across the United States, lawmakers had the authority to deny pregnant women the right to an abortion. The three women challenged this right, as they sought a declaratory judgment that the statutes criminalizing abortion in Texas were unconstitutional<sup>2</sup>. The lower court of Texas refused to grant Roe's desired outcome, an injunction<sup>3</sup> refraining Wade from imposing the ban. However, it did find the criminal abortion statutes to be invalid. Hence, the case, moved up to the U.S. Court of Appeals, where an unclear decision led to it reaching the Supreme Court.

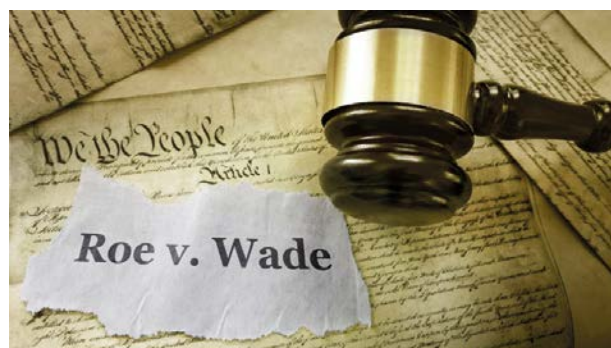
On January 22, 1973, Roe finally won the case<sup>4</sup>. The Supreme Court ultimately decided that the right of an individual to choose to end their pregnancy prior to viability is worthy of protection by the Due Process Clause of the U.S. Constitution's

1 *Reed v. Reed*. Oyez, [www.oyez.org/cases/1971/70-18](http://www.oyez.org/cases/1971/70-18). Accessed 3 June 2025.

2 *The Laws of Texas, 1822–1897*. Vol. 3, The Portal to Texas History, [texashistory.unt.edu/ark:/67531/metapth6728/m1/1490/](http://texashistory.unt.edu/ark:/67531/metapth6728/m1/1490/). Accessed 3 June 2025.

3 a special court order compelling a party to do or refrain from doing certain acts

4 *Roe v. Wade*. Justia U.S. Supreme Court Center, [supreme.justia.com/cases/federal/us/410/113/](http://supreme.justia.com/cases/federal/us/410/113/). Accessed 3 June 2025.



14<sup>th</sup> Amendment<sup>5</sup>. Abortion bans were ruled unconstitutional across the country, while safe abortion care became much more accessible.

However, the legally recognized right to abortion did not give people direct access to abortion. For the next half century, politically motivated laws and restrictions were passed by anti-abortion rights politicians that blocked people's ability to get the needed care or made it very confusing and hard to access.

This vague and ambiguous state of the case, led it to, once again, reach the highest court in 2021, nearly 49 years after the landmark ruling. By this time, three of the Supreme Courts justices had been appointed by then President Donald Trump, known pro-life politician, and were beginning to hear cases asking to get rid of *Roe vs Wade*. The state of Mississippi specifically asked the Supreme Court to get rid of the decision. Most Americans, by that time, had not yet realized that their constitutional right to abortion was being put at risk, until May 2<sup>nd</sup>, 2022, when a draft of a majority decision to overturn the case was leaked.

Once aware, pro-choice Americans

5 "14th Amendment to the U.S. Constitution: Civil Rights (1868)." *National Archives*, [www.archives.gov/milestone-documents/14th-amendment](http://www.archives.gov/milestone-documents/14th-amendment). Accessed 3 June 2025.



“MOST AMERICANS HAD NOT YET REALIZED THAT **THEIR CONSTITUTIONAL RIGHT TO ABORTION WAS BEING PUT AT RISK**, UNTIL MAY 2ND, 2022, WHEN A DRAFT OF A MAJORITY DECISION TO OVERTURN THE CASE WAS LEAKED”



A snapshot of a pro-choice rally in 1989

joined their forces, as they fought a historic and stigmatizing “war” against the majority decision. All around the US, more than 400 protests took place, only within the first week, to denounce the overturn of the nearly 50-year-old federal constitutional right. The international community showed their support, as several protests took place in major European cities. Citizens in London, Paris, Amsterdam, and more, gathered outside US embassies and known landmarks to demonstrate. Still, the fallout was quick. Within weeks, several states began implementing abortion bans, as new legal questions arose, and “chaos” erupted. Over 600 rallies took place in cities big and small, some leading to violence and citizen- police conflict.

Fastforward to the divisive US 2024 elections, the issue of pro-life vs pro-choice gained once again increased attention. Women’s groups fought for their reproductive rights and urged voters to vote for the incumbent Democratic Vice President Kamala Harris, while conservative groups urged for former and now current president Donald Trump. The political arm of Planned Parenthood endorsed Harris,

running ads and mobilizing voters, especially in swing states. Other groups such as, NARAL, Emily’s list, and the League of Women Voters, actively fought for the cause. On the other side, the NRLC<sup>6</sup>, the Susan B. Anthony Pro-Life America, and several other organizations backed up Trump. No matter the relentless efforts of many women, and men, President Trump was re-elected in November 2024. Since then, the administration has emphasized state authority over abortion regulations, leading to varied restrictions across the country.

As the *Roe v Wade* case continues to evolve, pro-choice women across the nation continue to advocate the right to autonomy and control over their bodies. This struggle is one that transcends politics. It is a fight for women’s rights, equality, dignity and the enduring quest for justice. Due to the continuing uncertainty around legislation, the resilience and resistance of the public are necessary to reclaim vital human rights and secure them for future generations. **V**

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6 National Right to Life Committee

# The Extinction of Women

By Sophia Varvitsioti

**T**he *Extinction of Women* was born out of a deep, unsettling realization that violence and oppression against women are not confined to distant lands, they permeate societies everywhere, including my own. While consuming media from various countries and cultures, I was struck by harrowing stories of unimaginable suffering: child brides robbed of their childhood in Iran, Afghan women stripped of their humanity, and countless others silenced under the guise of tradition and power. These stories were not just words on a screen; they became haunting echoes in my mind, amplifying my awareness of the global nature of this crisis.

What truly compelled me to write this piece was the haunting thought that my nine-year-old sister, Nefeli, could be forced into marriage with an adult man if she were living in Iran. This unsettling realization was compounded by reading Meryl Streep's speech at the UN about the plight of women in Afghanistan. I felt an overwhelming sense of sickness and despair—not just for their suffering, but because countless girls in Afghanistan, many of them brighter and more capable than I could ever hope to be, will never have the chance to realize their potential. Most of them are born in darkness and will remain until they die.

Through this poem, I wanted to give voice to the collective anguish of women worldwide, those who are erased, deprived of their voice, and deemed less than human. I reflected on how these issues surpass borders and cultures. The weight of seeing my “herd” disappear, as I describe in the poem, became both metaphorical and personal: the loss of autonomy, respect, and dignity faced by women everywhere.

The poem's emotional depth reflects my despair and grief over a world that so often discredits the contributions and rights of half its populace. It is a plea, a scream for justice, awareness, and action. By juxtaposing the horrors faced by women in war-plagued regions with the rising violence in my own western society, I sought to highlight that this is not a distant issue; it is a shared one. Injustice anywhere inevitably transcends everywhere; the extinction of women's voices and rights is a loss humanity cannot afford.

This creative work became my way of processing the weight of these issues, of refusing to let these stories fade into silence. I devised a way to speak out for those who can't, to demand recognition of our shared humanity, and to honour the resolve and resilience of women everywhere. 



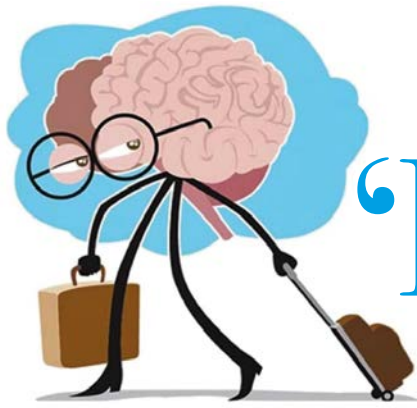
**M. Streep: A female cat has more freedom in Afghanistan than a woman**

## The Extinction of Women

Legalizing the theft of girl's childhood  
*Legitimacy claimed through religion  
and brotherhood*

*Nine-just nine- will be the age of consent  
Where innocence is sold and torment  
Erasing women from the face of Iraq  
This is a war against women, an attack  
In Afghanistan women are not human  
Because human means having rights  
While women can barely see the lights  
Men only have access to the lights of life  
A woman's role is only being a wife  
A wife who may not speak or think  
A servant who is barely allowed to blink  
The right to blink may be taken away as well  
Since the Taliban want to make  
womens' life a living hell  
Watching my herd become extinct  
We are not humans anymore;  
powerless and inferior  
Once strong and proud, we roamed the land  
Now we will be lost to time, like shifting sand  
The ancient ways, the paths we'd traced  
Our thoughts, opinions and voices  
are now erased  
Our ideas innovate, lead and stand  
Yet still we don't have a hand  
For in our strength, the world you see  
Without us, where would you all be?*

**Sophia Varvitsioti**



# The Greek 'Brain Drain' and a policy proposal to reverse this socio-economic wound

By Eleni Marinaki

The 'brain drain' that has plagued Greece, especially since the onset of the 2008-9 Global Financial Crisis and ensuing domestic crisis, has not merely been an economic ailment, but also a social disease that has influenced our future as young Greeks. As the Greek economy entered a deep recession (25% fall of GDP) with unemployment climbing to 27%, there were two major consequences: rising private debt and effective bankruptcy. As a result, a significant exodus of talent was witnessed, especially between 2008 and 2016, with more than 400,000 individuals leaving the country seeking opportunities elsewhere.<sup>1</sup> The reasons for this brain drain are rooted in a combination of economic, political, and social factors.<sup>2</sup> Professional insecurity, especially, leads graduates to

seek employment opportunities overseas, where hard-earned qualifications are more likely to result in rewarding employment, better prospects of social mobility and an accorded respect, sense of self-worth, and achievement.

The political situation in Greece was, and remains, significantly unsettling<sup>3</sup> and this affects the labor market. Young Greeks are thus witnessing a rapid deterioration of professional prospects, which also applies to university graduates: according to Eurostat, Greece ranks third to last in university graduate employment.<sup>4</sup> This insecurity makes for a powerful "push-factor". Moreover, nepotism, clientelism and systemic corruption thwart hopes for a meritocratic system, adding to the feelings of disillusionment, helplessness and frustration.<sup>5</sup> According to the 'Corruption Perceptions Index,' Greece scored a 36% of perceived corruption in 2012 - rising to only 49% in 2024. Many talented individuals in Greece feel that their abilities go both unrecognized, and unrewarded, prompting them to seek out better opportunities outside national borders.

1 Nikolopoulos, Dimitris. "Understanding Brain Drain in Greece: A Structural Analysis." *Greek Review of Social Research*, vol. 105, no. 1, 2019, pp. 40-63.

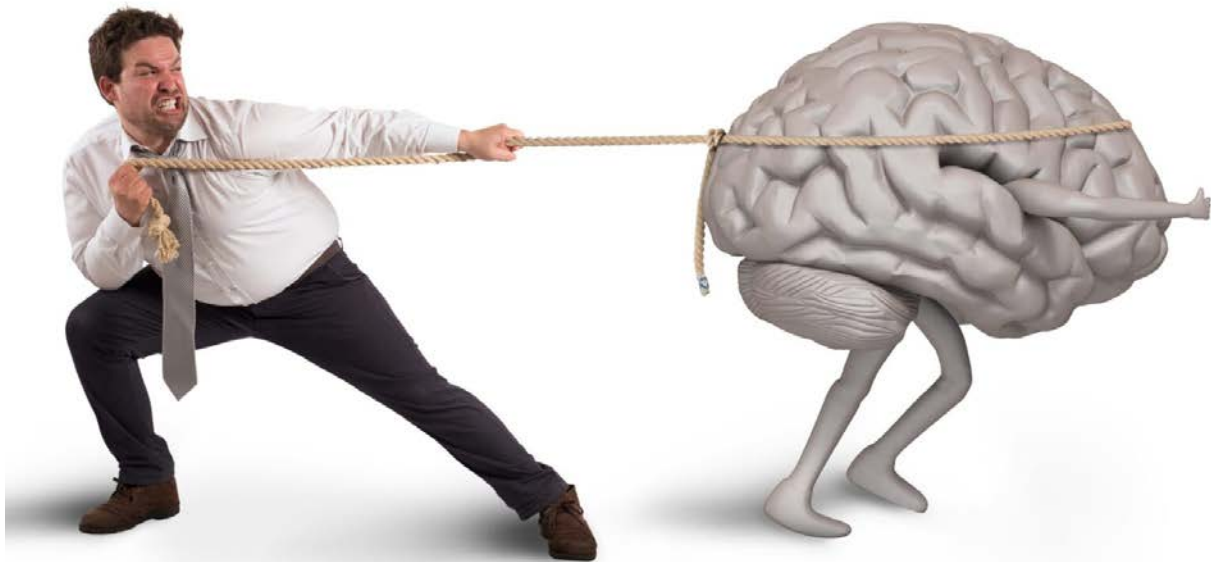
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3 Zavrou, Eleni. "Evolving Perspectives on Brain Drain: The Case of Greece." *Social Science Research Network*, 2021, [www.ssrn.com/abstract=3030410](http://www.ssrn.com/abstract=3030410).

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5 Koutsou, Sofia. "The Youth Exodus: Understanding Greek Brain Drain in the Wake of Austerity." *International Migration Review*, vol. 52, no. 1, 2018, pp. 111-134.

“ EVERY YOUNG MIND THAT LEAVES GREECE  
IS **NOT JUST A PERSONAL LOSS** IT IS A NATIONAL WOUND,  
A DREAM DEFERRED, AND A FUTURE POSTPONED ”



In Greek society, education is an important push-factor. Families prize quality education - with numerous students pursuing studies overseas: indicatively in 2010, approximately 4.55% of Greek tertiary students studied abroad, compared to 3.39% of Portuguese students in the same year. Thus, a brain drain becomes more probable.<sup>6</sup> Once highly-skilled people adapt to life abroad, the conundrum of whether to return home to an economic and social environment apparently unfriendly to its youth, or opting to remain abroad, where personal and professional growth are more likely, appears to be an “one-way choice.”

The consequences of a brain drain in our country are both significant and alarming. Each skilled worker leaving Greece signifies a loss of expertise, creativity and potential income. It is indeed disheartening to recognize that Greece, with its rich culture and history, is essentially expelling the very lifeblood of its long-run development. From a demographic perspective in particular, the outflow of young individuals contributes to ageing human capital - causing social disparities, a thinning tax base, and threatening the collapse of the social security system.

When key services, such as technological industries, experience shortages because professionals relocate abroad, this impacts upon the quality of life for those who remain, who find themselves questioning their capacity to create a bright future in a country that seems to be hemorrhaging talent. Additionally, the long-term repercussions of a brain drain are concerning, as without a consistent influx of skilled people to foster innovation, cultural growth, and progress, Greece risks lagging further behind its European partners.<sup>7</sup> As young students, we aspire to contribute to groundbreaking research or starting innovative companies. However, each emigration story we hear enhances our fears that our dreams may also end up scattered across the globe (Rudolph et al, 655)

<sup>6</sup> Papageorgiou, Christos. “The Role of Higher Education in Mitigating Brain Drain: The Case of Greece.” *Journal of Higher Education Policy and Management*, vol. 44, no. 3, 2022, pp. 259-276.

<sup>7</sup> Gonzalez, Javier, and Marina Papadopoulos. “Youth Migration and Brain Drain in Greece: Implications for National Development.” *Migration Studies*, vol. 9, no. 4, 2020, pp. 123143.

To tackle this pressing issue, the Greek state needs a multi-pronged policy solution encompassing economic, political, and social changes.<sup>8</sup> Its first tier would comprise offering economic incentives such as tax breaks and improved salaries to encourage young professionals in the diaspora to return home. Focusing on high-potential sectors such as technology, creative industries, and renewable energy, Greece could potentially generate exciting job opportunities that would align with youth aspirations.

Investing in research and development represents an essential second policy tier. By augmenting funding for innovation initiatives, Greek visionaries in positions of power could forge an environment to encourage experimentation, creativity, and growth. Thus, the establishment of partnerships with international research institutions could enrich our educational landscape, opening doors for us to learn and to contribute meaningfully on a global scale.

Improvements in the political and social landscape are also vital, to this end. There is an urgent need in Greece to reduce corruption, creating a transparent, meritocratic system that would instill a sense of trust in our country’s future institutions. Success in this objective must empower the voices of our youth, so that implemented policies

<sup>8</sup> Tsantis, George. “Navigating the Policy Landscape: Strategies to Reverse Brain Drain in Greece.” *European Policy Analysis*, vol. 10, no. 1, 2023, pp. 122-140.





Artwork by Ioanna Tsahegea (IB DP Year 2)

directly cater to our needs. Furthermore, the enhancing of public services; those of healthcare, education, and Greek infrastructure, would transform Greece into a far more appealing place to live and work.<sup>9</sup>

Finally, the potential of the Greek diaspora would entail the creation and enhancement of networking platforms and inward investment opportunities, which may encourage the influx of diaspora capital as well as ‘brain gains’ for the economy. Engaging with the diaspora represents a key third policy tier to harness their expertise, experience and untapped potential, making them partners in the state’s revitalization efforts. This connection would provide a symbiotic relationship where those abroad will invest in, and collaborate with, projects back home, fostering a sense of belonging and building mutually beneficial bonds that transcend national borders.

Reversing the brain drain is vital for Greece’s future, and it falls upon our

<sup>9</sup> Moustakis, Alexandros. “Policies to Curb Brain Drain in Greece: A New Approach to Talent Retention.” *Greek Journal of Public Policy*, vol. 15, no. 2, 2022, pp. 77-95.

## “REVERSING THE BRAIN DRAIN REQUIRES MORE THAN POLICIES IT **REQUIRES A PROMISE**: THAT GREECE CAN BE A COUNTRY WHERE DREAMS ARE BUILT, NOT BURIED”

generation to take the lead in this endeavor. As young Greeks, we are driven by passion, creativity, and inner drive to initiate this metamorphosis. Through comprehending the economic, political, and educational factors at play, we can contribute to the formulation of feasible policy solutions that will resonate within our communities. We need to strive to develop strategies that attract human capital back to Greece, promote innovation, and build a more supportive social, economic and political landscape. Probably, then, the infusion of inspiration and leadership may become a reality rather than an aspiration for Greece. 

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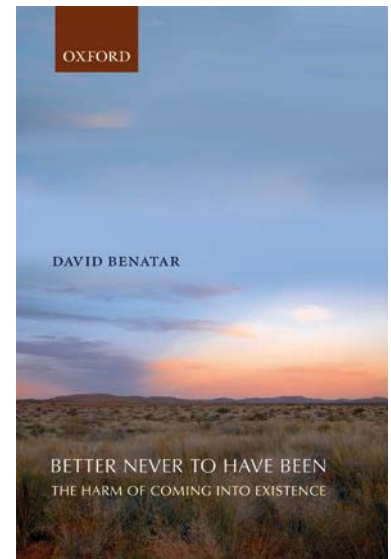
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# Why Keep Going?

By: Alexandros Christoforatos

Humans have inhabited the Earth for generations upon generations. The seemingly ceaseless cycle of birth, procreation and death has led us to where we are today, a species on the brink, if not already falling down the steep road of destruction and ultimately demise, not only for us but for life on the entire planet. There are unlimited statistics available in regards to overall environmental destruction caused by humans, as well as the suffering we go through ourselves, both as conscious and sentient beings (existential dread, anxiety, suffering...) and social beings (the consequences of the individualistic, money and personal-success oriented societies we have built...), though these seem unnecessary to expand on as it is already evident there does exist a problem that needs to be addressed. Anti-natalism describes the belief that it is either always or usually morally inadmissible to procreate.<sup>1</sup> As a philosophy, it can be traced back to Buddhism and the writings of Arthur Schopenhauer which suggest that since suffering is an inherent part of existence and life is therefore ultimately undesirable, it would be preferable for humans not to reproduce, although there also exist many “misanthropic” arguments for the philosophy, whose main premise I described already. Due to most people’s unwillingness to support a thesis unless it directly benefits them, through this article I will examine two main philanthropic arguments for anti-natalism, namely Benatar’s infamous “asymmetry” argument and Harrison’s “no victim” argument, as well as a common objection to antinatalism beliefs. I

<sup>1</sup> Loughheed, Kirk. “Anti-Natalism | Internet Encyclopedia of Philosophy.” *Internet Encyclopedia of Philosophy*, iep.utm.edu/anti-natalism/. Accessed 17 May 2025.



acknowledge that these ideas may seem utopian and unrealistic but it remains true that each individual, if in agreement, can choose to apply the principles of this philosophy on an individual level, or one could even just use some time to reflect on the ideas presented, developing a clearer and more credible base for whichever position they choose to identify with.

David Benatar is a South African philosopher, academic and author who in 2006 published “Better Never to Have Been: The Harm of Coming into Existence”.<sup>2</sup> Here, he first mentions his infamous *asymmetry argument*, supporting that it is inherently wrong to procreate because of the asymmetry between pleasure and pain. Acknowledging that the absence of pain is good even if no one experiences it, whereas the absence of pleasure is not bad unless there is someone to be deprived of it, he argued that it is better to not be brought into existence and never experience harm than be brought into existence and inevitably be harmed. This way, he creates an argument for humans, encouraging life choices which would ultimately protect from “unnecessary” pain. A simple way to illustrate this idea is through the following table.

<sup>2</sup> Benatar, David. *Better Never to Have Been: The Harm of Coming into Existence*. 2006. Clarendon Press, 2013.

# “ Benatar’s theory may stumble philosophically, but in a world shaped by systemic suffering, the question remains: IS IT **MORAL** TO CREATE LIFE ONLY TO LET IT SUFFER IN SILENCE? ”

| One exists                           | One doesn’t exist                      |
|--------------------------------------|----------------------------------------|
| Presence of pain ( <b>bad</b> )      | Absence of pain ( <b>good</b> )        |
| Presence of pleasure ( <b>good</b> ) | Absence of pleasure ( <b>not bad</b> ) |

Thus, he demonstrates how non-existence outweighs the positives of existence (good + not bad > good + bad). This is not to be confused with pro-death propaganda, as his evidence serves to support that no lives are worth starting, although he does still hold the belief that many lives are worth continuing, having already began. However, this argument does not completely withhold to criticisms as a lack of pain is not necessarily a good factor as no being experiences it, but rather “not good”, and lack of pleasure is therefore also simply “not bad”. This would mean that the table would ultimately look more like so, going against his perceived asymmetry of life:

| One exists                           | One doesn’t exist                      |
|--------------------------------------|----------------------------------------|
| Presence of pain ( <b>bad</b> )      | Absence of pain ( <b>not good</b> )    |
| Presence of pleasure ( <b>good</b> ) | Absence of pleasure ( <b>not bad</b> ) |

Ultimately, the significant lapses made in Benatar’s judgement publishing his theory weaken his credibility, making this one a relatively weak argument for anti-natalism, although it still can stand if we view it under a realistic current real-life context: by living in and endorsing modern society, even if we do not actively recognize our suffering, we are forced to contribute to others suffering; exploiting workers, exploiting animals, exploiting the environment... Looking at how prevalent suffering is in modern society, it is fair to assume that it outweighs the pleasure of such a life, and therefore starting this life is undesirable, and even morally wrong.

**G**erald K Harrison is a philosopher, author and lecturer in New Zealand specializing in meta-ethics and normative ethics. In his paper “Antinatalism and Moral Particularism”, within volume 20 issue 1 of the journal “Essays in Philosophy”, he presents his main points against pronatalist ideas. One of his basic arguments for anti-natalism mentioned in various essays and papers is the *no victim argument*. Harrison supports that since there is no victim in the case of no conception but there is a possible victim in the case of conception, the act of conception itself is an immoral action.<sup>3</sup> He famously stated “I argue that duties require victims. As such, we have a duty not to create the suffering contained in any prospective life but we do not have a duty to create the

pleasures contained in any prospective life.”<sup>4</sup>. Therefore, since there is no victim if we fail to create “happy people”, we do not have a duty to procreate. Although we do have a duty not to create “unhappy/suffering people”/ victims, and all lives do contain suffering, so we do have an inherent duty not to procreate. Here, one could respond with an objection similar to ones seen to Benatar’s argument: a prospective life contains in relatively equal parts pleasure and pain, and therefore is desirable. Although, this does not stand well in debate, as it is not stated that humans should not procreate because of suffering being significantly more present in ones life than pleasure, but rather that simply because of the existence of suffering in ones life it is unethical to willingly procreate. Therefore, Harrison makes a strong argument for anti-natalism, conveying important ideas in regards to the ethical weight of creating suffering people, victims.

**B**esides such arguments, there also are many strong misanthropic arguments for anti-natalism, which emphasize the harm that individuals who are brought into existence will cause upon each other, other animals, the environment, highlighting the lack of logic and empathy in the desire to continue the human race. These are relatively obvious points, although not often seriously considered as people tend to follow what has been taught to them/ societal norms/ their instincts when making decisions regarding what many perceive as the *necessity* for the human race to live on.

Over time, there have been legitimate objections put out against anti-natalist ideas, with one of the most commonly heard being the emphasis on the significance of procreative autonomy over any

3 Loughheed, Kirk. “Anti-Natalism | Internet Encyclopedia of Philosophy, h. The No Victim Argument.” *Utm.edu*, 2019, iep.utm.edu/anti-natalism/#SH1h. Accessed 17 May 2025.

4 Harrison, Gerald. “Antinatalism, Asymmetry, and an Ethic OfPrima FacieDuties1.” *South African Journal of Philosophy*, vol. 31, no. 1, Jan. 2012, p. 1, <https://doi.org/10.1080/02580136.2012.10751770>.

# “DUTIES REQUIRE VICTIMS. AS SUCH, WE HAVE A DUTY NOT TO CREATE THE SUFFERING CONTAINED IN ANY PROSPECTIVE LIFE, BUT WE DO NOT HAVE A DUTY TO CREATE THE PLEASURES.”

– GERALD K. HARRISON

argument, viewing anti-natalism as a threat to one's bodily autonomy. Individuals who support this acknowledge the truths of anti-natalist ideas but explain that since procreation can be essential to one's identity, dignity, and an action through which they find meaning, it is of greater importance to maintain procreative autonomy rather than impose anti-natalism. Of course, many who identify with anti-natalism can also agree with this philosophy, as even if they believe the action of procreation is morally wrong it is still possible to acknowledge and respect the autonomy of others. Therefore, one could still believe that it is morally impermissible to procreate, and openly preach these ideas, while still acknowledging that it is not their place to impose a lifestyle on someone else. The act of “preaching” such a philosophy stems more from the necessity for people to be informed before making decisions which directly affect other lives, rather than a desire to control others' lives.

In conclusion, anti-natalism as a philosophy is a widespread idea with many arguments for and against it, with few points standing out against the rest. The act of procreation is for many a core point in their lives which they greatly look forward to, however it still is of pivotal importance to first become entirely informed on the implications of such an action before partaking without regards for their future, their child's future, the future effects of human populations on the environment, etc. One should research and investigate the arguments against anti-natalism and the threats the philosophy could pose to everyday life in order to develop a complete understanding of this theory before identifying with a side (pronatalist/ anti-natalist); this article presents just few of

the numerous ideas around the philosophy of anti-natalism. It is always essential to question your knowledge, instincts, ideas before coming to a conclusion, especially when tackling the issue of procreation, as the simple decision to follow one's instincts and procreate can have severe repercussions. V

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Artwork by Katerina Ioannidou (IB DP Year 2)



# Abortion

## as a Moral Choice

### A Philosophical and Societal Analysis

By Dioni Abazi

Abortion is one of the most contentious issues in modern ethics, polarizing societies across the globe. Rooted in deeply held beliefs about morality, autonomy, and the sanctity of life, the debate transcends individual choices, to touch upon broader questions about societal values, legal frameworks, and scientific advancements. This article examines abortion as a moral choice by exploring philosophical arguments, real-world implications, and the intricate interplay between science, law, and society. By moving beyond political rhetoric, I aim to provide a nuanced perspective on this multifaceted issue.

Current debates often polarize around ideological extremes, but the middle ground—where ethics, science, and societal realities intersect—is where the most meaningful discussions can occur. Understanding the moral dimensions of abortion requires not only philosophical inquiry but also empathy for the diverse experiences and challenges faced by those making these decisions.

#### The Philosophical Foundations of Abortion

At its core, the morality of abortion is shaped by competing ethical principles, each seeking to address the fundamental questions of life, personhood, and individual rights. Central to the debate are two key philosophical positions: Don

Marquis’s “future of value” argument, which emphasizes the potential life of the fetus, and Judith Jarvis Thomson’s defense of bodily autonomy, which prioritizes the rights and agency of the pregnant individual. These perspectives offer distinct frameworks for navigating the ethical complexities surrounding abortion, highlighting the tension between protecting potential life and safeguarding personal freedom.

The question of abortion also invites deeper reflection on how societies define personhood and moral worth. While some frame personhood as a biological milestone, others argue it is tied to cognitive capacities, autonomy, or relational existence.

#### Don Marquis: The Future of Value Argument

Don Marquis’s seminal essay “*Why Abortion is Immoral*” argues that abortion is morally analogous to killing an innocent adult. Marquis asserts that the immorality of killing lies in the loss of the victim’s “future of value,” which includes experiences, achievements, and relationships that would have otherwise been realized. Extending this logic to abortion, he claims that terminating a fetus deprives it of a similarly valuable future.

Marquis’s argument avoids contentious debates about personhood, focusing instead on the intrinsic potential of life. However, his position has significant implications. For example, it would suggest that abortion is only justifiable in rare cases where the continuation of pregnancy results in a greater loss, such as when the pregnant person’s life is at risk or in instances of severe fetal abnormalities incompatible with life.

#### Real-World Examples: Ethical Dilemmas in Practice

The philosophical arguments outlined above gain further complexity when examined through real-world examples. Consider the case of Ireland, where abortion was historically prohibited under the Eighth Amendment of the Constitution. In 2012, the death of Savita Halappanavar, a woman denied a life-saving abortion despite severe complications, ignited global outrage and reignited debates about reproductive rights. This tragedy underscored the ethical dilemma of prioritizing fetal life over maternal health, ultimately leading to the repeal of the Eighth



## “ABORTION IS A PROFOUNDLY MORAL CHOICE, INTERTWINED WITH QUESTIONS OF AUTONOMY, JUSTICE, AND SOCIETAL VALUES”

Amendment in 2018. Savita Halappanavar’s death marked a turning point in Ireland’s abortion debate. As *The Guardian* recounts, public outrage over her preventable death galvanized support for repealing the Eighth Amendment, leading to legal reforms in favor of reproductive rights.<sup>1</sup>

In the United States, restrictive abortion laws have led to chilling effects on medical care. Physicians often face dilemmas about whether to intervene in cases of miscarriage or ectopic pregnancy, fearing legal repercussions. These scenarios illustrate the real-world implications of ethical and legal positions on abortion, demonstrating the need for nuanced approaches that prioritize patient care. A study by John Hebert III, distinguished obstetrician-gynecologist in the United States, illustrates how state abortion bans create ethical dilemmas for physicians, forcing them to choose between upholding medical ethics and adhering to the law.

In Poland, where one of Europe’s strictest abortion laws was passed in 2021, reports of women denied medical care during life-threatening pregnancies highlight the tension between legal restrictions and medical ethics. As the BBC reports, restrictive laws have prevented timely medical interventions, leaving women at risk of life-threatening complications in pregnancies with no chance of survival.<sup>2</sup>

1 “Savita Halappanavar’s Death Has Transformed Irish Abortion Debate | Goretti Horgan.” *The Guardian*, Guardian News and Media, 16 Nov. 2012, [www.theguardian.com/commentisfree/2012/nov/16/savita-halappanavar-death-irish-abortion-debate](http://www.theguardian.com/commentisfree/2012/nov/16/savita-halappanavar-death-irish-abortion-debate).

2 “To Produce Offspring without Interference by the State”: Making Reproductive Freedom, 1960s–1970s | *How Sex Became a Civil Lib-*

### The Role of Science in the Abortion Debate

Scientific advancements have profoundly shaped the discourse on abortion, particularly concerning fetal development and viability. Understanding the biological milestones of pregnancy is crucial for framing ethical and legal considerations.

### Reproductive Technology and Ethical Considerations

Reproductive technologies, including in-vitro fertilization (IVF) and genetic screening, have introduced new dimensions to the abortion debate. For example, prenatal testing can detect genetic abnormalities, prompting difficult decisions about whether to continue pregnancies. They blur the lines between medical necessity and personal preference, raising ethical questions about eugenics, disability rights, and societal values surrounding “normalcy.” Furthermore, the increasing availability of such technologies raises concerns about equitable



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# “ MARQUIS: ABORTION ENDS A ‘FUTURE OF VALUE’ ”

access, as socioeconomic disparities often limit these options to privileged groups, exacerbating existing inequalities.

The rise of genetic editing technologies like CRISPR introduces ethical complexities to reproductive decisions. Julia Kaye, Senior Staff Attorney with the ACLU Reproductive Freedom Project, emphasizes that while these advancements hold promise for preventing genetic disorders, they also raise questions about eugenics and societal pressures to create “perfect” offspring.<sup>3</sup>

## Societal and Legal Implications of Abortion

Abortion is not merely a personal choice; it is a societal issue with profound legal and cultural ramifications.

### The Global Landscape

Globally, access to abortion varies widely, reflecting cultural, religious, and legal differences. For instance, in countries like Sweden and Canada, abortion is widely accessible and framed as a healthcare issue. In contrast, nations like El Salvador impose absolute bans, leading to the criminalization of miscarriages and maternal deaths due to unsafe procedures. These disparities highlight how legal frameworks influence both individual autonomy and public health outcomes.

In countries like India, where abortion is legally permissible but socially stigmatized, cultural attitudes often deter women from seeking safe medical procedures, highlighting the gap between law and practice.

This disconnect between legal rights and real-world access is a recurring theme across many regions, where cultural, social, or political forces shape the lived experience of reproductive rights. Recent developments in the United States further illustrate how legal decisions can ripple

beyond national borders, influencing global abortion policies. Thomas E. Dobbs was the State Health Officer of the Mississippi Department of Health from 2018-2022. The Dobbs decision states that the Constitution does not confer a right to abortion and has spurred both restrictive and progressive changes in abortion laws. The International Planned Parenthood Federation reports that some nations have used the ruling to justify tightening restrictions, while others have expanded access in response, underscoring the far-reaching implications of U.S. abortion policies.

## Abortion and Social Equity

Restrictive abortion laws disproportionately affect marginalized communities, including low-income individuals and people of color. For example, in the United States, data from the Guttmacher Institute shows that restrictive laws increase the burden on those who lack resources to travel to states with more permissive policies. This inequity underscores the intersection of reproductive rights with broader issues of social justice.

The long-term impact of restrictive laws often includes worsening maternal mortality rates, particularly in regions where access to healthcare is already limited. Such outcomes remind us that abortion restrictions frequently exacerbate pre-existing systemic inequalities.

## Ethical Complexity and Moral Pluralism

One of the challenges in addressing abortion as a moral choice is the diversity of ethical frameworks and cultural values. While Marquis and Thomson provide valuable philosophical insights, real-world decisions often involve balancing conflicting principles, such as autonomy, justice, and the sanctity of life.

## Balancing Rights and Responsibilities

Ethical frameworks must consider the rights of both the pregnant individual and the fetus. However, they must also recognize that these rights are not equivalent. While a fetus’s potential future is significant, it does not override the pregnant person’s autonomy and well-being. This balance is evident in many legal systems, which allow abortion under specific circumstances, such as threats to maternal health or cases of rape.

An ethical approach must also consider the societal responsibility to support pregnant individuals who choose to carry their pregnancies to term, through policies that provide adequate healthcare, parental leave, and economic assistance.

## The Role of Empathy

Empathy is essential for navigating the moral complexities of abortion. By understanding the lived experiences of those facing unplanned pregnancies, society can move beyond abstract debates to address the real challenges individuals encounter. Listening to diverse lived experiences, such as those of survivors of sexual violence or parents navigating difficult prenatal diagnoses, can deepen societal understanding of the moral complexities involved in abortion.

3 “To Produce Offspring without Interference by the State”: Making Reproductive Freedom, 1960s–1970s | *How Sex Became a Civil Liberty* | Oxford Academic, academic.oup.com/book/8462/chapter-abstract/154271380?redirectedFrom=fulltext. Accessed 16 May 2025.

# “ THOMSON: BODILY AUTONOMY OUTWEIGHS FETAL RIGHTS ”

## Moving Toward a Nuanced Understanding

Abortion as a moral choice requires thoughtful engagement with philosophical, scientific, societal, and legal dimensions. Simplistic arguments fail to capture the issue's complexity, underscoring the need for dialogue that respects diverse perspectives.

## Ethical Education and Public Discourse

Promoting ethical education and critical thinking can help foster constructive discussions about abortion. By examining philosophical arguments, such as those of Marquis and Thomson, individuals can develop a deeper understanding of the moral principles at stake. By incorporating case studies, philosophical debates, and scientific advancements into curricula, society can equip future generations to approach abortion with both critical thinking and compassion.

## Supporting Reproductive Justice

Reproductive justice goes beyond the legal right to abortion, emphasizing access to comprehensive healthcare, education, and social support. This framework recognizes that true autonomy requires the ability to make choices and the resources to act on them.

Investing in comprehensive sex education and accessible healthcare systems can help address the root causes of unplanned pregnancies, reducing the need for abortion while respecting individual autonomy.

## Conclusion: Abortion in a Moral and Societal Context

Abortion is a profoundly moral choice, intertwined with questions of autonomy, justice, and societal values. Philosophers like Don Marquis and Judith Jarvis Thomson offer valuable frameworks for understanding the ethical dimensions of abortion, yet their arguments must be contextualized within real-world scenarios and scientific advancements. By embracing moral pluralism and fostering constructive dialogue, we can work toward solutions that honor both individual autonomy and collective well-being. **V**

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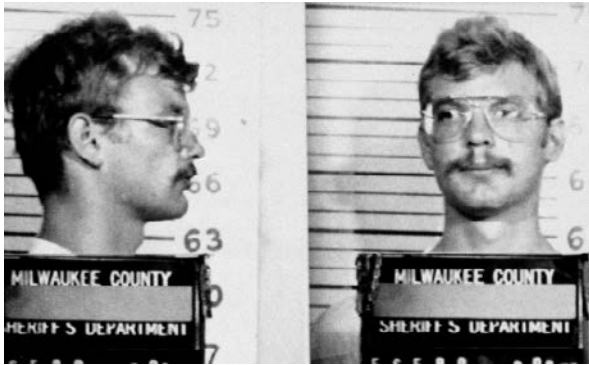
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Dahmer's mugshot, 1991

Jeffrey Dahmer's case continues to be studied for the insights it provides into extreme antisocial behavior.

# Killing Sprees: A Notorious Serial Killer

By Eleni Archontidi

**T**hrough history, few have committed such monstrous crimes, that their names remain engraved in the annals of horror. Jeffrey Dahmer, also known as the “Milwaukee Cannibal”, not only shocked the world with his brutal acts, but also uncovered the darkest corners of the human mind.

His name is one of the most feared and forbidding in criminal history. His murders, starting in 1978 up until 1991, startled the world. He was born in Milwaukee, Wisconsin and appeared to have a normal childhood, but signs that he was troubled started to surface early. He developed an interest in animal dissection and exhibited troubling behavior that went highly unnoticed. His first murder victim was Steven Hicks in 1978, when he was just 18 years old. Over the next 13 years, he lured mostly young male victims to his apartment with promises of friendship, photography or alcohol. Once they were there he would drug, assault and kill them, usually engaging in dismemberment and cannibalism. He retained body parts and photos of his victims as mementos.

Despite close calls with law enforcement, Dahmer continued his crimes for years. Even when a 14-year-old victim, Konerak Sinthasophone escaped from Dahmer's apartment, he was returned to him by police and the boy was murdered shortly after. It wasn't until July

1991 that came Dahmer's horrific crime to light. Tracy Edwards, who narrowly escaped becoming one of Dahmer's victims, managed to flee the apartment and directed police to the scene of unimaginable horror. The authorities discovered skulls, body parts in the refrigerator, photographs that exposed the full extent of his brutality. During Dahmer's trial it was revealed that Glenda Cleveland, a neighbor of his, had tried multiple times to alert the police, but her warnings went unheeded.

Dahmer admitted to taking the lives of 17 individuals and was given 15 consecutive life sentences in 1992. In 1994, his life came to a violent end when he was fatally attacked by another inmate at the Columbia Correctional Institution.

Jeffrey Dahmer's case offers valuable insights into the psychological factors behind extreme antisocial behavior; including the role of paraphilias, necrophilia, childhood trauma and missed early intervention opportunities. **V**

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# Are Serial Killers Born or Made?

By Eleni Chalazoniti

Why do some individuals commit the most heinous crimes repeatedly? What drives someone to take lives without remorse? Most experts define a serial killer as someone who has murdered at least three people, over a period of more than a month, with at least some “cooling-off” time between each murder.<sup>1</sup> However, everyone seems to question: “are serial killers born or made?” This article will delve into the psychological traits and early life experiences that help unravel the mystery behind serial killers.

Many psychologists support that serial killers are driven by their own childhood trauma, for example sexual or domestic abuse and neglect in the early years of their life. A landmark US study of 50 convicted serial killers found that 36% had suffered physical abuse and 26% had suffered sexual abuse. Based on Freudian psychology, childhood experiences can profoundly affect the way we shape our personalities and the way we perceive the world. Many support that a result of childhood abuse is suppressing emotions until crashing out and never learning the right response to trauma. Also, abuse in early years may also affect children’s sense of morality, especially when they experience it from a loved individual, like their close relatives or friends. For many, abuse becomes normalized and implemented in their everyday life, making them believe that violence is something normal that everyone should give and receive. For others, abuse becomes a harrowing concept, and they spend their whole lives seeking revenge, by harming others, for what they have endured. Revenge does not

1 Christian, Elise. “Are Serial Killers Born or Made?” *Rest Less*, 7 Mar. 2024, [restless.co.uk/leisure-and-lifestyle/art-and-culture/are-serial-killers-born-or-made/](https://restless.co.uk/leisure-and-lifestyle/art-and-culture/are-serial-killers-born-or-made/).

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MANY SERIAL KILLERS HAVE FACING PROFOUND CHILDHOOD ABUSE — PHYSICAL, EMOTIONAL, AND SEXUAL — THAT LEAVES A DEEP PSYCHOLOGICAL SCAR AND DISTORTS THEIR SENSE OF MORALITY.

”

have to directly affect their abuser; their unconscious may interpret revenge as a way of restoring the balance in their life.

Another common personality disorder that is linked with serial killers is psychopathy.<sup>2</sup> Psychopathy is a personality disorder characterized by a lack of empathy, lack of remorse, and antisocial behavior.<sup>3</sup>

2 Christian, Elise. “Are Serial Killers Born or Made?” *Rest Less*, 7 Mar. 2024, [restless.co.uk/leisure-and-lifestyle/art-and-culture/are-serial-killers-born-or-made/](https://restless.co.uk/leisure-and-lifestyle/art-and-culture/are-serial-killers-born-or-made/).

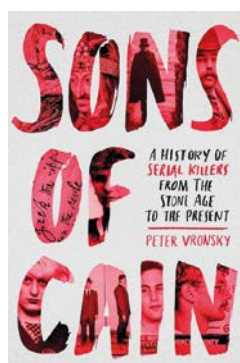
3 PsychopathyIs. “What Causes Psychop-



Artwork by Eliana Stratou (IB DP Year 2)



Lack of empathy refers to the difficulty psychopaths have understanding and feeling the emotions of others. They fail to be compassionate and don't succeed in recognizing the impact of their actions on others. Lack of remorse refers to the psychopath's characteristic of not feeling regret when harming others, both physically and emotionally. Anti-social behavior refers to their tendency to disregard societal norms and exclude themselves from societal groups. Psychopathy and early childhood abuse are often linked in a strong way. However, not all children who are abused develop psychopathy, and not all psychopaths have been abused as children go on to become serial killers. Research by Columbia University professor Michael H. Stone, who looked at the biographies of 89 male sexual serial killers, reported that 87% met the criteria for psychopathy, according to the Hare Psychology Checklist. There is no "psychopathy gene," but research tells us that psychopathy tends to run in families. Even if a parent does not have psychopathy, they may carry one or more genetic variants



that increase their child's chance of developing psychopathy. Therefore, psychopathy, a disorder directly linked to serial killers, supports the idea that serial killers are born and not made overtime.

In conclusion, despite all research and experiments that have been conducted regarding this topic, there is no clear answer on whether serial killers are born or made. While certain traits, such as experiencing childhood abuse or neglect are historically linked to serial killers, there is no clear correlation between murdering someone

and experiencing child abuse. Similarly, genetics and mental disorders cannot solely define whether someone will grow up and commit murder. Their behaviors result from a mix of genetic, environmental, and psychological factors, and further research and understanding of these factors can be useful in the prevention, intervention, and rehabilitation of serial killers.<sup>4</sup>

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# The Stanford Prison Experiment

By Theodora Papageorgiou

On October 14, 2024, Philip G. Zimbardo, a “towering figure” of social psychology who conducted the famous Stanford Prison Experiment, died at his home in San Francisco. His death was announced by Stanford University, where Dr Zimbardo was a Psychology Professor for 35 years. Dr Zimbardo, named as “emperor of the edge” by Psychology Today magazine<sup>1</sup>, had challenging and controversial research interests (power, evil, heroism) which made him a popular personality on Stanford’s campus.

In this article I will explore of one his research interests namely the psychological impact on conformity on power and powerlessness in a prison environment.

In August 1971, while looking for a new way to study how circumstances can shape behavior, Dr Zimbardo set up a prison in the basement of the Stanford Psychology Building. Specifically, Zimbardo was interested in investigating whether the brutality of prison guards in the U.S was due to the personality of the guard or the prison environment in which they worked. Also, the researchers were interested in exploring how easy it was for the participants to conform to the roles they were assigned (prisoner or guard) in a prison simulation environment. Therefore, Zimbardo used a local newspaper advertisement to recruit Stanford students, giving them a reward of 15\$ per day. Using an experimental design, twenty-four students were randomly assigned into groups of prisoners and guards. The experiment, which was originally scheduled to last 1-2 weeks, ended on the 6<sup>th</sup> day because it escalated into utter chaos after the prison guards started physically abusing the prisoners.

While the experiment was deemed very unethical, it proved that circumstances have the power to make normal people act like tyrants – what Zimbardo called “the power of the situation”<sup>2</sup>.

- 1 Rosenwald, Michael S. “Philip Zimbardo, 91, Whose Stanford Prison Experiment Studied Evil, Dies.” *The New York Times*, The New York Times, 24 Oct. 2024, [www.nytimes.com/2024/10/24/science/philip-zimbardo-dead.html](http://www.nytimes.com/2024/10/24/science/philip-zimbardo-dead.html). Accessed 19 Dec 2024.
- 2 Rosenwald, Michael S. “Philip Zimbardo, 91, Whose Stanford Prison Experiment Studied Evil, Dies.” *The New York Times*, The New York Times, 24 Oct. 2024, [www.nytimes.com/2024/10/24/science/philip-zimbardo-dead.html](http://www.nytimes.com/2024/10/24/science/philip-zimbardo-dead.html). Accessed 19 Dec 2024.



Surveying the Participants

The experiment became famous only a few weeks after its completion when the riot in New York’s Attica prison dominated the newspaper headlines. Psychologists criticized the Stanford Prison



Dr Philip Zimbardo



Dr Craig Haney

Experiment when it became part of public discourse, yet their points ultimately failed to awaken public consciousness. Erich Fromm evaluated Zimbardo’s methods in his 1973 book titled “The Anatomy of Human Destructiveness” concluding that



# “ ZIMBARDO WAS INTERESTED IN INVESTIGATING WHETHER THE BRUTALITY OF PRISON GUARDS IN THE US WAS DUE TO THE PERSONALITY OF THE GUARD OR THE PRISON ENVIRONMENT IN WHICH THEY WORKED ”

HTTPS://WWW.PRISONEXP.ORG/GALLERY



Doing push-ups

the “difference between the mock prisoners and real prisoners is so great that it is virtually impossible to draw analogies from observation of the former. In 2002, BBC broadcasted a program called “The Experiment”, which documented the reboot of the Stanford study by British psychologists Alex Haslam and Steve Reicher<sup>3</sup>. In this experiment, also known as the BBC Prison Study, there was an ethics committee on site and the scientists conducting the experiment only observed rather than participated, while in his study Zimbardo participated as an SCP inspector. In the BBC study, the prisoners were also able to unite and help each other improve their living conditions. Stephen Reicher, a psychologist and one of the scientists involved in the BBC experiment, stated regarding the Stanford Experiment, “We began to realize that actually leadership was absolutely critical, because the more you look at Zimbardo’s study, you realize

3 Berman, Judy. “Everything You Know about the Stanford Prison Experiment Is Wrong.” *TIME*, Time, 13 Nov. 2024, [time.com/7175067/stanford-prison-experiment-docuseries-real-story/](https://www.time.com/7175067/stanford-prison-experiment-docuseries-real-story/). Accessed 19 Dec 2024.

that the guards didn’t become guards willy-nilly. He acted as leader to tell them what to do. But without leadership, you do not have the kinds of toxic behavior observed in Zimbardo’s SPE.”<sup>4</sup> In other words, the situation to which Zimbardo attributed so much power, is in fact as strong as the influence exerted by its leaders.

Even the advertisement that Zimbardo used to recruit the students could have inadvertently influenced the behavior he observed. Psychologists Thomas Carnahan and Sam McFarland realized in 2007 that the phrase “life in prison”<sup>5</sup> that was included in the advertisement likely limited the breadth of the applicant pool. When they conducted their own experiment to explore if they would receive different types of applicants by running the ad as a written text and omitting that phrase, they found that “those who thought they would be participating in a prison study had significantly higher levels of aggressiveness, authoritarianism, Machiavellianism, narcissism, and social dominance and scored lower on measures of empathy and altruism.”<sup>6</sup>

In 2018, Philip Zimbardo and Craig Haney, who had conducted the Stanford Prison Experiment, released a joint statement with Professor Alex Haslam from University of Queensland and Professor Reicher, who had performed the BBC Prison Study. The statement lauded the new insights into the experiment and argued for an open-minded and respectful discussion of its repercussions. The statement further acknowledged that the experiment had generated fierce debate and occasional misinterpretations both within the discipline of psychology and in other fields<sup>7</sup>. The signatories acknowledged the complexity of explanations of social behavior as well as the existence of multiple factors that are at play<sup>8</sup>. However, they made a point of affirming their belief in open science and stated that they embrace the release of any information that might facilitate

4 Berman, Judy. “Everything You Know about the Stanford Prison Experiment Is Wrong.” *TIME*, Time, 13 Nov. 2024, [time.com/7175067/stanford-prison-experiment-docuseries-real-story/](https://www.time.com/7175067/stanford-prison-experiment-docuseries-real-story/). Accessed 19 Dec 2024.

5 Konnikova, Maria. “The Real Lesson of the Stanford Prison Experiment.” *The New Yorker*, 12 June 2015, [www.newyorker.com/science/maria-konnikova/the-real-lesson-of-the-stanford-prison-experiment](https://www.newyorker.com/science/maria-konnikova/the-real-lesson-of-the-stanford-prison-experiment). Accessed 19 Dec 2024.

6 Konnikova, Maria. “The Real Lesson of the Stanford Prison Experiment.” *The New Yorker*, 12 June 2015, [www.newyorker.com/science/maria-konnikova/the-real-lesson-of-the-stanford-prison-experiment](https://www.newyorker.com/science/maria-konnikova/the-real-lesson-of-the-stanford-prison-experiment). Accessed 19 Dec 2024.

7 “Debate about Ideas, Not about Personalities.” *BPS*, [www.bps.org.uk/psychologist/debate-about-ideas-not-about-personalities](https://www.bps.org.uk/psychologist/debate-about-ideas-not-about-personalities). Accessed 16 Dec 2024.

8 “Debate about Ideas, Not about Personalities.” *BPS*, [www.bps.org.uk/psychologist/debate-about-ideas-not-about-personalities](https://www.bps.org.uk/psychologist/debate-about-ideas-not-about-personalities). Accessed 16 Dec 2024.



**Prisoner in Station**



**Filming the Experiment**

the interpretation of their study as well as others. In a concluding statement, the signatories expressed their regret about previous statements that may have used exaggerated language or made personal criticisms<sup>9</sup>. They also pointed out that they had found no compelling evidence that any of the researchers had been involved in falsification of their findings, although they recognized the legitimacy of doubting the accuracy and meaning of research reports<sup>10</sup>.

<sup>9</sup> "Debate about Ideas, Not about Personalities." *BPS*, [www.bps.org.uk/psychologist/debate-about-ideas-not-about-personalities](http://www.bps.org.uk/psychologist/debate-about-ideas-not-about-personalities). Accessed 16 Dec 2024.

<sup>10</sup> "Debate about Ideas, Not about Personalities." *BPS*, [www.bps.org.uk/psychologist/debate-about-ideas-not-about-personalities](http://www.bps.org.uk/psychologist/debate-about-ideas-not-about-personalities). Accessed 16 Dec 2024.

In conclusion, the controversy arising from the Stanford Prison Experiment underscores the need for concrete research methods and guidelines in psychology and in the sciences overall. Such debates enable psychology as a social science to move forward and obtain profound insights into the potential flaws of existing methodologies, thereby leading to progress and not regression. **V**

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**“ THE CONTROVERSY ARISING FROM THE  
STANFORD PRISON EXPERIMENT UNDERSCORES THE NEED  
FOR CONCRETE RESEARCH METHODS AND GUIDELINES IN  
PSYCHOLOGY AND IN THE SCIENCES OVERALL ”**

# Control: Scroll Breaking Free from the Social Media Spiral

By Areti Prokou

Our parents and teachers keep telling us that we are wasting our time and have our phones in our hands, so we are going to fail!

In the beginning I said I could not as I had no time. Besides, I find the IB quite overwhelming with all the work and deadlines.



Eventually, he persuaded me to write it when he said that if I just put my phone away for half an hour, I would find the time to write an article. So, I began to think of all the ways I waste my time with social media. I know I spend excessive amounts of time on social platforms, because I am checking for updates, or looking out for what new posts my friends have put up and then when I put up a post, I need to check for the number of likes it gets. I realize that we do this as a means of validation – the more likes a post gets, the more people like us.

I researched online to find out why we all seem so obsessed with our phones and the apps we have on our phones. A recent study from Yale University, published in 2023, shows that it is a kind of Dopamine dependency<sup>1</sup>. We are addicted to the excitement of seeing other people's lives or sharing our own and then waiting for the 'likes'. There is also our 'Fear of missing out'. What will happen if I leave the chat, or stop following on Instagram, or don't like a picture my friend has uploaded?

Also, the reports I found warned about the dangers of social media, especially for young people. They are very scary. Our obsession with social media can cause anxiety and depression, often because we spend so much time checking notifications or



<sup>1</sup> Dresch-Langley, Birgitta. "From Reward to Anhedonia-Dopamine Function in the Global Mental Health Context." *Biomedicines* vol. 11, 9 2469. 6 Sep. 2023, doi:10.3390/biomedicines11092469. Accessed 1 June 2025

**“ WE ARE ADDICTED  
TO THE EXCITEMENT  
OF SEEING OTHER PEOPLE’S LIVES  
OR SHARING OUR OWN  
AND THEN WAITING  
FOR THE ‘LIKES’ ”**

# “ SO LET’S ALL PUT OUR PHONES AWAY, MAKE TIME FOR EACH OTHER AND CATCH UP WITH ALL THAT WORK WE HAVE NOT DONE ”

scrolling that we do not do what we are supposed to do for school. Then, we get behind with our work and start feeling anxious about catching up.

Moreover, using social media often brings us face to face with cyberbullying. At school, most of us have faced bullying at least one time, but when it happens through social media it seems never to stop. This is also connected to Data exploitation. Often, we hear stories of pictures or posts that someone has posted and are used for blackmail. This is frightening, especially for a 16-year-old who has no idea how to stop it.

**H**ow can we stop all these things from happening to us and try to get our lives back? How can we stop our obsession with social media? I have some ideas!

**1. Turn Off Notifications.** What you could do is arrange to have Social Media breaks - no notifications between 5pm and 9 pm for example.

**2. Time Limits.** Set a timer on your phone so that it will ring after 30 minutes to tell you to stop scrolling and go back to work.

**3. Arrange more face-to-face communication** with friends and family. Choose an activity that naturally encourages interaction and conversation, like a game night, group dinner or a creative activity like painting.

**T**hank you, John, for making me realize how important face to face interaction is. Making time for in-person conversations not only improves our relationships but also serves as a reminder of the need for genuine human connection, in a world where social media and technology are taking over. So let’s all put our phones away, make time for each other and catch up with all that work we have not done. **V**



Artwork by Magia Negka (IB DP Year 2)

# The Psychology of IB Students' Procrastination and Its Effects

By Anna Maria Davies

The International Baccalaureate (IB DP) program is renowned for its rigorous academic requirements, which pushes students to excel in a variety of topics while juggling extracurricular activities, personal obligations, and the stresses of puberty. The IB provides many teenagers with a route to further education and future success. However, it also encourages procrastination, one of the most common but debilitating behaviors. Addressing this issue and assisting students in achieving success requires an understanding of the

factors significantly contribute to the reasons behind student procrastination. Numerous adolescents develop procrastination tendencies because of peer pressure, as socializing—either digitally or face-to-face—typically takes priority over academics.

Procrastination affects students in multiple ways; for example, as deadlines are near and they must finish a project, students grow more anxious and stressed, which leads to reduced sleep and eventually causes fatigue and, in some cases, burnout. Moreover, their efforts to review the whole syllabus before the exam and their difficulty recalling information results in a drop in academic performance, fostering the rise of poor habits and low marks.

To avoid procrastination, students may consider breaking up the work into smaller, easier-to-manage assignments to decrease procrastination. This can boost motivation and make it easier

to do everything at once. The key to improving concentration is setting up a calm workspace, free from distractions like your phone. Students may also stay motivated and cut down on procrastination by using study techniques like the Pomodoro method. With this approach, you work for twenty-five minutes and then take a ten-minute rest. Walking briefly throughout each brief break can assist increase blood flow to the brain and give you the energy you need to complete the work.

Studies have indicated that procrastination is more than mere-



psychology of procrastination and how it affects IB students.

Many students procrastinate as they are afraid of failing at the current task, which is why they don't attempt it at all. Also, the absence of incentive stems from insufficient enthusiasm for the degree of intricacy of the particular topic or task. Moreover, the numerous tasks and activities they need to manage, like CAS, EE, and IAs for IB students, lead them to feel overwhelmed. Along with psychological aspects, social

ly a bad habit; it is a deeply rooted psychological behavior with quantifiable impacts. Research has found that between 80 and 95 percent of college students put off their assignments to some extent, and around half of them acknowledge that procrastination causes them significant problems.

Many students throughout the world struggle with procrastination, especially students who are part of the IB. Phones specifically, and the incessant scrolling through Instagram and TikTok, which has turned into a habit and an extremely difficult-to-break addiction, are a big contributor to procrastination. However, by using practical techniques, students may overcome procrastination and realize their full potential. 



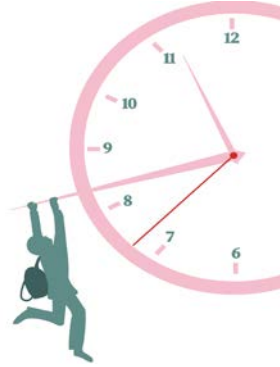
# The Psychology Behind Procrastination and How to Overcome It

By Alexia Katsarou

Without even realizing it, we reach for our phones, grab a “quick” snack or have a sudden urge to clean our room which can take up hours. These actions are the result of procrastination, and it is the leading obstacle that we face when completing assignments. Before you even know it, the deadline for your assignment is the next day and panic sets in. Why do we put off our tasks all the time, even though we are aware of our actions’ implications? The answer lies deep in our psychology, and the way our brains work. What’s the good news, you might ask? With the right strategies, you can overcome this obstacle and manage your time effectively.

Procrastination isn’t just about poor time management. It’s a combination of complex emotional and psychological factors. It all starts with the fear of failure. Many individuals procrastinate because they are afraid that their performance will not meet expectations. Furthermore, our brains tend to desire small, short-term rewards, like having a snack, relaxing, and browsing social media, to long-term ones. This is because short-term rewards provide immediate satisfaction whereas long term ones do not; this is called instant gratification. Finally, certain assignments might feel way too challenging and complex; instead of tackling the overwhelming task in small steps, we tend to completely avoid it altogether until the very last moment.

While procrastination can lead to overwhelming emotions, there are many effective strategies to combat it. One way to fight against procrastination is by breaking assignments into smaller steps; this can be extremely helpful as large tasks can feel intimidating. By dividing them into smaller parts, we make them more tangible and therefore manageable and doable. For instance, instead of writing an entire essay, start with creating the structure of the essay and



brainstorming ideas of what to write in each part. This will then help when writing it down, as you will know what to write about. Another way to combat procrastination is by setting specific goals; understand what needs to be done, the achievements you want to reach and set realistic deadlines. Then, try to complete the task by using studying methods like the Pomodoro Technique; this technique details working in focused intervals (usually around 25-30 minutes), which is

then followed by a short break. It not only helps maintain your concentration, but it also aids you in avoiding disengagement with your activities. Moreover, an obvious way to avoid procrastination is to attempt to eliminate any distractions that may be in your surroundings; by emptying out the space in which you use to study, you free yourself from any interruptions that might otherwise distract you. Turn off notifications, close unnecessary tabs, and let others near you know that you need time and quiet to complete your tasks. Lastly, make sure that you reward yourself after completing major steps in certain tasks; by rewarding yourself after a major part in an assignment is done, you not only motivate yourself, but you may also help create a positive correlation between studying for a task and then being rewarded for it. For example, treat yourself to something that you desire to do, such as a snack or a short episode of your favorite show, which can help fulfill you.

In conclusion, many psychological factors play in to the aspect of procrastination, which can lead to detrimental effects when it comes to completing tasks that eventually and inevitably need to be completed. By finding ways and strategies to overcome procrastination, we find ways to keep ourselves motivated and accomplish achievements that we once thought could never be done. V



Artwork by Marilia Pappa (IB DP Year 2)

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# The Role of Friendship in Alleviating Anxiety

By Alexandra Chandaka and Daphne Tsimpre

In a world that seems to accelerate with every passing moment, anxiety has become an ever-present force, quietly seeping into the lives of people across all generations. For teenagers, the strain is especially pronounced. The weight of academic expectations, the relentless pressure to conform to social norms, and the ceaseless influence of social media combine to create an environment where anxiety feels all-consuming. Yet, amidst this turmoil, one timeless antidote remains: friendship. As Aristotle once stated, friendship is “*a single soul dwelling in two bodies*,”<sup>1</sup> encapsulating the profound emotional healing it offers. True friendships go beyond simple comfort; they provide stability, support, and resilience, all of which are critical for navigating the stress of modern life.

For teenagers in Greece and beyond, mental health challenges are deeply troubling. Recent surveys, such as those by Breathe Hellas and the University Mental Health, Neurosciences, and Precision Medicine Research Institute “Costas Stefanis” in 2021,<sup>2</sup> reveal a concerning prevalence of anxiety and stress among young people. With one in three teens aged 17–24 experiencing severe emotional distress, modern life’s pressures weigh heavily on

youth. Amid these difficulties, regular connection with friends has emerged as the most cited coping mechanism. These findings underscore an essential truth: in times of crisis, our peers often become our most reliable support system.

Friendship is far more than just casual socializing or sharing memes online. Scientific research by Better Health Channel (2017) affirms that strong social bonds significantly enhance mental health, reducing symptoms of anxiety and depression.<sup>3</sup> When we connect meaningfully with others, our brain releases oxytocin, the so-called “bonding hormone,” which fosters trust and emotional closeness while counteracting cortisol, the stress hormone. A genuine friendship can, quite literally, soothe the mind and body. One of the most powerful aspects of friendship is its capacity to provide a safe space for vulnerability. A true friend doesn’t always need to provide solutions; they simply listen, validate our feelings, and remind us that we’re not alone. In doing so, they help untangle the knots of anxiety that often form when we feel isolated or unheard.

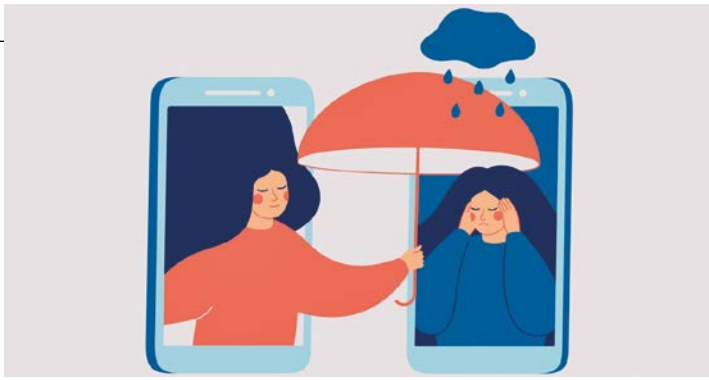
Moreover, the stress of academic and social pressures can be overwhelming for teenagers worldwide. For instance, picture a student preparing for final exams, weighed down by fear of failure. A supportive friend might help them revise, offer words of encouragement, or simply remind them that their worth extends far beyond a single test result. These small but meaningful gestures can shift the narrative from self-doubt to determination, allowing confidence to take root where anxiety once thrived. Moreover, confidence often flourishes in the presence of supportive relationships. A friend who believes in us, even when we don’t believe in ourselves, can reshape how we perceive our abilities. Whether it’s encouraging us to try a new hobby, apply for an opportunity, or step outside our comfort zone, a great friend fosters growth. Over time, these experiences accumulate, transforming tentative attempts into lasting self-assurance.

The Importance of friendships In navigating mental health challenges becomes even clearer when we consider what young people often prioritize. Many adolescents highlight the value of regular contact with friends as vital for maintaining their mental

1 Grayling, A.C. “The Last Word on Friendship.” *The Guardian*, 13 Apr. 2002, [www.theguardian.com/books/2002/apr/13/books.guardianreview5](http://www.theguardian.com/books/2002/apr/13/books.guardianreview5). Accessed 1 June 2025.

2 “Breathe Hellas launches campaign on youth mental health in Greece.” *Stavros Niarchos Foundation Global Health Initiative*, 17 July 2024, [www.snfgi.org/en/updates-events/breathe-hellas-launches-campaign-on-youth-mental-health-in-greece/](http://www.snfgi.org/en/updates-events/breathe-hellas-launches-campaign-on-youth-mental-health-in-greece/). Accessed 1 June 2025.

3 Better Health Channel. “Strong Relationships, Strong Health.” *Better Health Channel*, State Government of Victoria, Australia, [www.betterhealth.vic.gov.au/health/healthyliving/strong-relationships-strong-health](http://www.betterhealth.vic.gov.au/health/healthyliving/strong-relationships-strong-health). Accessed 1 June 2025.



well-being, often placing it above other coping mechanisms. This emphasis reflects a broader trend: teenagers frequently seek support from their peers rather than professional interventions. Friends are able to provide the understanding and reassurance that, at times, even family members -despite their love- might not always be able to offer. There is something uniquely empowering about confiding in someone who truly understands your perspective because they share similar experiences and challenges.

Shared laughter and entertainment are among the simplest yet most profound ways friendships ease anxiety. Humor has a remarkable ability to diffuse tension and shift our mindset. Whether it's laughing over a shared memory or finding the absurdity in a stressful situation, moments of joy create a temporary reprieve from life's difficulties. These moments, however fleeting, remind us that life isn't defined solely by its hardships. Moreover, spending quality time with friends -whether hanging out, playing sports, or simply chatting- builds positive memories that act as a buffer against future stress. These interactions also serve as reminders of the good in our lives, grounding us when we feel overwhelmed.

However, the quality of our connections matters more than quantity. In a world dominated by social media, where interactions can often feel superficial, it's vital to prioritise meaningful relationships. A thousand online followers cannot replace the impact of one authentic, supportive companion. Genuine, regular connections, rather than fleeting digital interactions, have the most significant impact on mental well-being.

Not all friendships, nevertheless, provide solace; some can worsen stress instead of alleviating it. Toxic relationships, marked by manipulation, excessive demands, or lack of respect, often increase anxiety and insecurity. A friend who criticizes or dismisses

your feelings can damage self-esteem, while relationships built on competition or unhealthy comparisons may intensify social pressure, especially in today's social media-driven world. Identifying and addressing these harmful dynamics is essential to building connections that truly support mental health.

Therefore, building meaningful friendships requires intentional effort. It's about being present, reliable, and appreciative of those who stand by us. True friends support us through both triumphs and challenges, creating a space where we can grow and be our authentic selves. The most valuable friendships are those that help us become the best versions of who we are.

The economic crisis and pandemic have made young people more vulnerable, yet they have also revealed their resilience. Today's youth are increasingly turning to friendships to navigate mental health challenges, highlighting the enduring power of human connection. In both difficult and joyful times, a good friend can make all the difference. They bolster our self-worth, offer support, and share in our experiences. Friendship is not just companionship; it is a bond that strengthens and elevates both individuals. In the face of modern challenges, we have come to realize that genuine connections are transformative. Good friends are a lifeline, offering courage and reminding us that we're never truly alone. ❏

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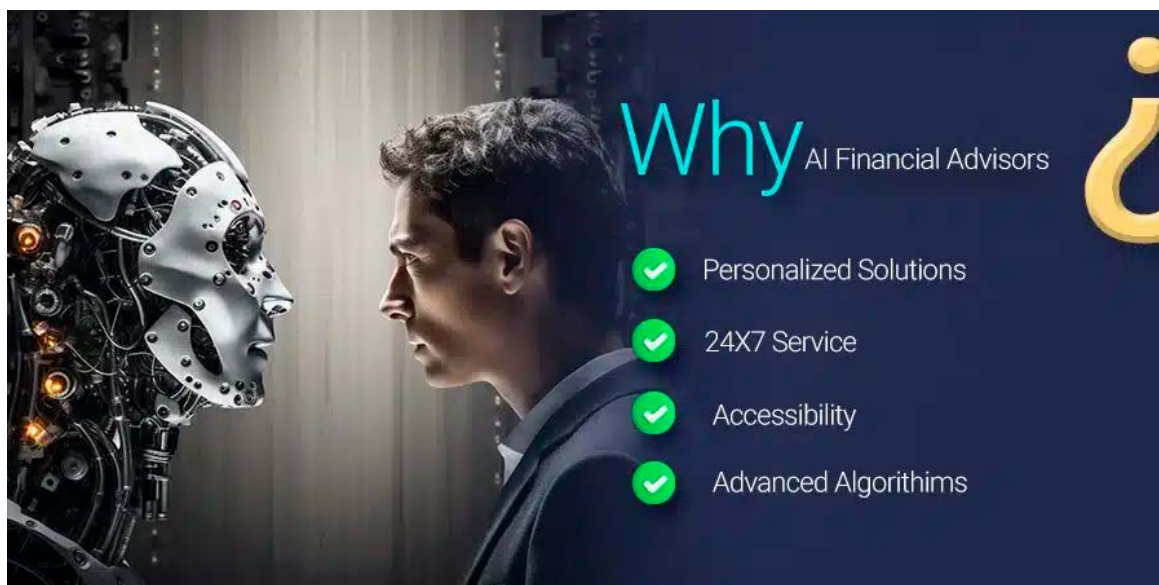


Artwork by Elli Sourli (IB DP Year 2)

# AI in Personal Finance

## Transforming Investing and Budgeting

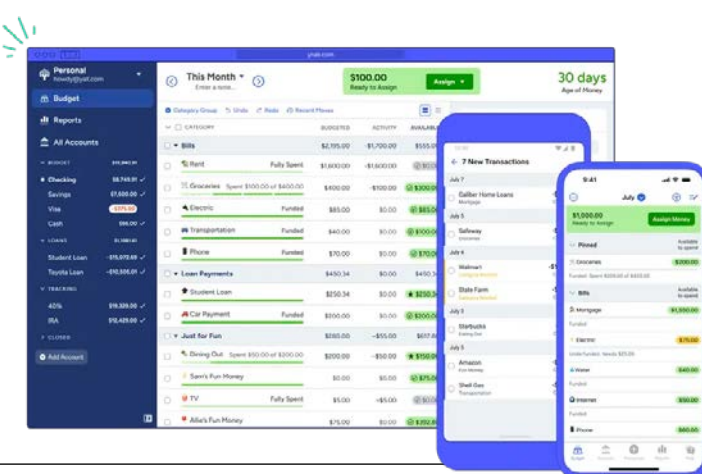
By Apostolos Anastasopoulos



The evolution of machine learning, big data, and advanced computation has led to the exponential growth of Artificial Intelligence. AI technology is revolutionizing our work, and personal finance is no exception. Traditional approaches to budgeting and investment are slowly surpassed by AI's ability to analyse huge amounts of data, transforming how individuals manage their money, invest, save, and plan for the future. AI technology offers increasingly sophisticated tools that automate processes, personalize financial advice, and improve decision-making. This article will address some of the most important ways AI is shaping personal finance in 2025.

### Smart Budgeting and Expense Tracking

AI-powered budgeting tools like PocketGuard (2024), Mint (2025), and YNAB (2025), or 'You Need A Budget', are redefining how individuals manage their money. They help create detailed budgets, track spending patterns, and even find opportunities to save.



# “ AI WILL ASSESS THE RISK PROFILE AND SUGGEST APPROPRIATE INSURANCE PRODUCTS REQUIRED BY AN INDIVIDUAL OR FAMILY IN THE FORM OF LIFE, HEALTH, OR DISABILITY INSURANCE ”



AI-powered personal finance applications can categorize expenses, set a budget, and predict future expenses. AI can automatically sort purchases into categories such as groceries, entertainment, and bills to give a better view of where money is being spent. It can be used in setting realistic budgets based on income, spending patterns, and financial goals; it can also suggest adjustments if actual spending exceeds expectations. AI applications can also use older data to estimate future bills, subscriptions, and other irregular expenses such as medical ones.

## Tax Optimization and Planning

AI helps individuals optimize their taxes by analyzing financial data and advise them on ways to reduce tax liabilities (EY Global, 2024). AI can work as a tax filling assistant, helping automate tax form preparation and e-filing the necessary forms.

## Personalized Financial Advice

With large volumes of data at its disposal, AI can offer personalized financial advice based on a case-specific situation (Vereckey, 2024). Examples include the following:

**Insurance Needs:** AI will assess the risk profile and suggest appropriate insurance products required by an individual or family in the form of life, health, or disability insurance (Infosys BPM, 2025).

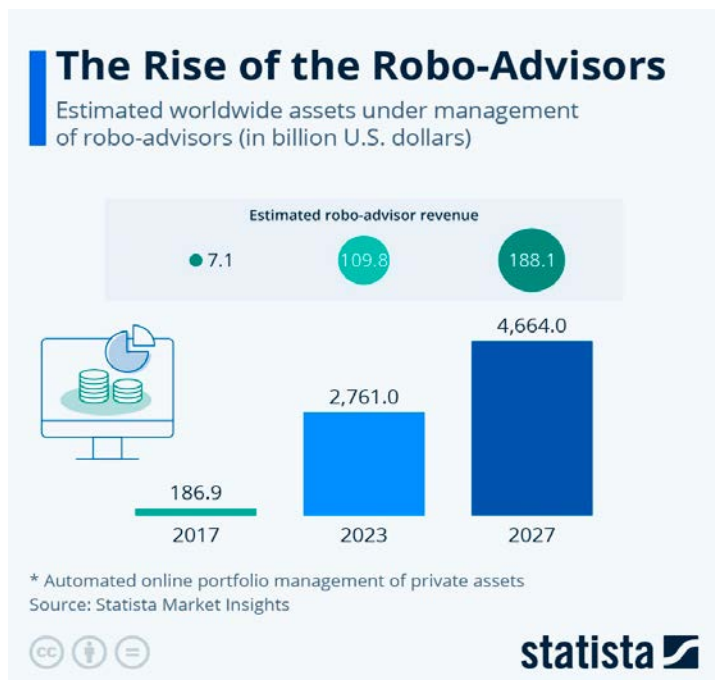
**Debt Repayment Plans:** AI can analyze existing debts and suggest the best ways of repayment, enabling users to avoid late fees or interest rate increases.

## AI-Powered Financial Advisors (Robo-Advisors)

Robo-advisors, such as Betterment and Wealthfront (The Investopedia Team, 2024), use AI to afford investment advice and portfolio management, often at a fraction of the cost of a financial advisor. They analyze the user's financial situation, risk tolerance and goals and eventually allocate investments and rebalance portfolios. AI can now track user behavioral patterns and accordingly recommend measures to bring improvements in saving or investing. Finally, AI can change portfolio allocation based on market fluctuations or personal event in real time.

## AI in Investing: Predictive Analytics and Market Insights

AI is changing the way people approach investment. Because it can



CDN.STATCDN.COM/INFOGRAPHIC/IMAGES/NORMAL/30114.JPEG

## The Constraints & Dangers Linked To AI Financial Advisors Include



Lack Of Human Judgement



Over Reliance On Algorithms



Lack Of Transparency

(QUADRA WEALTH, 2024)

## Conclusion

AI in personal finance is a paradigm shift in the way people budget and invest. AI does all this by providing personalized insights, automating complex tasks, and democratizing access to sophisticated tools that empower users to take control of their financial futures. However, data privacy and overreliance on technology are a few of the challenges that must be addressed if AI is to be used ethically.

As AI continues to evolve, the role it plays in personal finance will only continue expanding. The future is already here, and we must embrace the advancements with confidence and ease while making sure that equity, transparency, and human judgment are part of the decision-making process. V

process and analyze vast datasets in real-time, it can perform sophisticated predictive analytics (IBM, 2024). Taking into consideration prior market trends, economic indicators and social sentiment, AI models can forecast market movements more precisely compared to traditional methods, thus informing investors' decisions.

## Financial Literacy and Education

AI-powered tools are also improving financial literacy (Jackson, 2024). Most personal finance applications now include educational elements that help users understand key financial concepts. AI can answer a user's financial questions. Amazon's Alexa, Apple's Siri or Google Assistant allow users to operate their financial activities simply with their voice. Chatbots and other assistants answer financial queries in an easily understandable language.

## Challenges and Ethical issues

However, apart from the many advantages of using AI, it is important to note the challenges that arise with its use. AI relies on access to sensitive personal financial information, and thus issues of privacy and security become increasingly important. For this reason, it is necessary to ensure that the AI models comply with data protection regulations (Randstad, 2025). The convenience of AI tools can often be both an advantage and a drawback, making users reliant on them rather than truly understanding the financial concepts behind the decisions made. A balance between automation and engaging the user is crucial for informed decision-making.

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# The Gold of the Digital Age

Trump  
Administration  
reveals  
Bitcoin  
buying  
strategy



HTTPS://DUCKUCKGO.COM/70-BITCOIN+TRUMP+ADMINISTRATION+DIAGRAM

By Alexandra Kitsopanou

On November 5<sup>th</sup>, along with the election of now United States President Donald Trump, the global market in digital currencies experienced a surge. Namely, bitcoin reached and surpassed the \$100,000 milestone – a milestone related to Bitcoin’s market growth, according to Whinstanley.<sup>1</sup> This surprising turn of events came after Trump promised to implement facilitative regulations for the cryptocurrency industry as well as a federal strategic reserve in bitcoin (SBR), serving to legitimize the controversial virtual currency. The implementation of a

SBR from the US could lead to an “arms race,” a global competition for digital assets which in turn could create a diffusion of power away from states and towards private corporations - a new economic world order.

In Central America, Trump’s vision has become a reality. El Salvador, in 2021, became the first country to introduce bitcoin as legal tender. Under its “Bitcoin Law” corporations must accept bitcoin as payment and the government has set a goal of buying one bitcoin per day to support its policy. Recently however, El Salvador and the International Monetary Fund (IMF) reached a deal, with the former agreeing to scale back on the acquisition of bitcoin in exchange for a \$1.4 billion loan.<sup>2</sup> This agreement highlights the stability concerns linked to cryptocurrency. Due to bitcoin’s notorious volatility, the IMF preferred to negotiate this deal now rather than face the need to bail out the Salvadorian economy in the scenario that bitcoin’s value plummets.

1 Whinstanley, Tom. “Trump’s Plan for a Strategic Bitcoin Reserve Could Trigger a Crypto Arms Race and Reshape the Global Economic Order.” *The Conversation*, 5 Apr. 2024, <https://theconversation.com/trumps-plan-for-a-strategic-bitcoin-reserve-could-trigger-a-crypto-arms-race-and-reshape-the-global-economic-order-247277>.

2 Whinstanley, Tom. “Trump’s Plan for a Strategic Bitcoin Reserve Could Trigger a Crypto Arms Race and Reshape the Global Economic Order.” *The Conversation*, 5 Apr. 2024, <https://theconversation.com/trumps-plan-for-a-strategic-bitcoin-reserve-could-trigger-a-crypto-arms-race-and-reshape-the-global-economic-order-247277>.

### War Between Russia And Ukraine Spurs Cryptocurrency Activity

Furthermore, crypto has been invaluable in the case of the war between Ukraine and Russia. Its decentralized nature has allowed donations to bypass restrictions and sanctions as well as for aid to reach conflict zones in record time. Russia has also benefited from crypto, as it enables transactions without the implementation of Western sanctions, mitigating the risk of a devaluation of its currency, the ruble. Additionally, cybercriminal groups in Russia have been granting cryptocurrency payments to instigators of successful cyberattacks on Ukraine, demonstrating the currency's use in illicit activities. Thus, cryptocurrency has rendered transnational sanctions less impactful, allowing both Russia and Ukraine to swiftly adapt in ways that would have been impossible through traditional financial systems.

This disruption of established systems highlights the need for regulation in a vast, uncharted territory. While some states have fully embedded cryptocurrencies into their financial institutions, others are more hesitant to do so. For instance, the

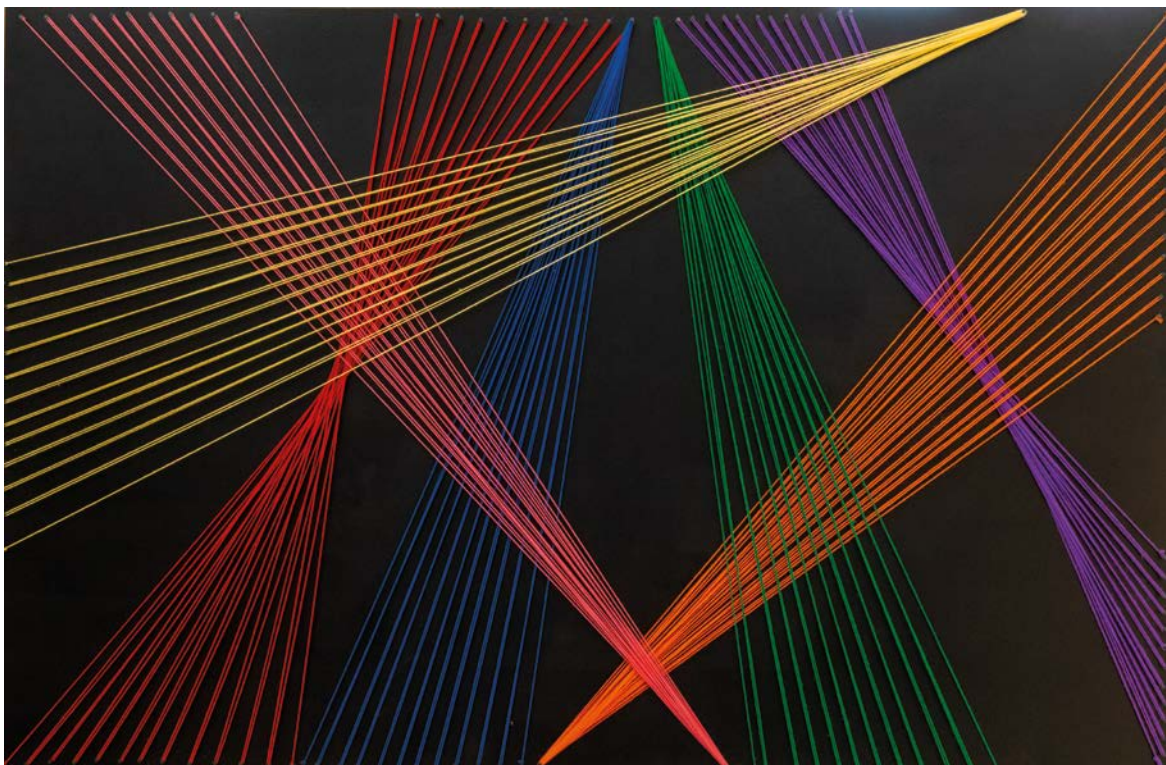


WWW.MININGSTORE.COM/AU/2022/10/WAR

United States and members of the EU have not finalized their stance on taxation, security, and protection of consumers regarding digital currencies. Ultimately, it will be these decisions that determine the extent of adoption of crypto, and whether bitcoin becomes integrated with states' currencies. Alternatively, we simply choose to "stick to gold." 

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Artwork by Melina Vontitsou (IB DP Year 2)

## BRIDGING CULTURAL BOARDERS

# The role of civil engineering in a globalized world through three case studies

By Georgios Tsahageas

**T**his article has set to explore civil engineering and the influence it has endured by globalization, with a focus on the construction and architecture of roads and bridges. Three case studies will be analyzed: South America, Europe and Asia in order to draw a comparison between them in terms of concept and design.

## Globalization and engineering

Globalization is the proses of which entities influence each other.<sup>1</sup> Globalization is bridging, culture, economies, and societies. That is the case for civil engineering, where globalization is powerful and universal. For example, there are three main pillars of globalization in civil engineering; International collaboration, global supply chain and international standards and technology. Globalization in a worldwide context is something that engineers really desire because it lets them have more opportunities when it comes to the completion of projects.

This is because globalization in civil engineering is international collaboration, global exchange in both knowledge, technology, etc.

<sup>1</sup> Peterson Institute for International Economics. "What Is Globalization?" *PIIE*, <https://www.piie.com/microsites/globalization/what-is-globalization>. Accessed 1 June 2025.

## The evolution of bridges in a globalized world

Another key feature of civil engineering is bridges, where there are 7 types of bridges in the field of engineering: Arh bridge, beam bridge, cantilever bridge, suspension bridge, cable-stayed bridge, tied-arch bridge, truss bridge.<sup>2</sup> These

<sup>2</sup> BigRentz. "Types of Bridges." *BigRentz*, 16 Dec. 2020, <https://www.bigrentz.com/blog/types-of-bridges>. Accessed 1 June 2025.



Hangzhou, Chine bridge

Tianan Insurance. "The ASTRA Bridge: A Unique Solution to Construction Site Traffic." *Tianan*, 14 May 2021, <https://en.tianan.com/news/5.html>. Accessed 1 June 2025.

**Leonardo Da Vinci  
Canal Lock,  
Gutan Lake,  
Panama**

bridges are characterized by versatility, meaning how knowledge in bridges would make it more efficient and offer solutions. A bridge is what connects geographical points. The Rio-Antirio bridge in Patra, Greece is a cable stayed bridge, offering high pass way under it, for ships. Although, another aspect in bridges is mixing the types offers better solutions. In Hangzhou, China there is a 35,7 km long bridge.<sup>3</sup> It's majority is supported by beams and part of the bridge is cable stayed, raising the road offering a pass for large ships.

### The three case studies

Another civil engineering solution that is an important beam supporting global economy is the Panama Canal that was lastly designed and created by Americans.<sup>4</sup> The Panama Canal is the world's largest two-way canal, connecting the Atlantic and Pacific Ocean through raising boats and letting them in the Gutan lake,<sup>5</sup> lowering them on the other side. This pioneering solution needed locks to keep the water from exiting the canal, so technology invented by Leonardo Da Vinci was used, the canal locks.<sup>6</sup> The canal



“Leonardo Da Vinci’s Canal Lock.” *Leonardo Da Vinci Inventions*, <https://www.leonardodavincisinventions.com/civil-engineering-inventions/leonardo-da-vincis-canal-lock/>. Accessed 1 June 2025.

locks are some locks which with the use of external forces lock. The external forces are the water body where it applies forces on the doors shutting them close, and only when the water is in the same level with both sides of the door may the gates open letting the boats go through.

This canal is meaningful because it serves as a fast and safe pass for ships wanting to go from on ocean to another. It is considered safe because the other possible way would be through the Drake passage, named after Sir Francis Drake.<sup>7</sup> The Drake passage is considered very dangerous due to stormy and icy weather. Other than the dangerous weather it is much faster and fuel efficient to go through lake Gutan.

[leonardodavincisinventions.com/civil-engineering-inventions/leonardo-da-vincis-canal-lock/](https://www.leonardodavincisinventions.com/civil-engineering-inventions/leonardo-da-vincis-canal-lock/). Accessed 1 June 2025.

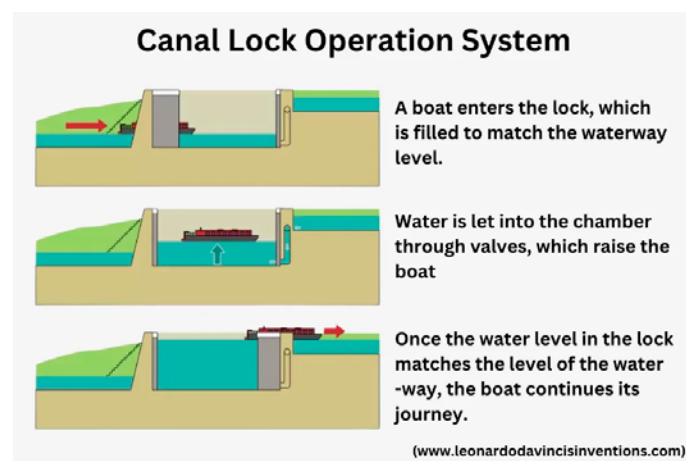
<sup>7</sup> *Encyclopedia Britannica*. “Drake Passage.” *Britannica*, <https://www.britannica.com/place/Drake-Passage>. Accessed 1 June 2025.

<sup>3</sup> TravelChinaGuide. “Hangzhou Bay Bridge.” *TravelChinaGuide*, <https://www.travelchinaguide.com/attraction/zhejiang/ningbo/hangzhou-bay-bridge.htm>. Accessed 1 June 2025.

<sup>4</sup> Panama Canal Authority. “American Canal Construction.” *Panama Canal*, <https://pancanal.com/en/american-canal-construction/>. Accessed 1 June 2025.

<sup>5</sup> *Encyclopedia Britannica*. “Gatun Lake.” *Britannica*, <https://www.britannica.com/place/Gatun-Lake>. Accessed 1 June 2025.

<sup>6</sup> “Leonardo Da Vinci’s Canal Lock.” *Leonardo Da Vinci Inventions*, <https://www.leonardodavincisinventions.com/civil-engineering-inventions/leonardo-da-vincis-canal-lock/>. Accessed 1 June 2025.



### Canal lock design

“Leonardo Da Vinci’s Canal Lock.” *Leonardo Da Vinci Inventions*, <https://www.leonardodavincisinventions.com/civil-engineering-inventions/leonardo-da-vincis-canal-lock/>. Accessed 1 June 2025.

Another interesting and important bridge is a technology used in Switzerland when repairing the surface of the road, called ASTRA bridge.<sup>8</sup> “ASTRA Bridge is a mobile construction site bridge that is designed for use during motorway maintenance work”. This mobile construction site

bridge is essentially raising the road on which vehicles are driving on (over the actual road) so that there is space underneath for the motor way maintenance work. This is meaningful because due to being safe and efficient. It is considered safe due to the fact that all vehicle are moving over the construction site preventing the chance of a traffic accident with a vehicle with a construction machine or worker, and it is considered efficient because traffic flow is not compromised.

Something else that is important to cover up is that other than talking about the gloriousness of how advanced civil engineering is and how fast it grows, it is important to cover the fact that in construction mostly civil engineering is that much advanced. Meaning that there are some cases where civil engineering has been so advanced making it difficult for other sectors to reach it’s advancement. For example, in China, building bridges is like playing with lego due to their technology. A machine named SLJ900 carries pre-made parts of the bridge having the length equal to the distance between two supporting beams. This is another reason why in China. According to the ministry of transportation of China<sup>9</sup> there are 1,079,305 bridges in the entire country whereas about 1 million are support beam bridges. This sows the favor of this bridge type due to the available technology.

## The past and future of civil engineering and bridges

The future of civil engineering in a globalized world would be something very beautiful to witness. This is something that we have the chance to already witness in many parts around the world.

Moving to the sector of globalized civil engineering, most advancements made are origin from old to ancient times. But this

8 Swiss Federal Roads Office. “ASTRA Bridge.” *ASTRA*, <https://www.astra.admin.ch/astra/en/home/topics/nationalstrassen/baustellen/wissenswertes/astra-bridge.html>. Accessed 1 June 2025.

9 CEIC. “Highway Number and Length of Bridge.” *CEIC Data*, <https://www.ceicdata.com/en/china/highway-number-and-length-of-bridge>. Accessed 1 June 2025.



ASTRA bridge

has never been a full stop in development of civil engineering. The first bridge was made in 4000 BC in Babylonian society,<sup>10</sup> the first canal lock was made in 1373<sup>11</sup> in Utrecht Canal by the Dutch yet Leonardo Da Vinci made his design in 1497 at San Marco<sup>12</sup> and the ASTRA bridge designed in 2022.<sup>13</sup>

In conclusion when globalization takes place into civil engineering there is a wider road to success. This is something that is achievable either by collaboration, global supply chain, or standards and technology. Mainly this article focused on technology in civil engineering, either it was founded by Leonardo Da Vinci, used to refresh roads or build Lego like bridges. Globalization is unique to bridging cultures and more founding a better future. V

10 Jones, Paul. “Bridge Brilliance: A History of Innovation.” *New Civil Engineer*, 10 Aug. 2016, <https://www.newcivilengineer.com/archive/bridge-brilliance-a-history-of-innovation-10-08-2016/>. Accessed 1 June 2025.

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12 “Design for a Lock at San Marco.” *COVE Editions*, <https://editions.covecollective.org/chronologies/design-lock-san-marco>. Accessed 1 June 2025.

13 Marti Technik AG. “ASTRA Bridge – Marti Technik AG.” *Marti Technik*, <https://www.martitechnik.com/en/references/projects/astra-bridge.php>. Accessed 1 June 2025.

# Rewriting Tomorrow's Careers with Artificial Intelligence

## The Good, The Bad and The Uncertain

By Monica Beracha



HTTPS://LITERO.AI/BLOG/PLAN-ESSAYS-WITH-ESSAY-OUTLINE-GENERATOR

is now gaining more traction, and maybe even taking over our lives... So, what will the future look like, and how will this shape tomorrow's careers?

AI is a broad field of computer science that focuses on creating systems and machines that can perform tasks that typically require human intelligence.<sup>1</sup> AI systems aim to replicate human abilities with the goal of improving efficiency, accuracy and automation in various domains.<sup>2</sup> It's important to recognize that AI can make our lives easier and more efficient, but acknowledge and highlight its potential negative effects. Specifically, AI's growing role in various

One of the prevailing questions in our transition from childhood to adulthood is "What will I do when I grow up? What will my profession be?" As always, getting advice from experts and not so experts – use another expression, this does not sound right here, loved ones and those jealous of you, or teachers and peers, can be simultaneously good, bad, and uncertain, as one should ultimately strive to be what he or she wants. But what does one want? And will the professions that one wants today or nowadays, even exist in the following years?

You may wonder why I am asking all these questions without giving any answers. This is because Artificial Intelligence (AI), an evolving tool of our times

industries has positive and negative effects on future careers, something which is already visible.

In many cases, AI acts as a "career enhancer". Namely, automation, machine learning and robotics are transforming industries at a pace previously unimaginable. For example, think of manufacturing, where what once required an army of human workers is now done by robots and automated systems. The more AI systems use algorithms taking over repetitive tasks - that are done quicker and more accurately reducing errors - the more employees are encouraged to take on more complex roles that require creativity and emotional intelligence. These are fields that humans are no doubt superior in difficult to follow as is now. There are various examples of this to be mentioned here. AI is utilized across healthcare services to achieve diagnoses and treatments for medical conditions, banking and financial services

1 IBM. "What Is Artificial Intelligence (AI)?" IBM, [www.ibm.com/cloud/learn/what-is-artificial-intelligence](https://www.ibm.com/cloud/learn/what-is-artificial-intelligence). Accessed 2 June 2025.

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to enhance customer experience and examine transactions, and education in changing the ways in which we acquire knowledge. Lastly, the more AI grows, the higher the demand for professionals who can build, train and maintain AI systems. Such careers could include AI specialists, data scientists, engineers and algorithm developers.

All these are indeed positive attributes, although one still needs to examine all aspects of AI's effects on jobs. The above advancements, while incredibly efficient, raise the fundamental question of: "What happens to the people whose jobs are automated?". According to a 2020 World Economic Forum report, automation could lead to the displacement of 85 million jobs by 2025.<sup>3</sup> This is today! These jobs have already or will likely be replaced by AI and robotics. Yet, what will happen to the workers fallen victims to this upcoming trend? Some of them lack the skills needed to transition into new roles and others have no access to further job opportunities. This will lead to a stark increase in unemployment. Additionally, AI systems have been criticized for reinforcing gender and racial bias. This raises concerns over fairness in hiring practices, criminal justice and healthcare. Moreover, while AI can process data and solve problems, it lacks emotional intelligence, a crucial skill in many professions where humans play a vital role. Replacement of humans by AI in these fields will cause major issues and raise important ethical questions. I believe that our society is still working on the appropriate responses and solutions to this, in order to find an equilibrium. I am optimistic that society will succeed with other disruptive developments, as it has done in the past, like in the case of the Industrial Revolution. Our resilience as human beings will eventually prevail.

When used responsibly, AI has the potential to enhance human capabilities, increase productivity and create new career opportunities. Is it a threat to humanity? No, if it does not outperform humans, it is not a threat. Instead of fearing AI, society should focus on leveraging its potential to build a more efficient workforce. Ultimately, AI can be good, bad, and definitely uncertain - but

it is also full of possibilities and opportunities.

So, the answer to the question "What will I be when I grow up?" does not have a simple answer, as the careers of tomorrow may involve roles that don't exist today. And this indeed is exciting and I actively look forward to discovering them. One thing though remains constant and immutable: A prerequisite for happiness and success in life and work is to really love what one does. This is human emotions and natural intelligence. V

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Artwork by Melina Vontitsou (IB DP Year 2)

<sup>3</sup> World Economic Forum. *The Future of Jobs Report 2020*. World Economic Forum, Oct. 2020, [www.weforum.org/reports/the-future-of-jobs-report-2020](https://www.weforum.org/reports/the-future-of-jobs-report-2020). Accessed 2 June 2025.

# The Legal & Ethical implications of AI Healthcare

By Anastasia Maria Svolou



One of the most innovative technologies of the twenty-first century, Artificial Intelligence (AI), has the potential to revolutionise medical practice and health care delivery globally. In medicine, AI has revolutionised disease diagnosis using the one-shot approach that diagnoses diabetes, HIV and COVID from a blood sample. It has improved disease treatment and management thus enabling healthcare providers to optimize their efficiency and accuracy in treating patients (Mostefaoui et al., 3). Alongside these benefits, AI has contributed to the amelioration of medical imaging and customization of treatment plans (Mostefaoui et al., 7). For instance, the integration of artificial intelligence in medical imaging has speeded up the detection of early signs of eye disease in retinal images as well as the detection of tumours and other abnormalities (Pinto-Coelho, 1). I believe that these developments are positive, as they alleviate pressure on medical personnel, and optimize resource allocation, which lowers input costs. However, as AI technologies become increasingly embedded in the healthcare industry, various concerns have arisen regarding their possible legal and ethical implications (Farhud, 3). For instance, concerns over GDPR<sup>1</sup> policies

being infringed, algorithms taking life or death decisions and liability issues in healthcare are looming over the positive aspect of AI in medicine (Farhud, 3-5). This article aims at thoroughly examining the legal and ethical aspects of AI in healthcare, so as to provide a holistic view of the implication of AI in the field of medicine.

## “AS AI TAKES OVER HEALTHCARE, HUMAN COMPASSION AND EMPATHY ARE IN DANGER OF BECOMING SCARCE”

To begin with, the contribution of AI in medicine can be measured in tangible results. Innovations in AI in medical health have spread across all medical fields, ranging from diagnostic assistance, virtual health assistants, drug discovery, robot-assisted surgery, genomics, clinical trial optimization and even NLP<sup>2</sup> for health care records (Jiang et al., 10). The benefits of AI in medicine are thus far-reaching. AI is widely used to analyze medical images, for example those collected through X-rays or MRI scans. Similarly, AI tools help diagnose potentially life-threatening conditions such as cancer, retinal degeneration, pneumonia and more. On top of that, drug discovery has been greatly expedited and rendered more efficient thanks to AI. In the aftermath of the COVID-19 pandemic, the need to discover, conduct trials and mass produce drugs has become more imperative and AI provides the solution to this.

Despite these undeniable benefits, AI can lead to a slippery slope of GDPR infringement and algorithm bias. Normally,

and the responsibilities of companies that collect, process, or store such data.

2 Natural language processing (NLP) is a field that explores computational methods for interpreting and processing natural language, in either textual or spoken form.

1 The General Data Protection Regulation (GDPR) is a regulatory framework adopted by the European Union (EU) governing the rights of individuals concerning their data

GDPR policies are put in place to ensure patient privacy and equal treatment in the medical system. Yet, AI could potentially violate these policies and even lead to bias by under-representing certain populations in datasets. Also, algorithmic bias is connected to GDPR bias in so far as an algorithm makes decisions compounding existing inequities in socioeconomic status, race, ethnicity, gender and disability. Such biases impact disadvantaged populations since they are the ones subject to algorithmic predictions that are either less accurate or their need for healthcare can be underestimated.

Although AI has been touted as the most groundbreaking development in healthcare, we cannot overlook the severity of the legal implications it entails. Some major legal implications include, but are not limited to, patient privacy, data protection and liability and malpractice concerns (Hallowell et al., 2-3). Patient privacy is at risk with AI collecting sensitive patient data, as healthcare facilities are burdened with the responsibility of keeping this information confidential. Under the Health Insurance Portability and Accountability Act (HIPAA), all health facilities are responsible for not disclosing any information about their patients without the latter's consent (Centers for Disease Control and Prevention). Any possible breaches in the AI systems might compromise this confidentiality and lead to a leak of sensitive information (CDC).

Closely connected to this issue is the challenge of data protection. People working in the healthcare system, in any position, from doctors and nurses to administration officers and secretaries, need to be trained on how to “feed” AI with patient data with their informed consent. They should also be aware of the fact that

any slight misstep in this direction might lead to potential legal and compliance issues. Last, but certainly not least, is the challenge of liability and malpractice lawsuits. The question of who can be held responsible in the case of AI in healthcare is one that cannot be answered directly. Who can be held liable for a bad potentially life-threatening piece of advice given to a patient by a chatbot? Is it the doctors that helped build the AI language or the technologists involved in the AI chatbot function? Such scenarios mark the use of AI in healthcare as they create problems that are not easily anticipated nor solved.

Aside from the legal implication of AI's inclusion in healthcare systems globally, there is always the issue of ethics in healthcare, which are far more complicated to resolve. While legal implications are bound to be regulated in a more straightforward manner, the ethical implications concerning AI's application in medicine reach deeper and, thus, cannot be as easily resolved with regulations. Ethically speaking, AI challenges patient autonomy and equity in access to healthcare and compromises human dignity. Patient autonomy lies in the backbone of medicinal care; a patient has the inalienable right to be fully informed of their diagnosis and treatment and to even refuse it<sup>3</sup>. They have the right to be fully aware of the costs entailed, the success or failure of the procedures they undergo and most importantly of whom to hold responsible in the case of malpractice. AI compromises the patient-doctor relationship and thus challenges patient autonomy. On this note, the developments of AI in medicine mostly concern more advanced western societies and leave out countries that are left behind in the technology front<sup>4</sup>.



Artwork by Anastasia Papanidi (IB DP Year 2)

3 Farhud, Dariush D, and Shaghayegh Zokaei. “Ethical Issues of Artificial Intelligence in Medicine and Healthcare.” *Iranian journal of public health* vol. 50,11 (2021): i-v. doi:10.18502/ijph.v50i11.7600

4 Naik, Nithesh, et al. “Legal

This gap will only exacerbate the historical social inequities and not benefit all individuals equally. The greatest ethical consideration, though, is human dignity. As AI takes over healthcare, human compassion and empathy are in danger of becoming scarce. Robotic physicians and nurses cannot adopt the human traits of compassion and kindness when treating patients and patients will not easily accept machine-human instead of human-human interaction and consultation in the strained times of seeking medical attention<sup>5</sup>. This lack of compassion and empathy will be especially challenging when dealing with children and mental health patients both of whom will be adversely affected by robotic healthcare providers.

The onset of AI in healthcare is not going to fade any time soon. On the contrary, everything points to the direction of AI's full implementation in medicine. The benefits it provides us with are essential in creating a new, better healthcare landscape that will help many more people around the world. However, the innovative use of AI in healthcare creates at the same time a new, uncharted territory with several legal and ethical implications begging to be regulated and controlled for AI to be able to ensure rather than inhibit patient well-being. To successfully overcome the obstacles created by AI in the fields of legal protection and ethics, accepting the necessity for coexistence with AI is essential. This can occur through the replacement of existing systems and the transition into the healthcare age of artificial intelligence, by afresh regulating it accordingly to put the human element first and foremost. 

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# Rafina Marine Litter Clean-up with Aegean Rebreath



By George Roulias

## Have you ever wondered what else lies at the bottom of the sea beyond fish?

**I**n English class, our teacher informed us of an activity taking place at Rafina port on a Saturday morning in November. If you ask me, I'd rather spend time in bed on a Saturday morning. However, the idea sounded interesting and of course I must complete my CAS project, so I signed up.

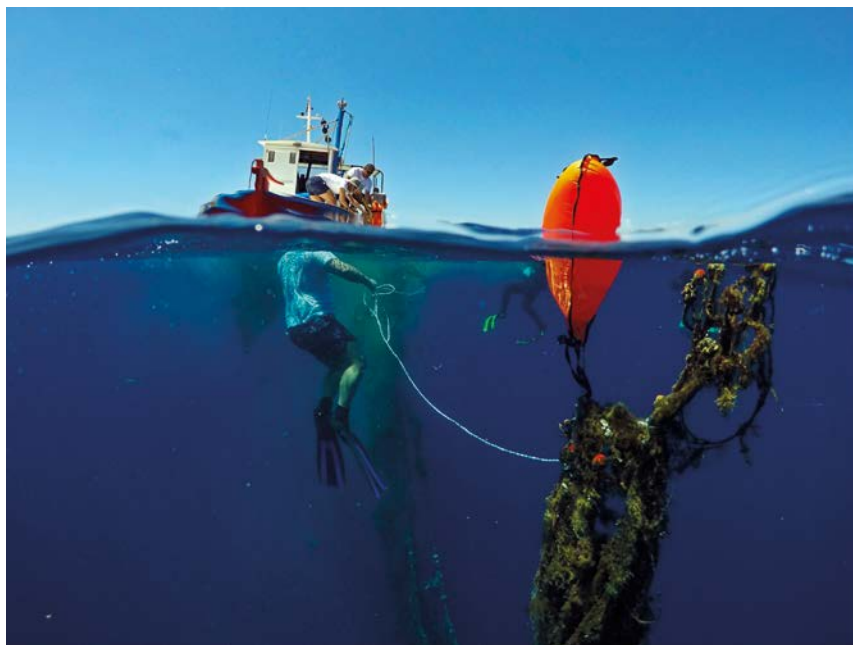
The organisation responsible for this initiative was *Aegean Rebreath*, established in 2017, in an effort to depollute the Greek seas and breathe life so to speak into the Aegean.

Nine students met our teacher at 11am at the designated location. The team of *Aegean Rebreath* informed every one of their duties and we began our work. We put on our gloves took the specific sacks for collecting the litter and took our positions to help the divers who would pull

out the litter from the sea. Even though we did this for CAS credit, we were all looking forward to working hard for the common good.

Have you ever wondered why people pollute the seas? I was amazed with what ➔





I saw coming out from the sea. We saw a variety of tires, bottles, batteries and carpets. We helped divers pull out litter that was very heavy since there was water and lots of sediment inside. We even tried to take out a tire that was about 300kg! We were pulling it for 30 minutes and we couldn't manage, until a member of *Aegean*

about the view here and what was amazing. We relaxed for 20 minutes and then we got back to work.

Suddenly, while we were working, an accident occurred, and I was very afraid about the consequences. A man from the organisation was bleeding because he pulled a rope without wearing gloves. Everyone was shocked but finally everything went well. The marina was filled with litter organised in neat piles according to type. At some point, a diver announced that he found a boat that

*Rebreath* told us that there was a crane waiting to do the job for us. We decided that we would not give up and we eventually made it after many attempts. Besides, the IB DP program makes us resilient, and no amount of difficulty would make us give up.

After a 2-hour process of cleaning the sea, we decided to take a break and take a walk to explore the sea and the mountain. My friends and I reached the top of the mountain, and we were shocked! The view from up there was amazing! Say a bit more

had been in the sea for more than a year. Our supervisor called immediately the crane to help pull it out. It was my first time seeing a boat under water; this was an eye-opening experience and I recommended it to my fellow students. Joining volunteering organisations is part of our CAS program and it helps make us IB students knowledgeable and caring.

Overall, it was an amazing experience because we learned many things about the environment. We also understood how important it is to keep it clean as well as the consequences of polluting the seas.

Finally, I strongly urge my fellow IB classmates to be mindful of disposing litter in its rightful place. 



# A Day in Their Shoes

## Infrastructure and Disability in Greece

By Sotiris Theodoridis

Imagine waking up one morning, only to discover that when you try to get out of bed, your legs no longer respond. The world around you has remained the same: the streets, the buildings and even your own home are unchanged, but the way you navigate those spaces has evolved from a task accomplished without a second thought to a laborious challenge. How different do you think your day would be if you couldn't walk?

By examining this question and stepping into the shoes of a physically impaired person, we can foster our empathy and above all, our respect for the thousands of people in Greece who valiantly face insurmountable struggles every day, only for that struggle to be met with pity and neglect.

In the beginning of the day, areas of your home that once felt familiar now become sources of unforeseen obstacles: making your bed, putting on your clothes, and brushing your teeth are among the tasks that now require intricate planning. Most homes in Greece aren't built to accommodate people with physical disabilities. Bathrooms lack grab bars; hallways are too narrow for wheelchairs, and ramps are rarely present. Of course, there are ways to compensate for these difficulties, but those basic accommodations that facilitate the most fundamental tasks for people facing physical disabilities are largely unavailable to the population. According to the European Commission, the percentage of disabled people facing financial difficulties in 2017 was as high as 80%, and in 2023 over 20% of Greece's physically impaired population lived in rented accommodation<sup>1</sup>. These financial constraints make it difficult for the physically impaired to afford even the most basic home modifications.

<sup>1</sup> "Disability Statistics - Housing Conditions." *Statistics Explained*, Eurostat, 17 Jan. 2025, [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Disability\\_statistics\\_-\\_housing\\_conditions](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Disability_statistics_-_housing_conditions).



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Even though government subsidies exist, they rarely cover the full extent of the renovations. This situation forces physically impaired people to rely on third parties like family members for assistance, undermining their autonomy, privacy and in many cases, making them feel guilty about their situation, despite the incredible amount of perseverance that they might possess. Picture living a life where you are forced to rely on others to accomplish even the most basic tasks, all because some people choose to egotistically neglect your existence.

After you've gotten dressed, it's time to head to work or school. However, if you manage to exit your building (which may or may not have a ramp or an elevator), you are met with another problem. The cities of Greece are as chaotic as they are beautiful; sidewalks with illegally parked cars, a lack of ramps and an inconsistent public transport system make them hazardous for



# “PICTURE LIVING A LIFE WHERE YOU ARE FORCED TO RELY ON OTHERS TO ACCOMPLISH EVEN THE MOST BASIC TASKS, ALL BECAUSE SOME PEOPLE CHOOSE TO EGOTISTICALLY NEGLECT YOUR EXISTENCE”



WWW.GOODNET.ORG/ARTICLES/GREECE-MANING-BEACHES-MORE-ACCESSIBLE

the physically impaired. In rural areas or on islands, whose citizens account for a significant portion of Greece's population, the situation is even more dire, given that the rugged natural terrain, as well as the lack of implemented accommodations, make it extremely challenging for a physically impaired person to navigate them. After asking a member of my family who temporarily suffered from paralysis due to a cerebrovascular accident, they said: "The hardest part in terms of my day-to-day life was navigating in the city. Not being able to drive was one thing, but before then I had never noticed the amount of parking spaces that were being illegally taken up or the fact that the sidewalks and the roads were simply not created with disabled people in mind. When you aren't disabled, it's easy to make excuses for yourself, because you can pretend it doesn't affect you, but it is that attitude of apathy towards people with disabilities that creates so many difficulties for them."

While this problem has been somewhat mitigated in spaces like work or school through mandatory regulations—such as the New Building Regulation (Law 4067/2012), which requires that certain facilities include accessibility features—the actual implementation of these regulations is inconsistent and varies by region. However, if the public were to be made aware of the consequences of their willful disregard for people with disabilities, then their lives are sure to be made easier and more dignified.

Reaching the end of these hypothetical 24 hours, one thing becomes abundantly clear: the obstacles and tribulations faced by disabled individuals in Greece are not accidental. They are the result of societal oversight, outdated infrastructure and lack of collective agency. What is perhaps more striking than the challenges faced by disabled people in Greece is the strength and perseverance required to overcome them. Living with paralysis or any other form of physical disability requires patience, creativity and determination. Despite all that, disabled people are not characterized by their disabilities nor by the trauma that might have caused them. Rather than viewing people with disabilities through a lens of pity and alienation, we must respect and embrace them as powerful and important members of society. However, empathy and respect on their own are not enough to resolve this issue. Even though Greece has taken significant steps toward accessibility, there are still many ways to improve. For example, stronger enforcement of accessibility laws, increased government funding for home modifications, and mandatory disability awareness training in schools and workplaces could all be implemented. Supporting nonprofit organizations like ESAMEA (National Confederation of Disabled People), ESTIA (Centre for the Protection of the Disabled) and others could also make a vital difference. Even though these 24 hours may have been hypothetical, for millions they are reality. So, the next time you encounter a person in a wheelchair navigating the streets of Greece, remember that they aren't defined by their disability but by their choice to live despite it. **V**

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## THE SCIENCE OF EVERYDAY PHENOMENA

# Why the Sky is Blue and Other Mysteries

By Anna Cavadia

There are many amazing phenomena in our everyday life that we frequently take for granted. Many mundane events have scientific explanations that highlight the beauty of nature, from the hues of the sky to the workings of rainbows. In this article, I will be examining the science behind these phenomena.

## Why Do Leaves Change Color in Autumn?

Once summer passes and temperatures start to drop, there is a calm ambiance, when you probably notice that the leaves also change color, losing their vibrant green for a deep orange. Of course, there is an explanation for this phenomenon that is taken for granted. To give you some background information, plants contain different photosynthetic pigments which absorb light and there are mainly two groups of



A leaf turning red in the fall. The green is residual chlorophyll.

pigments: chlorophylls and carotenoids<sup>1</sup>. The scientific explanation behind this is that during autumn, chlorophyll, which is the pigment in leaves that gives them their green color, breaks down as trees prepare for winter<sup>2</sup>. This reveals other pigments like carotenoids, which give off the yellow and orange color to the leaves, and anthocyanins, that offer the red and purple, giving leaves their vibrant fall colors. Moreover, everything has a significance, as this process helps trees conserve resources during wintertime.

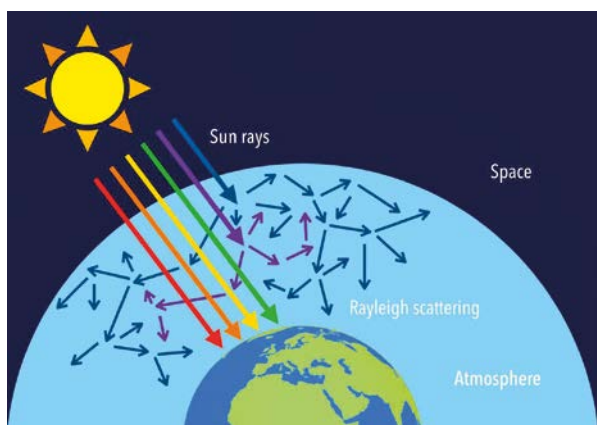
## Why is the Sky Blue?<sup>3</sup>

Every day you wake up, and you barely look at the sky because it has mostly been blue, but have you ever stopped to wonder ➔

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- 3 "Why Is the Sky Blue?" Royal Observatory, [www.rmg.co.uk/stories/topics/why-sky-blue](https://www.rmg.co.uk/stories/topics/why-sky-blue). Accessed 21 Dec. 2024.

why it is blue? (And no, it is not because it reflects the blue of the sea, that is just a myth.) Well, the scientific explanation behind this phenomenon is very interesting, if you ask me. As *white light* passes through our atmosphere, tiny air molecules cause it to ‘scatter’. This is known as “Rayleigh scattering”<sup>4</sup>, which occurs when molecules and other tiny particles in the Earth’s atmosphere scatter sunlight, and it is what gives the sky its blue hue.

Compared to other hues in the visible spectrum, blue light has a shorter wavelength and is more dispersed throughout. Violet and blue light have the shortest



<https://www.coloursexplained.com/why-is-the-sky-blue/>

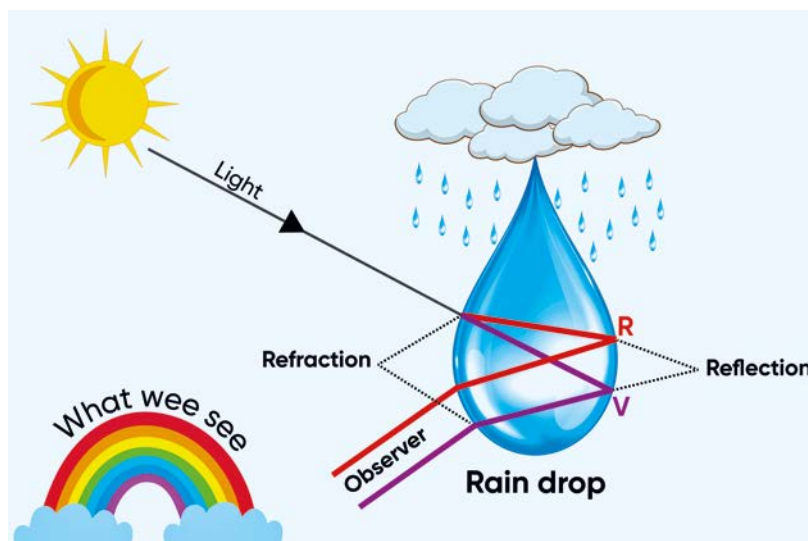
wavelengths, whereas red light has the longest. That is why during the day, this scattering causes the sky to seem blue to our eyes. However, at sunrise and sunset, the sky has different shades of red and orange because sunlight travels through a thicker layer of atmosphere, scattering shorter wavelengths and leaving longer red wavelengths visible. We don’t see the blue light because it gets scattered away, but the red light remains; therefore, the sky appears red.

### Why Do Rainbows Form?<sup>5</sup>

The best part of rainy days is that usually a rainbow appears after the rain, and it is so beautiful that we point it out to others and take pictures. Well, have you ever wondered why or how rainbows form? The refraction, dispersion, and reflection of sunlight in water droplets is what results in

4 “Why Is the Sky Blue?” Wwv.rmg.co.uk, [www.rmg.co.uk/stories/topics/why-sky-blue](http://www.rmg.co.uk/stories/topics/why-sky-blue).

5 “What Causes a Rainbow?” NOAA SciJinks – All About Weather, [scijinks.gov/rainbow/](http://scijinks.gov/rainbow/). Accessed 21 Dec. 2024.



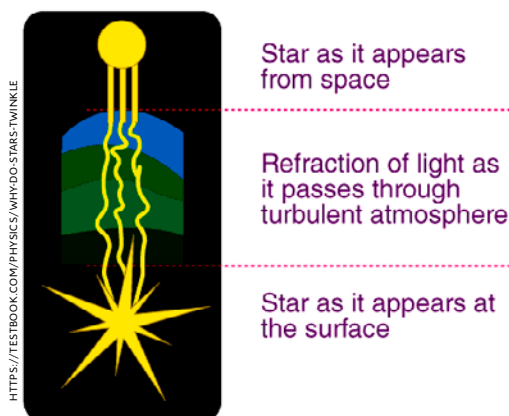
<https://www.teachoo.com/10870/3123/Rainbow-Formation/CATEGORY/CONCEPTS/>

rainbows<sup>6</sup>. Light enters a raindrop, undergoes refraction (bending), dispersion (color separation), and reflection of the droplet’s interior before leaving. This produces a visible circular arc of colors that is called a rainbow<sup>7</sup>. What is even more interesting is that, because each person’s eyes receive light from a different collection of droplets, they each perceive a rainbow that is unique to them!

### Why Do Stars Twinkle?<sup>8</sup>

I think we have all heard the song “*twinkle, twinkle little star*”, but have you ever wondered why do stars actually twinkle? On a dark night,

you may notice that these bright points of light seem to twinkle as you look up at the stars. From our vantage point on Earth, stars appear to sparkle, but in reality, they don’t. Around 10,000 kilometers above the Earth’s surface, our atmosphere is where air is pushed around, and hot air rises to mingle with cooler air<sup>9</sup>. Because of changes in air temperature and density, the light from stars is bent and warped as it passes through our atmosphere, resulting in the appearance of twinkling.



<https://testbook.com/physics/why-do-stars-twinkle>

6 “Canon: Canon Technology | Canon Science Lab | How Do Rainbows Form?” Canon Global, [global.canon/en/technology/s\\_lab/light/001/02.html](http://global.canon/en/technology/s_lab/light/001/02.html).

7 The Physics Classroom. “The Physics Classroom Tutorial.” Physicsclassroom.com, 2019, [www.physicsclassroom.com/class/refrn/Lesson-4/Rainbow-Formation](http://www.physicsclassroom.com/class/refrn/Lesson-4/Rainbow-Formation).

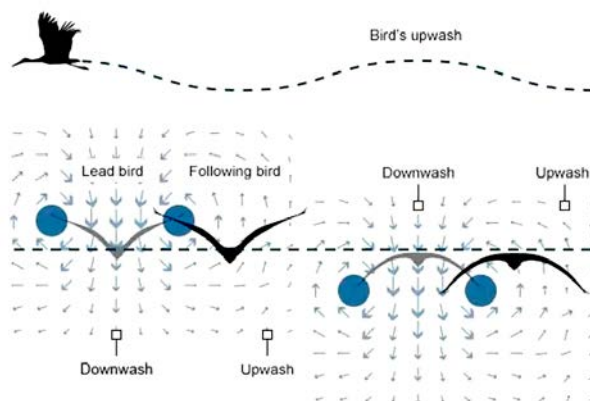
8 “Why Do Stars Twinkle?” BBC Sky at Night Magazine, 16 Oct. 2023, [www.skyatnightmagazine.com/space-science/why-do-stars-twinkle](http://www.skyatnightmagazine.com/space-science/why-do-stars-twinkle).

9 UCAR. “Layers of Earth’s Atmosphere | UCAR Center for Science Education.” Scied.ucar.edu, UCAR, 2015, [scied.ucar.edu/learning-zone/atmosphere/layers-earths-atmosphere](http://scied.ucar.edu/learning-zone/atmosphere/layers-earths-atmosphere).

Stars can flicker red, blue, and other colors due to a phenomenon known as “atmospheric scintillation”<sup>10</sup>, which is also the scientific title for this phenomenon. This is the astronomical name for those abrupt variations in a star’s apparent brightness or even color brought on by anomalies in the atmosphere. Similar effects can be observed, including how heat rising from a raging fire or hot heater can distort our perception of an object. By taking pictures of a twinkling star’s changing colors, one can capture these effects of atmospheric distortion in an image!

## Why Do Birds Fly in a V-Formation?<sup>11</sup>

If you look up to the sky, you may notice that birds often fly in a V shape formation. Birds fly in a V shape formation mainly in order to conserve energy<sup>12</sup>. They can benefit from the aerodynamic effects produced by the bird in front of them when they fly in a V-formation. Each bird’s wing flaps produce an elevation that lessens air resistance for the bird that comes after it. The leading bird at the front brakes the air resistance and creates an updraft that helps the rest of the birds to glide with less



effort. They of course take turns leading and switching positions so they can equally share the workload.

All these scientific explanations for the above phenomena were discovered by being curious. My advice is to wonder about our surroundings, and doubt what we take for granted, this is the only way that we can enhance our knowledge!

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<sup>10</sup> <https://www.skyatnightmagazine.com/space-science/why-do-stars-twinkle>

<sup>11</sup> “Positioning Ventures to Take Flight and Soar.” VFormation Ventures, vformationventures.com/. Accessed 21 Dec. 2024.

<sup>12</sup> “Nature Curiosity: Why Do Some Birds Fly in a v Formation?” *Accelerator*, www.reconnectwithnature.org/news-events/the-buzz/nature-curiosity-why-do-birds-fly-in-v-formation/.

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Artwork by Maria Chalofiti Tzouma (IB DP Year 2)

# Neuromechanics

## The Science of Movement and Innovation

By Giannos Alexopoulos

In our world where scientific progress often feels like it's progressing by the minute, few fields of study hold as much promise as neuromechanics. This fascinating field sits in the middle of neuroscience and biomechanics, investigating how our brains and bodies work together to produce movement. But neuromechanics isn't just about understanding how the body moves, it's one of the keys to unlocking breakthroughs in medicine, robotics, and even human performance in sports and other fields. This article, will explore what neuromechanics is, why it is so useful, and how it is set to become one of the cornerstone sciences of the future.

At its core, neuromechanics is the study of how the nervous system, a system which includes the brain, spinal cord, and nerves interacts with the musculoskeletal system which consists of muscles, bones, and joints to produce and control movement. It is the science that explains how you're able to stand up, walk across a room, or throw a ball, all movements that to the naked eye seem simple but are, truly, remarkably complex.

Imagine, for instance, reaching out to pick up a coffee mug. Your brain uses your eyes to calculate the distance, sends electrical signals through your nerves to activate specific muscles in your hand, and make constant adjustments to your hand's position thus being able to pick up the mug. Meanwhile, your joints and muscles must work in perfect harmony to execute the movement and not spill your drink. Neuromechanics studies how all these systems work together and how they might fail sometimes, such as in conditions like Parkinson's disease or after an injury. This field combines neuroscience, which studies the brain and nerves, biomechanics, which



<https://institut-schmelz.univie.ac.at/en/subunits/biomechanics-kinesiology>

focuses on the forces and mechanics of movement, and sometimes engineering, especially when it comes to designing tools like prosthetics or when tying it in with robotics.

Neuromechanics has the potential to change how we treat injuries and neurological disorders. Consider a stroke patient who has lost all ability to move their hand. By studying the neuromechanics of hand movement, researchers can design therapies that retrain the brain and body to work together again. This might involve physical therapy, brain stimulation, or even robotic devices that help guide the patient's movements. Similarly, neuromechanics plays a key role in creating prosthetics and exoskeletons. Modern prosthetics don't only mimic the shape of a limb, their aim is to restore functionality by interacting with the user's nervous system. For example, advanced prosthetic arms can now be controlled by the wearer's thoughts, thanks to neuromechanical insights.

Athletes constantly push themselves past the boundaries of human movement, and neuromechanics helps them do it more efficiently and safely. By analyzing an athlete's movements, researchers can identify inefficiencies or risks of injury. For example, they might study how a runner's foot strikes the ground or how a weightlifter's posture affects their performance. With this knowledge, coaches can develop training programs that optimize technique while reducing the likelihood of injury. The way humans move is incredibly complex, far more so than anything most robots can achieve. Neuromechanics offers a blueprint for designing robots and AI systems that move in more human-like ways. This has huge implications for industries like healthcare, where robotic caregivers might one day help lift patients or assist with physical therapy.

Neuromechanics is also critical for developing brain-machine interfaces, which gives humans the ability to control machines

with their thoughts. For instance, imagine a robotic arm which moves when you simply think about moving your hand. Such technologies rely on understanding the neuromechanical principles which link thoughts, nerves, and muscles.

Diseases which often disrupt the connection between the nervous and musculoskeletal systems, like Parkinson's, multiple sclerosis, and cerebral palsy. Neuromechanics helps us understand these conditions at a deeper level, leading the race for better treatments. For example, researchers can now study how tremors in Parkinson's patients originate in the brain and affect movement, then use that information to design therapies that minimize symptoms. Medicine is becoming increasingly tailored to individual patients, and neuromechanics fits perfectly into this trend. By studying a person's unique brain activity, movement patterns, doctors can create customized rehabilitation plans, prosthetics, or even surgical procedures. This level of precision could revolutionize how we treat everything from sports injuries to age-related mobility issues to disease-related neurodegenerative diseases that affect movement.

As the global population ages, more people face challenges with movement. Neuromechanics offers solutions to help older adults maintain their independence, whether through advanced mobility aids, fall-prevention strategies, or therapies that slow the progression of conditions like arthritis. The future of technology is deeply intertwined with neuromechanics. Brain-machine interfaces, for instance, could allow people with paralysis to control devices with their thoughts. Meanwhile, soft robotics, robots which are designed to mimic the flexibility of human muscles, could be used in everything from surgery to space exploration.

Neuromechanics raises fascinating ethical questions about the future of human enhancement. For example, if we can use this science to build prosthetics that are stronger or faster than natural limbs, what does that mean for the definition of "human ability?" As these technologies advance, society will need to grapple with the implications of blending biology and technology.

Neuromechanics is more than just the science of movement—it's a gateway to solving some of the most pressing challenges of the 21st century. By understanding how the nervous and musculoskeletal systems work together, we can improve healthcare, enhance athletic performance, design smarter robots, and even redefine what it means to be human. For the average

high school student, this field offers a glimpse into a future where biology and technology are seamlessly intertwined. Whether you're interested in medicine, engineering, sports science, or robotics, neuromechanics is a discipline worth watching—and perhaps even pursuing. After all, the science of movement might just move the world forward in ways we can't yet imagine. ▼

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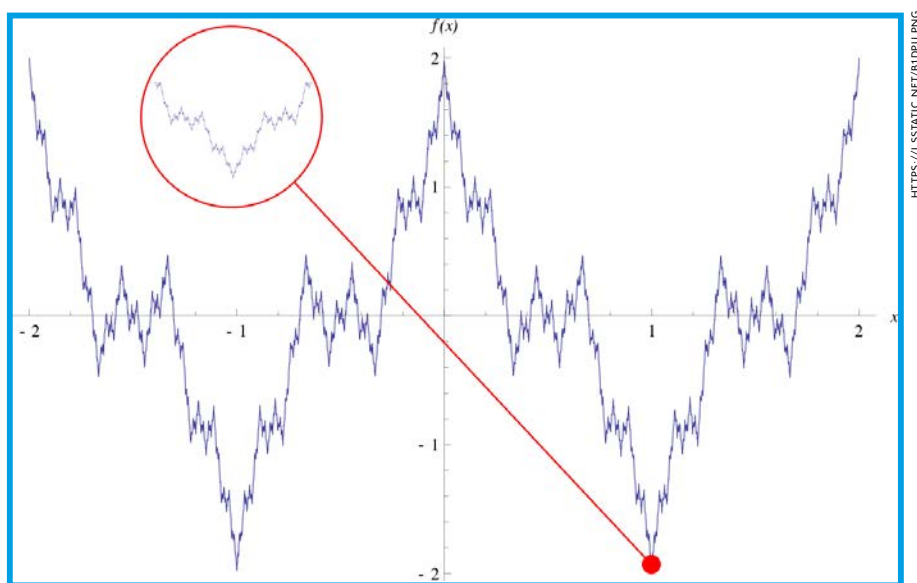
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Artwork by Electra Georgopoulou (IB DP Year 2)

# Fractals | The Geometry of Nature at the intersection of Math and the real world

By Melissa Bertoli



The first fractal shape

In Math, we learn to create shapes with a ruler and a compass in order to understand precision, symmetry and the foundational structures of geometry. Yet, if you find yourself in a forest, how many straight lines and perfect circles do you see around you?

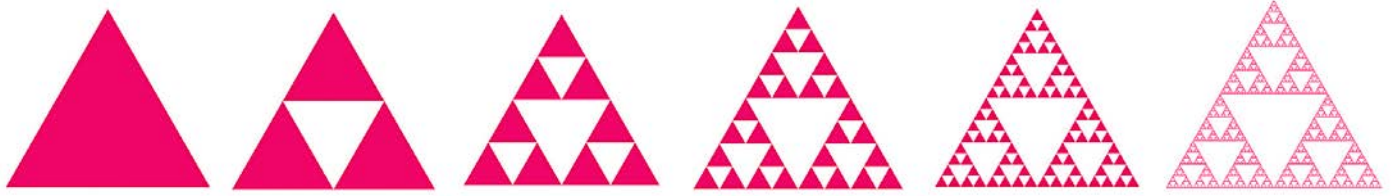
The shape of a flower, a leaf, the branches of a tree cannot be described with the kind of mathematics we were taught in Geometry. Indeed, for a very long time, mathematicians did not even try to investigate the morphology of the shapes we find in clouds, mountains, coastlines, or plants. In 1861, the German mathematician Karl Weierstrass was the first to catch a glimpse of a new mathematics with the first fractal, a shape that was nothing but corners at every possible scale. Other mathematicians called it ‘pathological’ and shunned

it, like for example Charles Hermite who referred to such functions with disdain, describing them as “monsters” of mathematics<sup>1</sup>, and Henri Poincaré shared a similar sentiment, expressing discomfort with these strange, counterintuitive objects that defied classical geometric intuition. However, it was not until the 1970s and 1980s that the Polish mathematician Benoît Mandelbrot<sup>2</sup> and the British mathematician Michael Barnsley<sup>3</sup> leveraged the new capabilities of computers to discover many more fractal shapes (The fundamental characteristics of these shapes are that they repeat endlessly at different scales,

displaying extreme complexity even though they are very simple to create. The name fractal comes from fractional dimension, since they exist between the dimensions we are familiar with. For example, a sheet of paper is essentially two-dimensional, and a ball is three-dimensional. If we crumple up the sheet of paper into a ball, it is now somewhere between the two dimensions of the paper and the three of a sphere. Once we understand what they are and how to make them, we see that they are beautiful and exist everywhere, bridging the gap between mathematics, nature, and art.

In mathematics, geometry fractals are made by repeating a simple equation or changing a simple shape over and over. For

- 1 Lipton, Richard J. “Avoiding Monsters and Non-Monsters.” *Gödel's Lost Letter and P=NP*, 27 May 2014, <https://rjlipton.com/2014/05/27/avoiding-monsters-and-non-monsters/>. Accessed 2 June 2025.
- 2 Mandelbrot, Benoît B. *The Fractal Geometry of Nature*. W.H. Freeman, 1982. Internet Archive, <https://archive.org/details/fractal-geometry00beno>. Accessed 2 June 2025.
- 3 Barnsley, Michael F. *Fractals Everywhere*. Academic Press, 1988. Internet Archive, <https://archive.org/details/60334201FractalsEverywhere>. Accessed 2 June 2025.

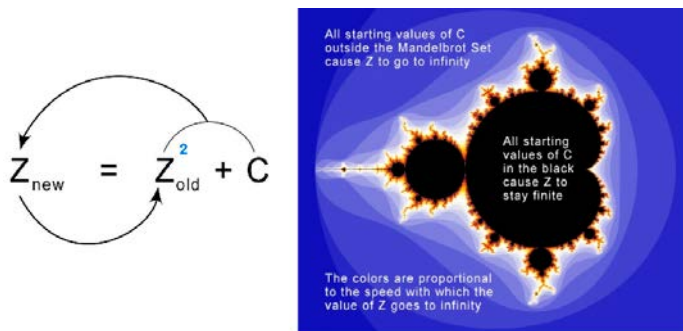


*The Sierpinski Triangle*

[HTTPS://FRACTALFOUNDATION.ORG/FRACTIVITIES/FRACTALPACKS-EDUCATORSGUIDE.PDF](https://fractal.foundation.org/fractivities/fractalpacks-educatorsguide.pdf)

example, the Sierpinski Triangle is created by taking out the middle triangle in a triangle, and then repeating the process.

Similarly, the most famous fractal shape of all, the Mandelbrot set is based on graphing an endlessly repeating very simple calculation:



*The equation for the Mandelbrot Set.*

[HTTPS://FRACTALFOUNDATION.ORG/FRACTIVITIES/FRACTALPACKS-EDUCATORSGUIDE.PDF](https://fractal.foundation.org/fractivities/fractalpacks-educatorsguide.pdf)

Although graphing the repeating calculation is a simple process, the results are complex and astounding, as well as highly illuminating of the ways that nature produces complexity from simplicity, as these patterns can be found both around us and even inside us.

The emergence of complexity from the iteration of relatively simple rules leads to astounding outcomes. For example, the fractal nature of our lungs means that we have a surface area in our chest that is equivalent to whole tennis courts even though the volume they occupy is the size of just a few tennis balls. Plants create leaf patterns to absorb as much sunlight as possible using fractals.

Fractals appear everywhere in nature at a wide range of scales, from the extremely small to the cosmic. A simple branching process is responsible for forming patterns such as those made by our blood vessels and neurons to river networks, as a simple stream has the same fractal shape as the Amazon. Another common fractal is the spiral, which can be seen in shells and plants, as well as storms on earth and galaxies in deep space. All these fractals found in nature are produced through processes that repeat a simple rule over time. However, repetition is not enough, the rule has to remain in the fractional in-between space between full dimensions. This is the realm of complexity, where things are neither too boring nor too chaotic.

Nature often uses fractals when maximum efficiency is required, and humans have begun to borrow this idea. One of the very first applications was the use of fractal algorithms for image compression. Since a simple fractal equation can produce predictable but complex results, they are used to make images much smaller in terms of kilobytes, and to create incredibly realistic-looking landscapes in video games. Fractals are used to



*A computer generated fern and a real one.*



[HTTPS://THECONVERSATION.COM/EXPLAINER-WHAT-ARE-FRACTALS-10865#](https://theconversation.com/explainer-what-are-fractals-10865#)



**Spirals in nature, demonstrating the vast range of scales where they are found**

model biological systems such as blood flow in veins and arteries, the behavior of the economy, and environmental systems. Moreover, scientists and engineers have begun to use the principles of fractals to

whole dimensions, but hopefully it has sparked your interest and motivated you to learn more and to explore for yourself. After all, fractals reveal the harmony between math, art, and nature. The emergent properties of iterating the right simple rule are complex, beautiful, and at the heart of nature. 



**Fractals in art and architecture**



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create more efficient antennas for mobile phones and cooling systems for computer chips, which benefit from having a great amount of surface area within a very small volume.

**A**dditionally, fractals play a great role in art and design. Their ability to create images that are natural looking has led to their use in visual arts. Architects have also been consciously inspired by fractals in modern times, though many buildings in the past have also displayed fractal features. As fractals exist between order and chaos, their complexity and evocation of natural processes are captivating to artists, mathematicians, and scientists alike.

It is astonishing to think that just half a century ago the mathematics that governs so much of nature was essentially unknown. All of the above, have only just managed to scratch the surface of the fascinating subject of fractals, the mathematics of the space in-between the

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# Supposing we had ability to mutate our genes



## Should we create a superhuman species?

By Afroditi Chrysohoidi

A gene mutation refers to the process of changing the gene's DNA sequence to alter an organism. Superhuman species that are ultimately the product of that change possess genetically modified, extraordinary characteristics and capabilities which are 'superior' to those of the 'ordinary' human. The question of whether humans should create a superhuman species through gene mutation has plagued those with grand scientific ambitions and seeks to change our reality in either a positive or negative light. I believe, that creating a superhuman species should be prohibited considering that it will be a source of further social division and draw an even deeper wedge between developed and underdeveloped nations.

Creating humans that possess exceptional abilities that allow them to have both intellectual and physical supremacy over the average human being will only increase inequality and discrimination. In more detail, the phrase 'survival of the fittest' will manifest in its literal and most extreme form as the superhuman will undoubtedly exude domineering tendencies over the average human being. The 'human' and the 'superhuman' will become distinct entities due to their inherent differences and source of origin. This distinction will work as the foundation for the unequal treatment between the two human species who will clash with each other and generate extreme discrimination. The resulting

turmoil would lead to the persecution of opinions that do not align with either or one side and provoke perpetual violence. Hence, introducing superhumans into a society already heavily plagued by inequality and division will be like adding fuel to the fire and providing another basis upon which discrimination and hatred can be founded.

The 'market' for the superhuman gene will be based in the most economically developed countries rather than the least economically developed ones who will continue staying behind. More specifically, due to their economic growth and technological advancements developed countries will be the ones to host scientific research and facilitate the creation of the superhuman. As a result of their economic and often sociopolitical instability, underdeveloped countries will take on the role of the outcasts amid this scientific progressive realization. They will not be able to create nor purchase the





“ THE PHRASE ‘SURVIVAL OF THE FITTEST’ WILL MANIFEST IN ITS LITERAL AND MOST EXTREME FORM AS THE SUPERHUMAN WILL UNDOUBTABLY EXUDE DOMINEERING TENDENCIES OVER THE AVERAGE HUMAN BEING ”

superhuman genome because of the polarizing character of their relationship with the more economically developed countries. Therefore, whilst developed states utilize this new scientific advancement least economically developed countries will be in a disadvantageous position that does not secure their growth and progress.

Some though may support that the creation of the superhuman species is a symbol of scientific development and represents a breakthrough that will initiate the dawn of a new age in human history and change the world as we know it. However, what these people fail to recognize is that assertions of ‘changing the world’ and ‘entering a new age’ when analyzed in a positive light are nothing more than idealistic claims and unfounded aspirations. The world will change as we know it, but it won’t be for the better. Introducing this superhuman into an already complex

society and shifting economy clad with deep rooted problems will be catastrophic. The world is simply not ready to accept a new superhuman species that will clash with the one that already exists and require a change in the confounds of society that is highly unlikely to happen.

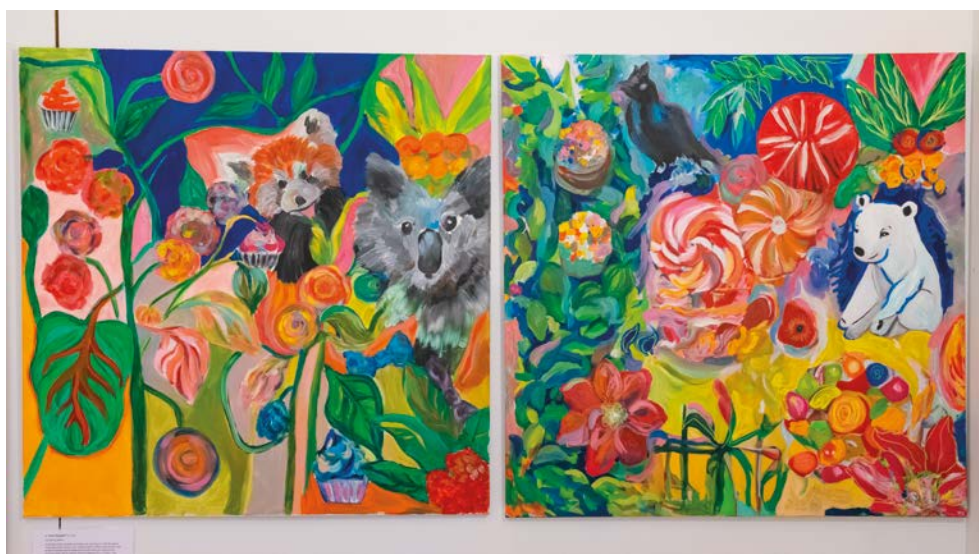
In conclusion, it becomes evident that creating a super human species would be out of the question even if we had the ability to mutate our genes. The increase in inequality and subsequently discrimination and hatred are the heap of issues that will be born out of the social context of this issue. In addition to that, the division between rich and poor countries will be further increased as developed countries would monopolize the market on the superhuman genome whilst underdeveloped countries will be excluded and be outsiders in the economic and political world order. Lastly, the claim that the creation of the superhuman species will bring positive change is refuted by the fact that the world in its current state is not sufficiently prepared for such a massive change and will not respond well. **V**

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Artwork by Anastasia Pepanidi (IB DP Year 2)



# Using Gene Editing to Fight Blood Cancer

## How CRISPR-Cas9 is Changing the Game

By Danai Kollia

“THE POWER TO CONTROL OUR SPECIES’ GENETIC FUTURE IS BOTH AWESOME AND TERRIFYING. DECIDING HOW TO HANDLE IT MAY BE THE BIGGEST CHALLENGE WE HAVE EVER FACED.”

– Jennifer A. Doudna

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### Genetic Modification: CRISPR

Imagine if doctors could cure diseases by changing just one part of a person’s DNA. Thanks to gene editing tools like CRISPR, this idea isn’t science fiction anymore. CRISPR is a powerful molecular tool that lets scientists make very precise changes to DNA<sup>1</sup>, the material which carries the instructions for how our bodies grow and function. One area where gene editing is showing a lot of promise is in treating blood cancers like chronic myeloid leukemia (CML).

Leukemia is caused by the uncontrolled growth of abnormal white blood cells (or else leukocytes) in the bone marrow<sup>2</sup>. This abnormality of the leukocytes is due to genetic mutations caused by changes in the nucleotide sequences in specific genes of the DNA. More precisely, leukemia is driven by a genetic mutation called the BCR-ABL fusion gene. This mutation results from a part of chromosome 9 and chromosome 22 swapping places, which leads to uncontrolled cell growth<sup>3</sup>.

1 “Genetic Modification: CRISPR.” *Iberdrola*, [www.iberdrola.com/innovation/genetic-modification-crispr](http://www.iberdrola.com/innovation/genetic-modification-crispr). Accessed 13 Nov. 2024.

2 “Leukemia.” *Pfizer*, [www.pfizer.com/disease-and-conditions/leukemia](http://www.pfizer.com/disease-and-conditions/leukemia). Accessed 13 Nov. 2024.

3 Pruthi, Sandhya. “Leukemia - Symptoms and Causes.” *Mayo Clinic*,

These genetic mutations disrupt the normal functioning of the DNA, causing the cells to ignore the usual signals that control growth and cell death. The DNA inside of cells makes up a person’s genes, which control how those cells function. Under normal conditions, the DNA instructs the cell to grow and die at a set time. In leukemia, however, the mutations tell the blood cells to continue growing and dividing. Over time, these abnormal cells can crowd out healthy blood cells in the bone marrow, leading to fewer healthy white blood cells<sup>4</sup>.

To fight back against leukemia, scientists are turning to a revolutionized tool called CRISPR, which can target and edit specific parts of our DNA. Since leukemia is driven by mutations in the nucleotide sequence of genes like BCR-ABL in the DNA of white blood cells, CRISPR offers a groundbreaking way to locate these mutations and potentially correct them<sup>5</sup>.

21 Sept. 2022, [www.mayoclinic.org/diseases-conditions/leukemia/symptoms-causes/syc-20374373](http://www.mayoclinic.org/diseases-conditions/leukemia/symptoms-causes/syc-20374373). Accessed 13 Nov. 2024.

4 Sandhya Pruthi. “Chronic Myelogenous Leukemia - Symptoms and Causes.” *Mayo Clinic*, 16 June 2023, [www.mayoclinic.org/diseases-conditions/chronic-myelogenous-leukemia/symptoms-causes/syc-20352417](http://www.mayoclinic.org/diseases-conditions/chronic-myelogenous-leukemia/symptoms-causes/syc-20352417). Accessed 13 Nov. 2024.

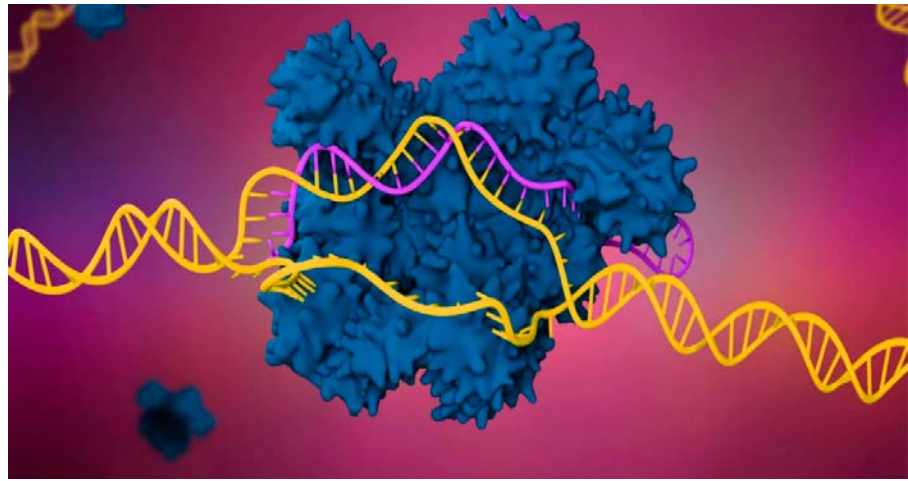
5 Vuelta E, García-Tuñón I, Hernández-Carabias P, Méndez L, Sánchez-Martín M. Future Approaches for Treating Chronic Myeloid Leukemia: CRISPR Therapy. *Biology (Basel)*. 2021 Feb 4;10(2):118. doi: 10.3390/biology10020118. PMID: 33557401; PMCID:

You may wonder how this tiny molecular tool reaches inside our cells and rewrites the very code of life. The explanation might seem simple in theory, however its implementation in real life is very complicated. CRISPR has a private guide, like GPS, called guide RNA that helps it locate the precise spot in the DNA that carries the mutation, coding for blood cancer<sup>6</sup>. At the same time, CRISPR carries a protein called Cas9, which acts like a “molecular scissor.” Once the guide RNA finds the target DNA sequence, it binds to it, and the Cas9 protein attaches to this location. Cas9 then cuts the targeted sequence creating a gap which is then naturally repaired in the correct way by the cell’s mechanisms.

**CRISPR-Cas9 uses a guide RNA (purple) to locate and bind to a precise DNA sequence (yellow), allowing the Cas9 protein (blue) to make a targeted cut in the genetic code.**

CRISPRs have been known since the 1980s, although their exact function was only discovered in the last decade. When George Church, Jennifer Doudna, Emmanuelle Charpentier, and Feng Zhang used CRISPR-Cas9 to alter specific genomic areas in 2012, the technique gained widespread attention<sup>7</sup>. In 2015, CRISPR was selected *Breakthrough of the Year* by Science because of its potential to transform gene editing. CRISPR-Cas9 was first used to edit genomes of prokaryotes, such as E-coli bacteria; however, through research and technological advancements it was later used for gene editing in mice and yeast cells<sup>8</sup>.

Several research teams, notably those headed by George Church at Harvard University and Feng Zhang at the Broad Institute, separately stated in early 2013 that



### What is CRISPR-Cas9?

they had successfully used CRISPR-Cas9 to perform precise alterations in human cell lines. This discovery created new opportunities for genetic research and medicinal applications by proving that CRISPR could efficiently target and alter DNA in human cells.

However, we have still a long way to go until these are safe to use. The possibility of off-target effects, in which unwanted DNA sections are altered and may result in dangerous mutations, is a major drawback. Furthermore, it is still technically difficult to transfer CRISPR components into cells and tissues. Germline editing also raises ethical questions since it may result in heritable alterations to human DNA. Despite these obstacles, current research attempts to increase CRISPR-Cas9’s accuracy, safety, and usability, creating space for future discoveries that could transform genetics and medicine. **V**

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# Bacterial Arms Race

## The Rise of Antibiotic Resistance

By Charilaos Valsamis

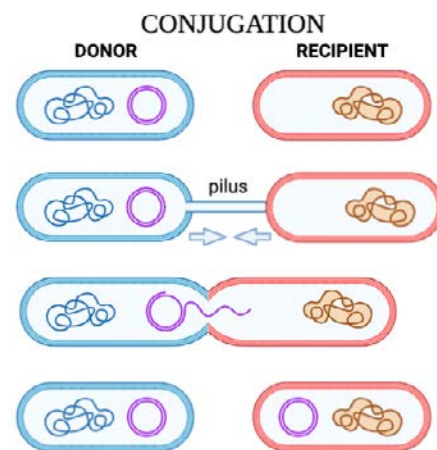
Since ancient times, humanity's greatest foe was something it could not see – and until around a century ago, something it could not understand. For this was – and is – a war like no other; no nuclear weapons or catapults may save us. And in this arms race, humanity is falling behind. We develop new weapons, new equipment – new pills – but our enemies adapt; sure, our weapons are effective in the short run, but in the long run, the survivors evolve. A vicious cycle – a fight with no end in sight. We must act fast – for every drug consumed and every medication administered may spell out our doom.

Antibiotic resistance has already claimed 4.95 million lives<sup>1</sup> and is forecast to kill 10 million by 2050.<sup>2</sup> It affects countries of all regions and people of all income levels. It's one of the most significant global public health and development threats according to the World Health Organization (WHO) and uses humanity's triumphs in medicine against it – after all, who would think that taking antibiotics when you're sick would give rise to “superbugs?” Antimicrobial – or antibiotic resistance, however, begs to differ.

At its core, antibiotic resistance occurs when bacteria evolve to survive the drugs that once killed them. This may occur in several ways, often due to genetic mutations or the transfer of specific genes between bacteria. Normally, when an antibiotic is administered, most bacteria are killed. Over time, however, some may develop genetic mutations that allow them to survive. They may also develop efflux pumps, used to expel the antibiotic from their cells or decrease the drug uptake entirely. These survivors reproduce, passing on the resistance traits, and slowly but surely, a population of bacteria resistant to the antibiotic emerges.

A good example of this is humanity's first ever antibiotic: penicillin, discovered by Alexander Flemming in 1928. Most bacteria have a cell wall, crucial for their structural integrity and pressure maintenance. Penicillin works by inhibiting its synthesis, by targeting the enzyme transpeptidase, which bacteria use to crosslink a specific layer of this wall. Thus, without this wall, the bacteria cannot maintain their shape, and they burst and die. Over time, however, bacteria developed an enzyme called penicillinase, which breaks down a ring in the structure of penicillin, rendering it inactive. In other words, they began developing antibiotic resistance. In response to this, we developed more advanced antibiotics, like methicillin, designed

to be resistant to the enzyme penicillinase. However, bacteria like *Staphylococcus aureus* developed and became resistant to methicillin, leading to the emergence of the modern methicillin-resistant *Staphylococcus aureus* (MRSA) – a superbug. Today, MRSA causes a huge variety of infections like pneumonia or bloodstream infections and is extremely difficult to treat due to its resistance to so many antibiotics. In 2019 alone, MRSA claimed the lives of an estimated 121,000 people.<sup>3</sup>



The bacterial of horizontal gene transfer (or conjugation).  
SOURCE: Footnote 4

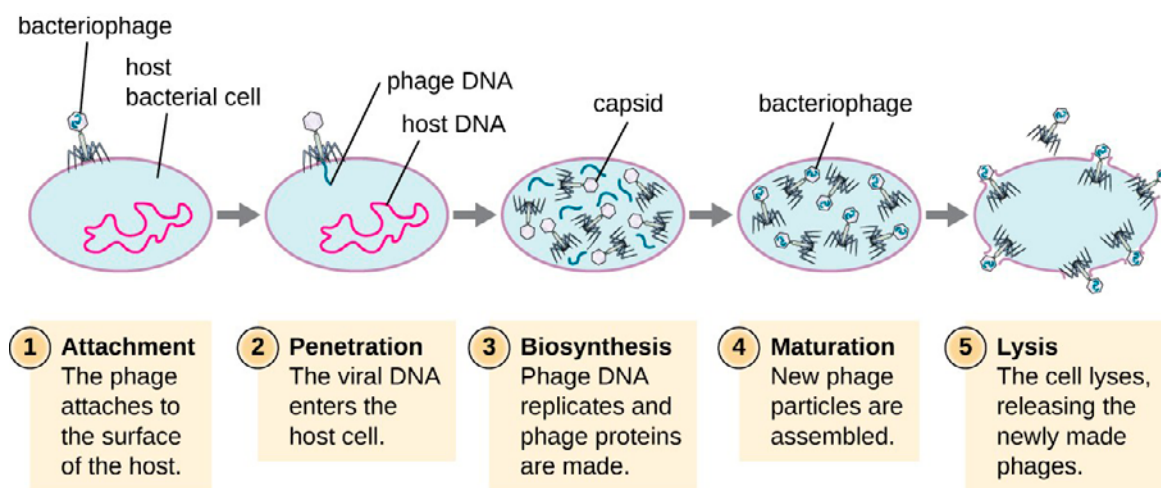
One of the most dangerous features of antibiotic resistance is its ability to spread<sup>4</sup>.

1 “Antimicrobial Resistance.” *World Health Organization*, [www.who.int/news-room/fact-sheets/detail/antimicrobial-resistance](http://www.who.int/news-room/fact-sheets/detail/antimicrobial-resistance). Accessed 17 Jan. 2025.

2 *Global Burden of Bacterial Antimicrobial Resistance 1990– ...*, [www.thelancet.com/journals/lancet/article/PIIS0140-6736\(24\)01867-1/fulltext](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(24)01867-1/fulltext). Accessed 17 Jan. 2025.

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4 “Comparing Mechanisms of Horizontal Acquisition of Genetic Material in Prokaryotes & Their Effect on Genetic Variation Practice | Biology Practice Problems.” *Study.com*, 2023, [study.com/skill/practice/comparing-mechanisms-of-horizontal-acquisition-of-genetic-material-in-prokaryotes](http://study.com/skill/practice/comparing-mechanisms-of-horizontal-acquisition-of-genetic-material-in-prokaryotes).



*The lytic cycle of a bacteriophage*

MICROBIOLOGY, COURSES.LUMENLEARNING.COM/SUNY-MICROBIOLOGY/CHAPTER/THE-VIRAL-LIFE-CYCLE

Bacteria exchange genetic material through a process known as horizontal gene transfer, or conjugation. Thus, a bacterium can share a gene which it developed and is beneficial for survival with another bacterium, even one from a different species. That's why even a single survivor can pass on the mutation to other bacteria. It's important to note that "pass down," in this context, does not mean from parent cell bacterium to daughter bacterium – that would be vertical gene transfer, not horizontal. Instead, horizontal means that this transfer takes place within the bacterium's lifetime, and it can even acquire numerous genes from multiple other bacteria, all to improve its chances for survival. This allows resistant strains to spread rapidly, making it harder to control infections.

Sometimes, antibiotic resistance is also physical – instead of mutations or gene transfer, some bacteria can create physical and chemical barriers protecting themselves from antibiotics. Biofilms are dense clusters of bacteria embedded in a self-produced matrix. These biofilms adhere to surfaces like medical devices, such as pacemakers, or form within tissues. This creates a barrier that not only shields bacteria from the immune system, but also from other antibiotics, since the matrix prevents adequate penetration of antimicrobial agents. Since this matrix also

fosters bacterial communication and resistance gene exchange, it enables bacteria to adapt to hostile conditions, exacerbating eradication. Additionally, since some bacteria in biofilms enter dormant or slow-growing states, they become less susceptible to antibiotics that target cells that are dividing, like metronidazole.<sup>5</sup>

Hence, at first glance, it seems that antibiotic resistance is inevitable. It's accelerated by human behaviour, as overuse and misuse of antibiotics in medicine and agriculture create an environment in which bacteria are constantly exposed to more and more drugs, increasing the likelihood of resistance developing. Whether through unnecessary prescriptions, incomplete courses of antibiotics, or antibiotics being used in livestock farming, the widespread use of these drugs inadvertently fuels the development of antibiotic resistance.

However, there is hope: yes, the antibiotic resistance crisis requires a multifaceted approach involving healthcare professionals, policymakers, and the public, but this is still achievable. First, antibiotic stewardship is vital.

This means prescribing antibiotics only when absolutely necessary – to avoid unnecessary exposure to antibiotics – and ensuring that patients complete their courses of treatment – to minimize the number of bacteria that survive. In this way, we can reduce the chances of bacteria developing resistance in the first place.

A significant part of the solution also lies in the development of new antibiotics and alternative treatments. The pharmaceutical industry should invest in the creation of novel antibiotics that can target resistant strains – but will that not merely exacerbate the issue? Well, this is why researchers are also exploring alternative methods – namely, scientists are looking into bacteriophage therapy.

After initially being discarded following the development of antibiotics, bacteriophage therapy is now regaining interest,

5 Trojanowski, Damian, et al. "Watching DNA Replication Inhibitors in Action: Exploiting Time-Lapse Microfluidic Microscopy as a Tool for Target-Drug Interaction Studies in *Mycobacterium*." *Antimicrobial Agents and Chemotherapy*, vol. 63, no. 10, Oct. 2019, <https://doi.org/10.1128/aac.00739-19>.

otes-their-effect-on-genetic-variation-questions.html.

primarily because it entails introducing a third player into the war between humans and bacteria: bacteriophages – a word made up of bacteria + phage (Greek: phagos, meaning “the one who eats”), appropriately named as such. The war between bacteria and bacteriophages has been raging for far longer than humans have walked the Earth. At a glance, bacteriophages are calculated bacterial killers with significant specificity. Phage therapy works as follows: the bacterial strain is identified. Then, phages that specifically target this exact bacterial strain are selected from a phage library. Depending on the infection, these phages are administered orally, topically, or intravenously – within the veins. Once the phages successfully attach to the bacteria, the bacterium’s fate is sealed.

They will inject their DNA in the bacteria and hijack the bacteria’s machinery to replicate themselves endlessly. Thus, the bacteria bursts and the phages are released – they will float around in the blood until they reach another bacterium, and the process repeats.

Still, it’s important to note that bacteria can also develop resistance to bacteriophages, just as bacteriophages can evolve. This, however, is easier to combat than antibiotic resistance. Often, cocktail therapy is used – which is exactly that; a mixture of different phages being injected to reduce the chances of bacteria developing resistance to the treatment. Other times, bacteriophages are used in conjunction with antibiotics to prevent bacteria from developing resistance to either.

Resistant bacteria are most dangerous when they spread in hospitals – if they infect an elderly ill patient for example, they have a much higher mortality rate. Thus, proper hygiene, sanitization, and infection prevention protocols are crucial in limiting the spread of resistant bacteria in healthcare settings. Isolating patients with resistant infections and using contact precautions can also reduce the risk of transmission.

Antibiotic resistance as a phenomenon plagues Greece more than most other countries, which leads Europe in the prevalence of hospital infections and antibiotic resistance. It’s only natural that Greeks self-medicate – from a financial standpoint, over-the-counter drugs are beneficial. In Southern rural Greece, the problem is especially prevalent; 80% of individuals self-medicate.

In the end, antibiotic resistance does indeed pose a major threat to our future – evidently, we need to act. Once treatable infections are becoming deadly, and increasingly harder to treat. In the war of humans against bacteria, our foes continue to develop their weaponry. But this time, the solution is not to bolster ours. Instead of striving to improve further and further in this arms race, we should try our hands at unorthodox solutions – that is why phage therapy is gaining such interest. We’ll have to give our all to this century-long fight. It is, after all, adapt or perish – and one thing is for sure: bacteria are very good at adapting. 



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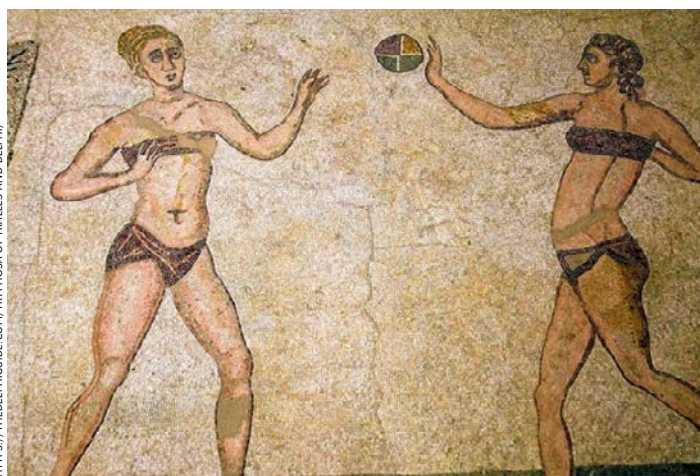
*Mycobacterium*.” *Antimicrobial Agents and Chemotherapy*, vol. 63, no. 10, Oct. 2019, <https://doi.org/10.1128/aac.00739-19>.



Berlin 1936 - Summer Olympics

# The History of Handball in Germany

By Petros Papageorgiou



Harpastum in Greece

The first precursors of handball can be found in the ancient times. The Greeks called the game 'Harpastum' and its goal was to shoot the ball in a marked end zone. For five centuries, it was considered the most popular game of the Greeks and Romans.



In Germany, handball has a long and tradition-rich history, stretching back to the early 20th century. In 1915, Germans invented a more modern version of handball that included formalized rules and structured team play, laying the foundation for today's indoor handball (Handball - Owayo Magazin, n.d.). Notably, in 1917, sports teacher Max Heiser developed the first form of handball for women as football, which was already popular among men at the time, was considered unsuitable for women (Canterbury Handball, n.d.). Two years later, Karl Schelenz, the father of modern handball, developed the game further.



Max Heiser



Karl Schelenz

*In the beginning, the rules were taken from football*



HTTPS://WWW.MEDIASTOREHOUSE.COM/AU/ALINARI/GERMAN-PLAYERS-PHOTOGRAPHED-HANDBALL-GAME-WON-33292-288.HTML

*The first German championship in field handball was held in 1921, while the first international match was held in 1925.*

**Joachim Deckarm:**  
*He was the undisputed king  
 of his era  
 on the German  
 handball courts*

Also, as the number of players was reduced from eleven to seven, so did the goals. Towards the end of the 1960s, the popularity of field handball began to wane mainly due to poor weather conditions. As a result, following the initiative of Scandinavian countries, the game was introduced indoors.



HTTPS://THEBRIDGE.IN/HANDBALL/HANDBALL-FASTEST-SUMMER-OLYMPICS-SPORT-HISTORY-41939

In 1972, indoor handball for men reached Olympic status, which it has maintained up to this day. In 1976, women's indoor handball also became an Olympic sport. The first world championship in beach handball took place in 2004.

In 2019, the Handball World Cup was also held in Germany, making the sport even more popular in the country (FOCUS online, 2025). Today, the Handball Bundesliga (HBL- the German professional handball league) is considered one of the best in the world, and the regular successes of the German national handball team are one of the factors maintaining Germans' interest in this sport.



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# What I wish I knew as a student entering the IB

By Myrto Kyriakidi

**T**he International Baccalaureate, also known as “the IB,” is renowned for the exciting opportunities it offers students. However, it can also cause considerable pressure and stress, which students must learn how to manage to benefit from these opportunities fully. As I am at the end of my second year of the IB journey, here are some tips I wish I had known before starting the IB.

**Get to know your teachers;** you will be working with them for two years. If you have a good relationship, it can always make things easier for yourself.

**Choose your subjects carefully:** Ensure you are confident to take tests in the subjects you have chosen. In the first few months, familiarize yourself with the syllabus, the assignments, and the testing methods of each chosen subject. You must be certain that you can handle both the pressure and the workload.

Double-check that you’ve chosen all the required subjects for your future university course.

Not all subjects have to be related to your future studies; you can choose something that you enjoy but know it will not be required later when applying to university.

Choosing a subject that is not related to your future studies might help you truly realize the career path you want to follow.

**Do not allow anyone to discourage you from choosing a course that you like or to undermine your abilities.**

Aside from acquiring basic knowledge, you will have the chance to develop various skills throughout your IB journey.

**Choose the languages you are most confident in speaking when choosing a language course.**

**During the first year of IB, you must focus on your grades. The second year is more stressful as it involves making decisions about the career path you will follow and the universities you will apply to:**

Most tests after the predictions are essential for practice towards the final exams.

**Don’t stress over the replies you get from the universities you will apply to:**

Some might make you an offer, some might not – it is just a chance for you to explore your options.

**Finish the first drafts of your IAs and EE during the summer:**

You will be occupied with applying to universities around the world during your second year.

**Prioritize yourself;** there might be times where you can’t handle the pressure, never let your mental health deteriorate

**CAS** It is, in fact, a very interesting but also stressful part of your IB journey. Start your activities as early as possible; the more you accomplish in the first year, the less you will need to complete in the following year.

All in all, through the IB program, not only do you acquire knowledge, but you also get to develop skills such as time management that are crucial for your future studies and for your life in general. The IB journey is a preview of the following years of your life during your university studies. 



Artwork by Angela Papadimitriou - IB DP Year 2



[HTTPS://TNHELEARNING.EDU.VN/SCUBA-DIVING-WALLPAPER/](https://tnhelearning.edu.vn/scuba-diving-wallpaper/)

# Exploring the **underwater** world

By Myrto Kyriakidi

Scuba diving, for me, is an escape from reality. It brings peace and calm to the mind and is truly a tranquil activity. Diving offers a completely different view of the underwater world, allowing one to fully observe and experience it. Although many of us spend a lot of time on the beach or in the sea, we rarely get the opportunity to explore the breathtaking and diverse life that exists beneath the surface. It's a world full of creatures and ecosystems that some may never get the opportunity to see. Scuba diving isn't just about exploring the underwater world, it can be a unique experience for everyone. It's both a physical and mental activity, and for some, it's even a way to bond with others.

Scuba diving can have numerous advantages to one's everyday life. One of the most significant health benefits it offers is improved breath control.<sup>1</sup> When diving, it is crucial to manage air consumption effectively and ensure that breathing is always under control. Being able to control your breathing not only plays a vital role in guaranteeing that the tank doesn't run out of air before making a safe ascension, but it also aids in managing buoyancy successfully. Therefore, taking slow, deep breaths is essential,

<sup>1</sup> "Keep Diving! The 10 Best Health Benefits of Scuba Diving." *Liveaboard.Com*, [www.liveaboard.com/diving/article/keep-diving-the-10-best-health-benefits-of-scuba-diving](http://www.liveaboard.com/diving/article/keep-diving-the-10-best-health-benefits-of-scuba-diving). Accessed 21 Dec. 2024.

and once mastered, it leads to noticeable improvements in both breathing and heart rate. Additionally, the deep breaths one takes when diving, help deal with stress. Becoming accustomed to the slow and steady breathing can be useful when trying to manage stress in everyday life. Diving can significantly help someone remain calm under stressful situations or under pressure, as it is a necessary part of scuba diving training.

Another advantage of scuba diving is that it can offer individuals with disabilities enhanced movement.<sup>2</sup> Underwater, they may be able to move their limbs in ways that aren't possible on land. This experience allows them to feel a sense of freedom and, in a way, even escape the limitations of their disability during the →

<sup>2</sup> Blogger, Guest. "Scuba Diving with Disabilities: Why & How to Get Started." *PADI Blog - Scuba Diving and Freediving Tips, Dive Travel Insights & More*, 5 Jan. 2022, [blog.padi.com/scuba-diving-with-disabilities/](http://blog.padi.com/scuba-diving-with-disabilities/).

dive. It can boost their confidence and help them momentarily forget their struggle to complete certain tasks that abled individuals can with ease.

In order for one to be able to rent their own scuba diving gear and dive with a friend instead of an instructor, they must be certified. There are different types of certifications for a range of depths, and some require tanks with adjusted pressurized air, designed for deeper waters where pressure is greater. Some certificates are for diving at shipwrecks or at night, however the first certificate one must acquire when starting to dive is the PADI Open Water Diver that trains divers for going down to 18 meters at most. When learning to dive one must first study and pass a theory exam online that will take up around five to ten hours.<sup>3</sup> The theory will include the necessary information one must know, covering a variety of topics.

One of the important lessons of scuba

3 “Padi Open Water Diver Scuba Diving Certification.” PADI, store.padi.com/en-dk/courses/open-water-diver/p/60462-1B2C/. Accessed 21 Dec. 2024.

WWW.VALLARTA-ADVENTURES.COM/EN/BLOG/MANTARAYS-INVALLARTA/



**Manta Rays in Puerto Vallarta**

diving is learning and understanding the changes in pressure. At surface level, pressure is 1 bar, at 10 meters under water, the pressure is 2 bar, at 20 it is 3 and so on. When diving, the first 10 meters are the most important for equalizing, as the pressure essentially doubles. The online theory material will teach divers how to equalize their ears when descending but also why the most important

rule when diving is to never stop breathing. Beginners will learn about the necessary gear, its function, how to use it, clean it, set it up, and what to do in case of a malfunction. After passing the theory, one must complete 4 open water dives with their instructor in order to receive their certificate. During these dives, students will put into practice what they learned from the theory. They will learn how to handle different situations, they will get used to diving and maintain neutral buoyancy, as well as use hand signals to communicate with other divers. Throughout the process, the importance of never diving alone will also become crystal clear, highlighting why divers should always follow the “buddy system”. Overall, the whole process of acquiring a diving certificate can really educate someone and can allow them to visit different parts of the world and rent gear to go scuba diving.

There are a number of dream dive sites in the world that one must visit after becoming certified. Every continent has its own unique diving spots that stand out and are divers’ top bucket list destinations. One of the most known and amazing places for divers to visit, are the Galapagos Islands in Ecuador.<sup>4</sup> They are known for their diverse marine life, giving divers the opportunity to encounter anything from dolphins and turtles to sea lions<sup>5</sup> and 15 different ray species<sup>6</sup>. There are 20 main



HTTPS://TOURINGGALAPAGOS.COM/BLOG/BEST-DIVE-SITES-IN-THE-GALAPAGOS



**There are a number of dream dive sites in the world that one must visit after becoming certified. Every continent has its own unique diving spots that stand out and are divers’ top bucket list destinations. One of the most known and amazing places for divers to visit, are the Galapagos Islands in Ecuador.**

4 Bancroft, Rosie. “Diving Bucketlist.” *One Fin Wanderer*, 1 Mar. 2021, www.onefinwanderer.com/best-diving-sites-in-the-world/.

5 “A Guide to Scuba Diving in the Galapagos Islands.” *ZuBlu*, 16 Mar. 2021, www.zubludiving.com/articles/zublu-insights/a-brief-guide-to-galapagos-islands-diving.

6 “Rays of Galapagos.” *Galapagos Conservation Trust*, 19 July



HTTPS://WWW.TRAVELBELIZE.ORG/MP-CONTENT/UPLOADS/2016/1/BLUE-HOLE-AERIAL SHOTS-ML235 COPY/SCALED.JPG

**The Great Blue Hole in Belize**

islands and around 100 small islets and rocks but only four are inhabited. Another must-see dive site is in Banda Sea, Indonesia. It has a variety of marine life which includes colorful coral reefs and sea animals such as dolphins, sharks, turtles and manta rays.<sup>7</sup> There are many different species of fish that are not commonly seen in other places, so it will most definitely be a once in a lifetime experience. A dream dive site one should consider visiting at some point is the Blue Hole in Belize. It is not only a stunning and breathtaking place on surface, but also a wonderful site to visit and experience underwater. It is a circular-shaped hole with a depth of 124 meters.<sup>8</sup> Considering that the Open Water Diver certificate trains individuals to dive only up to 18 meters, the Advanced certificate could make this dive even more enjoyable. However, even without it, the dive will definitely be unique and memorable.

Scuba diving is a unique way to explore the underwater world while improving both physical and mental health. It offers a number of benefits such as better breath control and stress management. It is an extremely enjoyable activity. A certificate gives individuals the opportunity to visit the world and experience not only the wonders of the surface but also the magical underneath. 

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8 “Great Blue Hole.” *Wikipedia*, Wikimedia Foundation, 12 Dec. 2024, [en.wikipedia.org/wiki/Great\\_Blue\\_Hole](https://en.wikipedia.org/wiki/Great_Blue_Hole).

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# The Five Stages of College Admission Grief

By Artemis Papastavrou

“We regret to inform you that we are unable to offer you admission”.

You’ve spent hours researching the school that you’ve applied to. Days of your time writing and rewriting the perfect CommonApp Essay and the ideal supplementals. You’ve patiently waited for the decision, daydreaming about your life at your ideal college. Only to face a crushing rejection.

What do you do?

Almost everyone gets rejected from a university of their choice. It is practically inevitable. Still, the sting you feel from opening that portal and not seeing the characteristic digital confetti that mark the entrance to university is unmatched. Even though that pain may feel eternal and unmanageable, you will get through it. You just need to mourn that “what if”. In some sense, accepting your college rejection is similar to grieving. By extension, getting over a college rejection follows the same cycle that grieving does.

## Stage One: Denial

No. No. No. No.

This is the shock you feel when you first open the decision. It’s the numb feeling you get, reading and rereading the letter, to ensure that you’ve read everything thoroughly. It is the silence that follows after, the feeling of uncertainty.

Denial may last from a few minutes, to even a few days. It tends to be the shortest stage of the College Admission Rejection Cycle. But sooner or later, the next stage will disturb this almost peaceful ambiguity you feel.

## Stage Two: Anger

No! No! No! NO!

This is when the rejection truly sinks in. The feeling you get when you think of the Admission Office of your chosen university.

“Who are they to reject me? I worked so hard and *this* is what I get?????”

Or a less polite version of that. This is a turbulent phase in the cycle of College

Admissions. You feel anger towards everyone you encountered along the way. Anger towards your school counselor, who *stupidly* advised you to select this horrid university as your early decision school. Anger towards your parents, that got your hopes up and convinced you that you would actually get in. Towards your friends, who got into their top choice. You ought to be proud of them, and you feel horrible for being angry at them, but still, you can’t stand to see them all happy and talking about what dorm mate they might have, or how close their school is to New York City. Anger towards random classmates, who ask you about your decision. “It’s none of your business!!!!” you want to yell. You know you can’t, because they are asking out of curiosity or care, and not maliciousness. So, you settle for seething inside, feeling burning hot rage every time you see or hear anything that even remotely reminds you of higher education.

But you’re a logical person. Sooner or later, you’ll conclude that you cannot be angry forever. You need to see the positive side of things. And this line of thinking leads you to the next stage.

## Stage Three: Bargaining

This is a complicated stage. It is usually triggered by the usual phrases people use to cheer you up after your rejection.

“You’ll get into a better college!”

“Don’t give up, it just wasn’t meant to be!”

These classics in the field of college rejections trigger a process of cost-benefit analysis in your brain. You begin to think:

“Maybe I will get in a better, more prestigious college”.

This might seem like a step in the right direction. These thoughts are positive, so this might fool you into thinking that you turned your attitude around, and that you’re onto better things. Sadly, this is not the case. Before you’re out of the College Admission Rejection Cycle, there is one more stage you must go through. The most difficult one.

### Stage Four: Depression

**T**his stage is a difficult one. The feelings are heavy, almost indescribably so. This might sound dramatic, but a college rejection is the most significant “no” that a 17-year-old has heard at this point in their life. And they can feel it.

This stage includes locking yourself away in your room. Crying until your face is red. Feeling like you are not good enough. Like you’ll never be good enough. Like your efforts



Artwork by Maria Chalofiti-Tzouma IB DP Year 2

were all in vain. Like you haven’t done enough. Like you did too much.

These are big feelings that we need to feel to get over the rejection. And this is not an easy stage to get over. The sting of insecurity will be present for a while. The most important piece of advice for this stage: it is okay. It is okay that you didn’t get in, and it is okay to feel this way. The best thing you can do is allow yourself to feel these feelings. Because even though they may seem eternal, before you realize it, you’ll have moved on to the fifth and final stage.

### Stage Five: Acceptance

**Y**ou’ve made it! Whether this was triggered by another college acceptance, by watching an inspirational video, having a heart-to-heart with your parents, or just randomly hit you while walking down the street, you have finally accepted the college rejection!

This is important. It allows you to grow as a person, to be able to better handle rejection. This stage provides a clarity and maturity that one cannot imagine during the other four stages. You can now see that every time a door closes, a window opens, and that everything happens for a reason.

The College Admission Cycle is a difficult one. The stages definitely become easier to manage once you’ve gone through it at least once, but still, one never gets used to hearing such a No. Regardless, rejection is an important step to arriving at the university of your choice, because it teaches you the importance of maturity, of knowing when to move on, of dealing with big emotions.

So, if you endured a rejection, dear reader, don’t worry. Don’t be embarrassed or insecure. I also got rejected. So did majority of my class. But I know that the IB Class of 2025 will go on to do great things, despite what NYU or Cornell or UPenn thinks. And so will you. 

# CAS TRIP TO KALAVRYTA

## A Memorable Two-Day Adventure

By Anastasios Papaliolios

**O**n the 8<sup>th</sup> and 9<sup>th</sup> of April 2025, the IB department of my school Athens College organised a CAS-oriented school trip to the charming town of Kalavryta, nestled in the Peloponnese region of Greece. Surrounded by rich history, unique cultural experiences and picturesque landscapes, Kalavryta was a perfect place for us, the IB students at Athens College, to take a break from our challenging everyday routine.

We kicked off our journey early in the morning, boarding three buses at Athens College to depart for Kalavryta.



The journey itself was a treat, with scenic views from mountains and sea, and definitely made this 4-hour trip a lot more pleasant. Our first stop was the Kalavryta Holocaust Memorial, which commemorates the tragic

massacre that took place during World War II when German Forces executed more than 1000 citizens. Then we headed off to the Holocaust Museum, which was housed in a previous elementary school. There, we were required to do a treasure hunt in groups, which aimed at better understanding the history of Kalavryta. The somber atmosphere at the memorial was thoroughly overwhelming, as it reminded us of the town's resilience and the importance of remembering history.

Afterwards we headed to our hotel called "Semantron", which was located in Diakofto, approximately 40 minutes from Kalavryta. We left our luggage and



got ourselves a 2-hour rest, until having dinner in the evening. To close the day, he had a short trip to Aigio, a beautiful coastal town roughly 20 minutes by bus, where we had a lovely time with our peers. Unfortunately, almost all stores were closed, hence we didn't have a lot of places to go. Nevertheless, the camaraderie was enough for us to have a good time.

The next day, we began with breakfast at 9 before heading out for a hike nearby Kalavryta's historic railway station, also known as the "Odontotos Railway". The breakfast was nice and gave us energy for the challenging day that followed. The railway station was located in the middle of the gorge, which offered us breathtaking views throughout the route. Having a tour guide with us, we had the opportunity to explore the historic significance of the Odontotos Railway Station. The highlight of the hike was definitely passing through caves inside the mountains of the gorge, where the atmosphere was filled with awe.

Following on, we returned for a final visit to Kalavryta, before departing back to Athens. We had a great time there, but what really stood out was the food and the traditional specialties of the place. The restaurants and the tavernas had excellent ingredients and raw materials, which definitely reflected on the quality of the dishes. When we finished eating, we headed back to our buses to return to Athens. On the way back, near to Corinthos, we had a stop to rest from the tiring 4-hour trip, before finally arriving at Athens College approximately at 9 o' clock in the evening.

**T**he Kalavryta CAS trip was an exceptional opportunity for personal growth and bonding, as we gained a deeper understanding of the town's historical significance and contributed to the local community during the treasure hunt. It is ironic how most of us are not aware of our country's history and culture, hence I believe this trip contributed to reinforcing our sense of identity as Greek citizens. By the end of the trip, the sense of camaraderie developed between all of us helped us create great and long-lasting memories. 

## BOOK REVIEW

# The Perks of Being a Wallflower

By Marina Katsamba

Growing up is truly frustrating. While it is often beautiful, as we are given opportunities to decide what kind of people we want to be, a not-so-thrilling chaos comes into our lives, as we are caught in between who we are right now, who we aspire to be, and who others perceive us to be. Growing up forces us to navigate life in ways nobody prepares us for.

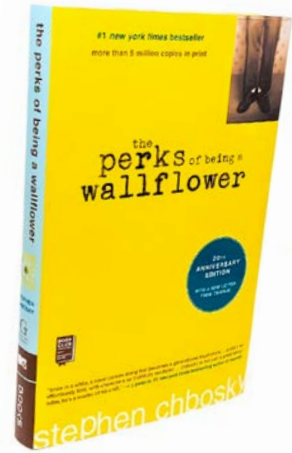
*The Perks of Being a Wallflower* portrays this concept in a painstakingly accurate manner. This semi-autobiographical coming-of-age novel was written by Stephen Chbosky, who is mostly renowned for his screenplays of movie hits: *The Perks of Being a Wallflower* (2012), *Wonder* (2017) and *Rent* (2005). *The Perks of Being a Wallflower* is an impactful modern classic, whose respectful tackling of dark themes remains revolutionary, even two decades after its publication.

The novel follows the story of Charlie, a 15-year-old boy in the 1990s. Charlie takes the audience on a journey along with him to experience his freshman year of high school. The whole story is told in letters, which Charlie addresses to an anonymous friend.

Almost right away, we are introduced to two painful incidents in Charlie's life: the suicide of his best friend, and the death of his Aunt Helen. He – his best friend – was the only person to hang out with Charlie and his aunt shaped his childhood, as we can tell by her being a constant reference point throughout the novel. We comprehend that these events have really impacted Charlie's mental health, and the way he talks and behaves, swiftly reveal to us that Charlie is not a "typical teenage boy". His soft nature, simple choices of language, tendency towards introversion and observation as he is sitting on the sidelines of life, are characteristics that have shaped his continuous

struggle throughout his young adult life, to connect with his peers.

However, there are exceptions to this rule. Charlie befriends two seniors, a girl named Sam and her stepbrother, Patrick, who become his closest confidants. They include him in their outings, defend him from anyone trying to give him a hard time, and are patient with him whenever he is in doubt. There is also Charlie's literature teacher, Bill, who is perhaps the only adult to see Charlie for who he really is, and encourages him to work towards his full potential, given that Charlie is a gifted writer. Bill offers Charlie additional reading material throughout the story, and advanced novels he knows Charlie is going to enjoy as much as he does. Charlie's sister, brother and parents are also key characters of the story, with whom Charlie shares several hurtful and special moments. The year goes on as Charlie experiences various positive firsts: dances, friend groups, and dates. Nevertheless, he also goes through some not as positive ones, such as challenges in all his relationships with other people. He deals with loneliness for a great part of the novel, having to pay the price of mistakes he makes along the way of getting his personal relationships right.



Examples of such mistakes include being asked to kiss the prettiest girl in the room and not kissing his girlfriend, letting his best friend exploit him as a distraction after that friend has gone through a rough break-up; letting his teacher know that his sister's boyfriend is abusing her and then his sister getting mad at him. Having no one to turn to, he finds an escape in drugs and smoking, as a means of getting his mind off all his negative thoughts. Charlie is unable to understand his emotions of emptiness and alienation, presenting to us his fragile psychological state and lack of a strong support system to help him manage it.

**T**his novel has a massive cult following. It has also been adapted into a widely popular film by the author himself. Since its publication in 2000, the novel has been granted recognition from multiple sources, such as the American

“  
AUDIENCES HAVE  
PERSONALLY  
REACHED OUT TO  
THE AUTHOR TO LET  
HIM KNOW HOW  
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HIS DEPICTION OF  
ADOLESCENCE,  
WHICH COMES WITH  
A LOT OF CONFUSION  
ABOUT ONE’S PLACE IN  
THE WORLD.”

Association Best Book for Young Adults award. I believe it is an incredibly moving reading experience. The way Chbosky depicts Charlie is really touching, because readers have access to all the thoughts in his head and understand that this young man is just an ordinary boy who is trying his best, albeit being socially awkward. It elicits their empathy towards him and allows them to feel his pain when he is being marginalized for being different. The feeling of “something being wrong with him”, because he is different and has gone

through traumatic events, as is further revealed towards the ending of the book, is a universal feeling; so much so, that audiences have personally reached out to the author to let him know how much they value his depiction of adolescence, which comes with a lot of

confusion about one’s place in the world. The narrative structure, Charlie’s life being told in letters, is clever and enhances the book’s friendly tone because it evokes the feeling that we, as readers, are Charlie’s personal friends, something both he and we- sometimes need. It really is a testimony to how much comfort a fictional character can provide. However, one of the most important – if not *the* most important – aspect of the novel, in my opinion, is the hopefulness written into it. Charlie is plagued by all these emotionally catastrophic incidents and discoveries, which are really interconnected with the dominant themes of identity, friendship and diversity in the novel. Even so, Chbosky, who has been a “Charlie” himself, emphasizes that there is light at the end of the tunnel for all “Charlies”. He conveys the message that although finding your people and your pack is going to come with tears, anxiety, and might take quite a while, eventually you will find it. And once you do, going through everything is so much easier. But... that must start from one’s personal choice to turn their life around and not give up hope.



Artwork by Asimina Pazaropoulou IB DP Year 2



# London through the eyes of Claude Monet

By Eleni Tsourinaki

*Claude Monet*

## “Monet and London, views of the Thames”

is an art exhibition in London, taking place in Courtauld gallery, presenting Claude Monet’s works of views of the city that he adored. It was the artist’s dream to curate an exhibition with these works in London, but he never actually did. However, 120 years later, these London paintings have been gathered in the city that inspired the artist, from all over the world, to give a clear picture of the collection as the artist originally conceived it. In the exhibition, the visitor can admire the curation of the paintings in the gallery, and the interaction of light and the British fog.

Claude Monet was born in 1840, died in 1926 and was one of the greatest impressionist artists. In 1904 in Paris, he made an exhibition including 37 paintings of London. These works were created during his travels to London with his wife and daughter and most specifically, on the balcony of The Savoy hotel. He had a wonderful view of the banks of Thames and was inspired to depict iconic landmarks such as the Waterloo bridge, Charring Cross bridge and the Houses of Parliament. Rejecting the traditional approach to landscape painting, he observed variations of color and light and depicted what he saw at several times of day and in various weather conditions, especially under the famous London fog.

The exhibition includes 21 out of 37 original London paintings. The curation aims to satisfy Monet’s desire to show these works in London where they were originally painted, in a cohesive manner, in a form of series. This distribution was done to highlight that the main subjects are the same, but there are variations in light and fog. In this way, the visitors can see the differences in colors, ambience and the effect of weather and light on the scenery. Monet himself had been working in serial mode for a decade when he embarked on his views of the Thames. He believed that it was particularly important to see these paintings together, as a series, even though they can be appreciated independently from each other. Nevertheless, when viewed together as a group, the visitors can clearly detect the differences and similarities in color, shadows and fog, expressing the weather conditions or time of day.

Monet was fascinated by the atmospheric effect of pollution, fog, and the interplay with light. So, he used a colorful palette dominated by shades of blue, yellow, orange, and green,

creating a mysterious, atmospheric almost magical portrayal of the city. As he told a journalist in 1901, ‘The fog assumes all sorts of colours; there are black, brown, yellow, green, purple fogs and the interest in painting is to get the objects as seen through all these fogs. My practiced eye has found that objects change in appearance in a London fog more and quicker than in any other atmosphere, and the difficulty is to get every change down on canvas.’-exhibition catalog *Monet in London* by Grace Seiberling. Claude Monet observed that the fog had a particular



Claude Monet (1840–1926) *Water Lilies*, Oil on canvas

density and a variety of colors that occurred nowhere else, due to heavy industrialization in the heart of the city. His ambition was to render those unique effects on canvas. He famously declared, ‘I so love London! but I only love London in the winter ... Without the fog, London wouldn’t be a beautiful city. It’s the fog that gives it its magnificent breadth.’ -René Gimpel, *Diary of an Art Dealer* (New York, 1966)

The distinctive technique that he used in this series of paintings, blurring the water with the sky, inspired him to create his famous *Water Lilies*, which he began in France after his return from London, and that occupied him for the rest of his life.

Monet’s love for London is widely shown in this exhibition, providing all the different paintings he made of the same landscape just at different times of the day or weather condition. This is a great depiction of how Monet captures colours in detail. The exhibition ended in January 19 of 2025 and is a unique opportunity to appreciate Monet’s art and observe London’s ambience in the heart of the industrialism era. 

## BOOK REVIEW

# The Virgin Suicides

by Jeffrey Eugenides

By Fenia Gialouri

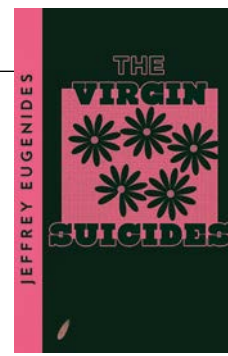
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hen you hear the words “virgin” and “suicides” in the same sentence, you can’t help but be astonished by this juxtaposition presented as a book title. The word “virgin” reminds us of something pure, innocent, a blank canvas ready to be painted on by life’s challenges and experiences. In contrast, the word

“suicide” is a dark word used in a heavy, depressing context that not many dare to explore. One suicide is complex and terrible enough; can you imagine the suicides of *five* sisters? Jeffrey Eugenides captures the mystery of being a teenage girl, secretly struggling at home and at school, with no way to escape.

*The Virgin Suicides* is a novel by Jeffrey Eugenides, which tells the story of the Lisbon sisters, five girls aged 13 to 17, who take their own lives in the course of one year. They are the beautiful daughters of Mr. and Mrs. Lisbon, and their presence is significant to everyone in the neighborhood, especially boys their age. When the youngest daughter takes her life, everyone in town suddenly becomes aware of the family’s strange behavior, and the boys watch more closely than ever the rest of the sisters, who keep trying to live more “normally”.

Instead of hearing the girls’ thoughts and feelings, we are essentially stuck with the point of view of a few boys who fetishize anything that has to do with the sisters. This is perceived as unfair and misleading by some, while others believe that this was the aim of the author. It’s not exactly a story of how and why five sisters commit suicide; rather, it’s the story of how their suicides affect the people close to them, and generally the community around them. The unreliable male narrator, or narrators, are never revealed. This deepens the essence of the book and how the Lisbon sisters’ lives, and suicides, which will forever remain a mystery, have been romanticized by a group of immature teenage boys, who admire and obsess over them from afar.



I n certain parts of the story, Jeffrey Eugenides shows us glimpses of their true, honest selves, allowing the girls to exist beyond the boys’ ideal image of them. Each sister has a different personality, a different identity, so complicated that not even the most observant person can put them together or comprehend them. As much as they are observed by the boys, just like by the narrator, the Lisbon sisters are never truly revealed. Yes, we know how to characterize each of them, but we don’t know why. The boys never even come close to understanding them, so the girls remain powerful and, eventually, forever out of reach.

The boys’ relationship with the Lisbon sisters is nothing but a mere fantasy, but the effect the girls have on them profoundly influences the rest of their lives. After the last of the Lisbon sisters dies, suddenly the world comes crashing down on the boys and their clueless view of life and the adult world. They are forced to keep going, keep living, keep breathing, without ever knowing the real reason behind those five girls’ suicides. Yet, they speak of the girls who died during their “peak” teenage years with envy. Those dead girls are not forced to grow up, see their youth and carelessness be taken away while their memories keep getting blurrier and blurrier. They “leave” just in time to avoid all of that, and the boys are somewhat envious of the fact. This book is their last attempt to remind themselves of how young they used to be and how enchanted they were by those ghosts. The past always finds a way to stay with us regardless of our desperate attempts to run away from it. It can taunt us, it can haunt us, and sometimes it can hurt us. However, it’s necessary to learn to accept it and gradually move on from it.

O ne of the most famous lines of this book comes when Cecilia, after her failed suicide attempt, says to the doctor: “Obviously, Doctor, you’ve never been a thirteen-year-old girl.” The boys claim to understand the difficulty of girlhood because they read Cecilia’s diary, but it’s hard to understand when all you see is what you want to see. Girlhood is difficult, but it’s also beautiful. The Lisbon sisters are the perfect representation of the multidimensional reality of being a girl. And the boys, no matter how hard they try, will never be able to fully understand the Lisbon sisters, once bright and alive, now gone, but never forgotten. 

***“It didn’t matter in the end how old they had been, or that they were girls, but only that we had loved them, and that they hadn’t heard us calling, still do not hear us, up here in the tree house, with our thinning hair and soft bellies, calling them out of those rooms where they went to be alone for all time, alone in suicide, which is deeper than death, and where we will never find the pieces to put them back together.”***

– JEFFREY EUGENIDES, p. 243, *The Virgin Suicides*

# The Emotional Crescendo of LA LA LAND

By Stavrianna Fafouti

Damien Chazelle's 2016 film *La La Land* is not just a musical, it is a symphony of dreams and heartbreak, a 'cinematic ballad' about the tension between love and ambition. Set against the golden glow of Los Angeles sunsets, the film tells a story uniquely modern: What happens when two hearts, both alight with yearning, must choose between each other and the dreams they chase?

The narrative revolves around Mia, a starring actress played with nostalgic charm by Emma Stone, and Sebastian, a jazz purist whose soul beats in sync with fading rhythms, brought to life by Ryan Gosling. Their paths cross not by accident, but by the deliberate dance of destiny. Their fated encounter, begins in friction and evolves into affection. Yet even in their shared laughter, music, and moonlight dances, an unspoken question lingers: Can love thrive when dreams pull us in opposite directions?

Chazelle's script offers no easy answers. Instead, it lingers in ambiguity, inviting viewers to ask themselves, do personal fulfillment and romantic love walk hand in hand, or are they destined to drift apart? As Angela Smith writes, *La La Land* "crafts a delicate conflict in which love and ambition become twin flames, burning bright yet always threatening to consume each other." (Smith, 2018)

Their story unfolds gracefully without abrupt interruptions. Mia and Sebastian are drawn to one another's passion, yet it is that very passion that drives them apart. They are not lovers destined to conquer all, but artists destined to create. The film's tragic brilliance lies in its refusal to offer the usual romantic salvation. It tells us gently but firmly, that sometimes love is not the destination but the detour that teaches us who we are.

And then comes the ending, not with finality but with trance. In a hauntingly beautiful montage, Chazelle grants us a dream: the life that could have been. A life where Mia and Sebastian remain together, dancing through a world entrapped in what-ifs and could-have-beens. It is as poetic as it cuts through. When the fantasy ends, reality returns. What remains is only a glance across a crowded room, a half-smile

filled with memories, and eyes that speak volumes. In that one look, we see it all: the love, the loss, the longing.

This montage is not merely a stylistic flourish. It is Chazelle's poetic elegy for every unchosen path, every crossroads with love on one side and destiny on the other. The film suggests

that while we are the authors of our choices, we are not immune to regret, to wondering what might have bloomed had we watered a different garden.

Visually, the film is a canvas of contrasts. Red and blue hues whisper the emotional tides of the story. Warm, vivid tones for the moments of connection and hope while there are cooler shades for the silences and shadows. The choreography, the sweeping camera, the colors all conspire to blur the line between dream and truth, between what we live and what we imagine.

In the end, *La La Land* transcends its genre. It is not merely a love story, but a meditation on the fragile architecture of choice. It asks: when the applause fades, when the dream is realized, what do we hold in our hands? A spotlight, a jazz club but not each other.

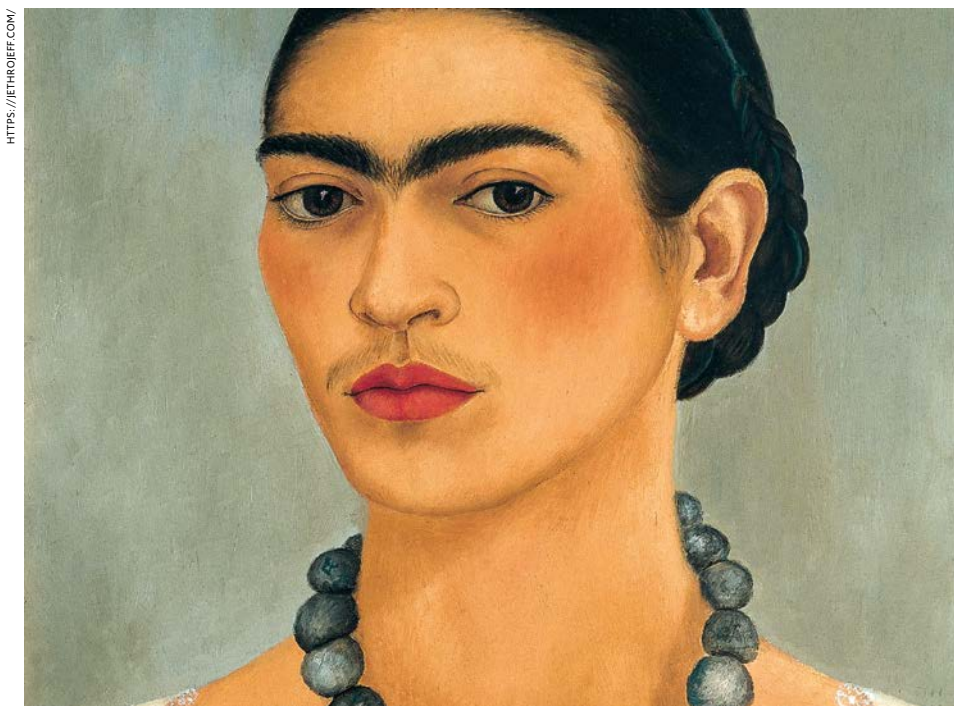
This is the beauty and sorrow of *La La Land*. It reminds us that while dreams define us, it is love that roots us. Sometimes in the pursuit of greatness, we must leave something precious behind. The film doesn't condemn ambition, but it does mourn the silence that follows when two voices that once harmonized must learn to sing alone.



# FRIDA KHALO

## A celebration of her life's work

By Christianna Petropoulou



Frida Kahlo (1907-1954) is perhaps Mexico's most renowned artist, best remembered for her vivid, passionate paintings, but also for her views on feminism, radical politics, indigenous culture and her experience with love and suffering. Although she died over half a century ago, the millennials are gripped by what many critics call "Fridamania". This cultural phenomenon surrounding Frida Kahlo is due to the widespread commercial use of her image, revealing that her persona is widely recognized and honored, while her art has taken on a life of its own.

*Frida Kahlo Self-Portrait*  
Brady House Museum  
Cuernavaca

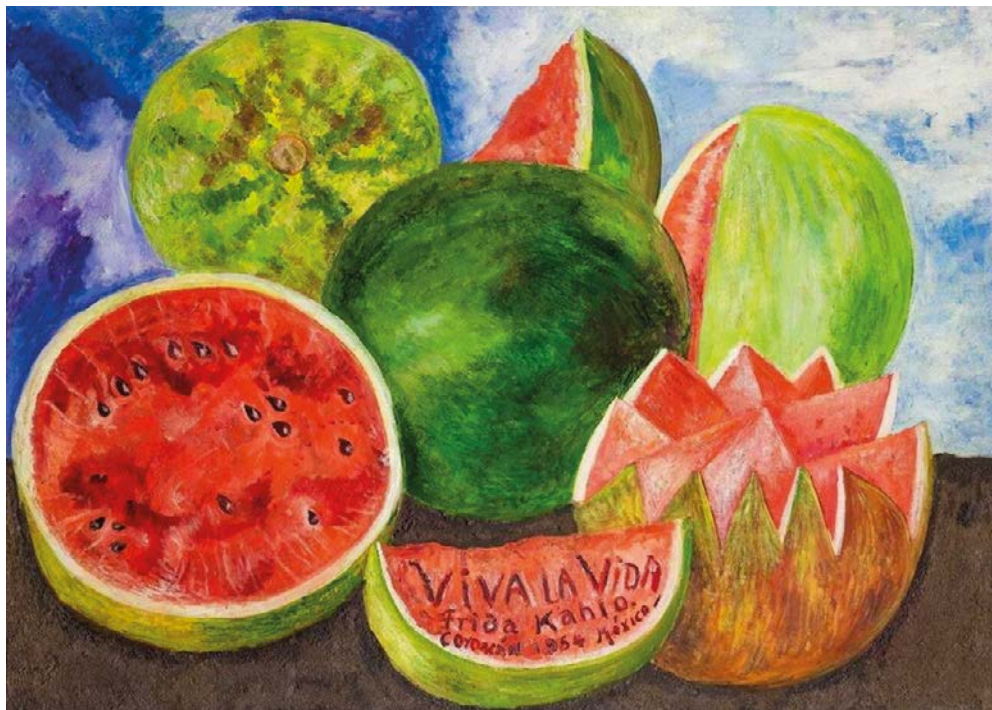
### The Birth of a Revolutionary

The year 2024 was about the celebration of renowned women from around the globe who have contributed greatly to the improvement of humanity, science and the arts. This highlighted the importance of the female role in society, which is often undermined. In the pantheon of these outstanding women, stands Frida Kahlo. On the occasion of her 70-year death anniversary, I decided to dive deeper into her life, especially into how she immortalized her death by painting her only non-portrait piece of art called "Vida la Vida, Watermelons". Being a passionate artist myself, I have been intrigued by her artwork on a personal level. Also, I must admit that I have become a victim of Fridamania.

### Transcending Suffering

Her face with its signature uni-brow graces postcards, posters and T-shirts, although few know of her great accomplishments. Born in Mexico City to a German father and a "Mestiza" (racially mixed) mother, Kahlo had lived many years in the United States. This greatly formed her radical left-wing views due to the hunger and misery she observed during the Depression years. At the same time, there were tragic factors, that deeply influenced her work. The physical pain and suffering, first from polio as a child and later from a tragic bus accident where Kahlo

<sup>1</sup> Caldwell, Ellen C. "Fridolatry: Frida Kahlo and Material Culture." *JSTOR Daily*, 16 June 2016, <https://daily.jstor.org/fridamania-frida-kahlo-and-material-culture/>. Accessed 2 June 2025.



HTTPS://WWW.FRIDAKAHL0.ORG/VIVA-LA-VIDA-WATERMELONS.JPG

was gravely injured. Later on in her life, a dysfunctional relationship and subsequent marriage with the muralist Diego Riviera. However, this love-hate relationship fueled some of her most renowned works. Lastly, Kahlo's political views: she was not just an artist, she was a revolutionary. A zealous communist and an activist for Mexican indigenous rights, she was a true Trotskyian.

Since Kahlo is mostly recognized for her incredible and uncompromising self portraits, it's no wonder that her final piece, "Vida la Vida, Watermelons" was quite a shock. Kahlo however, always stayed true to her themes of life, love and death, and the painting reflected her joy and optimism in the existence of humanity. "Watermelons" was painted in 1954 following Kahlo's poor health due to complications from an amputated leg. Perhaps sensing her own impending death, she chose this subject matter due to its symbolism of life-affirming joy, yet also demonstrating how its thick skin represents a life marked with turmoil and suffering.

## Woman Warrior

There are people who are instantly recognisable, like Bob Marley, Che Guevara and Marilyn Monroe. Amongst these popular icons, Frida Kahlo stands proud amongst Global symbols. Unwittingly, she became a role model for the LGBTQ movement after her passing, as she lived her life with uncompromising honesty, disregard of

social conventions and the flaunting of norms and values of her respective society. Kahlo embraced diversity that was shunned by the rigid religious and political upbringing of her era. There seems to be an underlying spirituality present in her work as she endured much physical suffering in the last years of her life, but also the need to externalize her short existence through her final piece.

A Powerful Woman would be a suitable description for Frida Kahlo's character, derived from her life and artworks, which offer a unique, profound exploration of themes like female identity and determination. Her artwork portrays her pain, passion and creativity, underscoring how she successfully managed to reveal the meaning of a female role in a patriarchal society. Nowadays, her life empowers many young women as her individuality not only challenges social norms, but also serves as a beacon of hope for generations of females seeking to express their opinions. Kahlo's thoughts go beyond the canvas as her work invites discussions about the struggles and achievements of women, making her an enduring inspiration for movements and individuals. This is a homage to Kahlo's nostalgia, regrets and yet to the beauty and vividness that is life. 

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# CRIMINAL or PHILISTINE?

## An Ode to the Art of Writing

By Nepheli Makridi

**O**n the very first day of our IB English Language and Literature High Level class, our English teacher succinctly asked the, albeit ostensibly simple, intricate question:

“Why is Literature important?”

**O**n the reflection of the glistening eyes of my classmates, I could tell that their minds were turning to form an answer, because deep down all of us felt it. The significance of Literature. It is a feeling. Not easily replicable. Yet, it is so hard to express this in a structured comprehensible manner.

I guess... this is, my attempt. To put down in words an answer to this question. However much I may diverge from the mark scheme, this is my ode to the art of written words.

Today, we live in a fast-paced and task-filled world. A world, in which everybody's duties and responsibilities are placed in boxes in hopes to be ticked off. The human species has masterfully crafted this, now acceptable and preferred, social construct of what daily life should look like and consist of. Within this manufactured design, humans have forgotten to include a salient component, literature. As technology is rapidly evolving, with us becoming eyewitnesses to this unravelling behemoth, art is grievously endangered. This has happened to an extent of it being rendered an imperiled species. I do not desire to once again focus on the growing Artificial Intelligence utilization, or rather exploitation, which threatens all forms of art and creativity,

nor restate all of its disadvantages that we, especially the youth, should be aware of. In frank honesty, I am tired of reading about AI. It has become this sour candy that has left a bad taste in my mouth. As an inherent optimist, I want to believe that the next generation will find ways to efficiently use its beneficial fruits. Upon expressing this dissatisfaction, I am aware that I might have offended the STEM community. This, however, brings me to my point. *What a great transition.*

**I**would now like to declare my displeasure with the undermining of the Humanities, and all they entail, and the worship that has been designated to sciences. Let us not forget that sciences are of various categories, and that includes human and social sciences. And let us not forget that what drives science is the same as Literature. *Curiosity.* Literature has the distinctive ability to blend fiction with factors derived from daily life, and conditions ubiquitous across differing societies, civilizations and time periods to convey deep messages. It analyzes human behavior and embraces ruminations from the depths of our inner world. Despite geographical and time restrictions, these are blurry dividing lines as the power

Let us not forget that what drives science is the same as Literature. Curiosity.

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of Literature is greater and transcends all barriers. It victoriously echoes against the test of time and, although interpreted from abundant perspectives, it resonates to all. This is done in a way that only the complexities of a human brain could achieve, one with a myriad of feelings plaguing it and with a collection of experiences to be inspired from. In essence, biology and literature are peculiarly intertwined. They both study... *Life*.

Therefore, it is important to delineate that an inclination towards the Humanities is not analogous to a lower intelligence. As a student I have observed a pellucid division between the two paths and the manner that the Arts are treated, with regards to academics and in terms of job prospects. This can be substantiated by the discrepancies in the percentage of students between the two fields which are staggering and unnerving.

To me this is the explanation behind many of the critical problems we face today. While maintaining a high respect for STEM subjects and understanding their significance, I abstain from absolutism and believe in the holistic human. And without the arts, one is incomplete, a half man. For without Literature, one closes the door on a riveting world, or on a multitude of riveting *worlds*. Reading provides you with the necessary tools to understand different perspectives and critically analyze and evaluate information, and the message and themes presented. It broadens one's horizon and proliferates their archives of escapades merely through the written narrative. In Economics we study the four cases of different market structures under Microeconomics when covering the unit relating to Market Power. We evaluate and examine whether Monopoly, in which only one firm is producing a good or one firm is dominating and high barriers to entry exist, is allocatively efficient. The answer is *no*. In the same way it is not productive to have your interests be dominated by a singular subject. In tandem with the development of intellectual skills, it evokes feelings and ignites cogitation which nurture empathy and emotional maturity. These are the qualities that a philistine lacks.

Such a deficiency might become dangerous. In our History HL class, we examine authoritarian leaders and states. As we critically investigate their rise to, maintenance and consolidation of power and as we study their economic, domestic and foreign policies, we *always* cover the subheading *Culture and Propaganda*. Under this title we delve into, you guessed it, Literature, alongside other aspects of the artistic spectrum. That is because the written work, as aforementioned, is employed to convey messages including beliefs and values of a society, so it steadily amalgamates with culture and becomes an integral constituent of it. Hence, Literature is a testament to History which can be used as a source by historians to enlighten them. Yet, due to the power that words hold, they can be manipulated to serve a certain function. That is when a philistine can easily become susceptible and an instrument to a specific cause. Under such totalitarian regimes, only propagated content is promoted, targeting such individuals, while severe censorship is enforced to engulf writers with revolutionary and progressive ideas. This is because both literature and politics perform the same function; to influence opinion. For this reason, attempts have historically been made to silence writers and until today various book bans have been implemented on works that explore pertinent and contentious issues.

And again, for this reason exactly is why the youth are under an obligation to *read*. Therefore, it would seem, particularly in hindsight, important that students get more involved and within our fast-paced and task-filled reality pick up a book of any genre of our preference. This is not time sacrificed but invested. As the rise of political extremes is taking place across the globe and the fundamentals of democracy are in danger of potentially being eviscerated in imperceptible ways it is important that we ensure that Literature will not be weaponized. It is our duty to ensure that Literature remains a valuable tool in our hands to strive towards positive change. It is our duty to ensure that Literature does not serve to divide, but to unite us. 

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In essence,  
biology and  
literature  
are  
peculiarly  
intertwined.  
They both  
study...  
*Life*.

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# Are Complex Mathematics the Key to Musical Success?

By Maria Petrolia

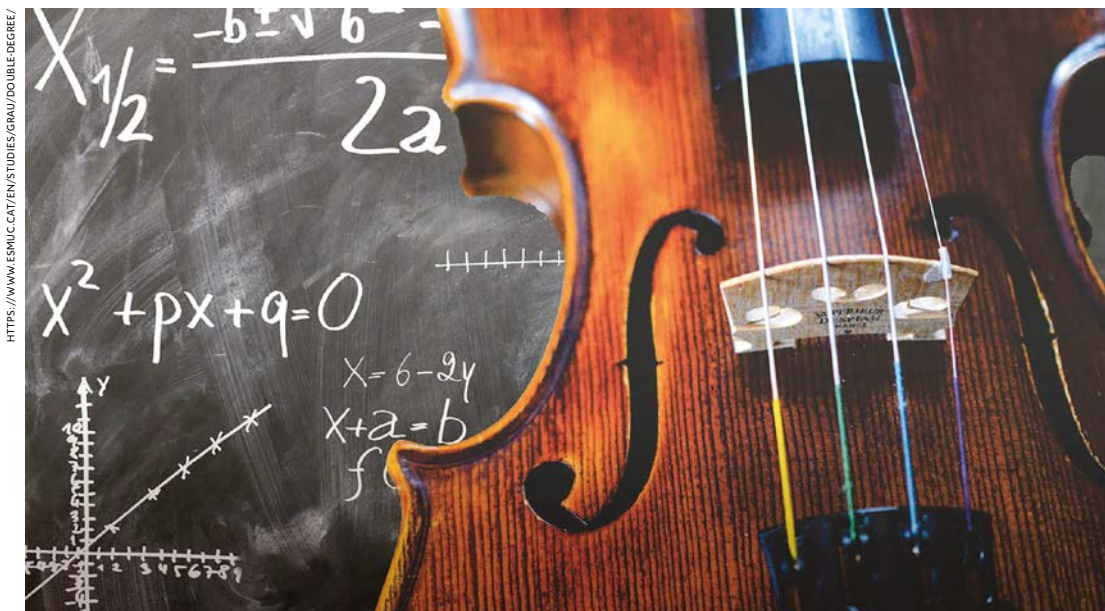
It can be argued that Mathematics is everywhere. From folded bedsheets to a Christmas tree, mathematical formulas shape the way we live, and the way we construct the world around us. The field of music is no exception. Without mathematical principles or sequences, musical instruments, harmonies, and rhythms would simply not exist. Interestingly, besides simple fractions and patterns, whose relationship to music is mostly evident, the connection goes way further. In fact, there are two complex mathematical concepts that rule music composition and instrument manufacturing: the Fibonacci Sequence and the Golden Ratio.<sup>1</sup>

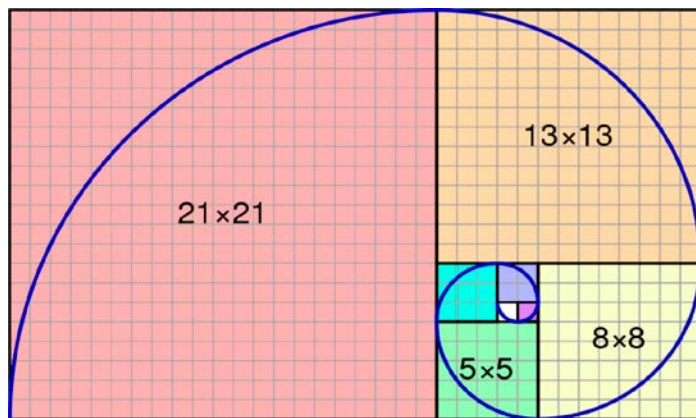
1 Let's Talk Science. "Fibonacci and Golden Ratio." *Let's Talk Science*, 24 May 2022, [letstalkscience.ca/educational-resources/backgrounders/fibonacci-and-golden-ratio](https://letstalkscience.ca/educational-resources/backgrounders/fibonacci-and-golden-ratio).

0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377, 610, 987, 1597, 2584, 4181, ...

This sequence was first discussed by the ancient Indian mathematician Acharya Pingala.<sup>2</sup> Later, around the year 1202, the Italian mathematician Leonardo Fibonacci wrote about it in one of his books and referred to it as "The Fibonacci sequence." The sequence starts with the numbers 0 and 1. The third number would be the sum of 0 and 1, which are the two previous numbers. This continues on for the rest of the sequence, and so any number in this sequence can be expressed as the sum of the two numbers coming before it. Mathematically, this can be

2 Let's Talk Science. "Fibonacci and Golden Ratio." *Let's Talk Science*, 24 May 2022, [letstalkscience.ca/educational-resources/backgrounders/fibonacci-and-golden-ratio](https://letstalkscience.ca/educational-resources/backgrounders/fibonacci-and-golden-ratio).

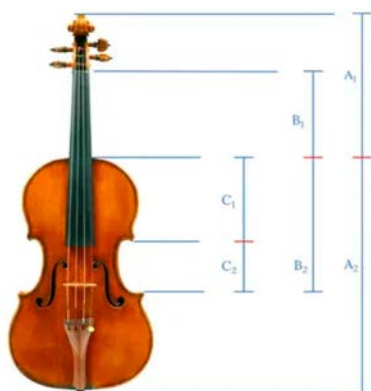




*Spiral of the Fibonacci Sequence*

expressed as:  $x_n = x_{n-1} + x_{n-2}$ . If the Fibonacci numbers were each the side of a square, placing these squares together would give us a spiral shape that grows infinitely.

The Golden Ratio ( $\Phi$ ), also known as the golden mean or the divine proportion, is a number approximately equal to 1.618033988749895. Any two consecutive numbers in the Fibonacci sequence give you a ratio which gets closer and closer to the golden ratio as you progress along the sequence, if you divide the larger number by the smaller one.



*The Golden Ratio in Violins*

In a line with two parts, part a (longer part) and part b (shorter part), the Golden Ratio is equal to  $a \div b = (a + b) \div a$ . Similarly, if you take a rectangle and place a square with a side equal to the smaller side of the rectangle inside the rectangle, you create another rectangle where the same process can continue taking place. This results to the spiral of the Fibonacci sequence, demonstrated above.

These two concepts are deeply rooted within music, however odd it may seem. Music composer Wolfgang Amadeus Mozart, implemented the golden ratio in the structure of his sonnets.<sup>3</sup> Each sonnet is comprised of movements which are comprised of the exposition, the development, and the recapitulation. The development & recapitulation's 62 bars divided by the exposition's 38 bars give us the number 1.6, which is the Golden Ratio. Singer and songwriter

<sup>3</sup> carla-pinkney. "Great Music and the Fibonacci Sequence." *Carla J. Pinkney*, 14 Feb. 2022, [www.lancaster.ac.uk/stor-i-student-sites/carla-pinkney/2022/02/14/great-music-and-the-fibonacci-sequence/](http://www.lancaster.ac.uk/stor-i-student-sites/carla-pinkney/2022/02/14/great-music-and-the-fibonacci-sequence/).

Lady Gaga makes use of the Golden Ratio as well, by placing a key change at the 111th second of her 179 second song 'Perfect Illusion'.<sup>4</sup> In this way, the longer part of her song divided by the shorter one gives us the number 1.618. An example of the Golden Ratio in musical instrument manufacturing is the Stradivarius violin. The ratio given by the deviation of various parts of the violin is constant, always giving us the Golden Ratio as a result.

Another instance of the Fibonacci sequence and golden ratio being implemented in musical principles is the example of the scale.

A scale consists of 8 notes, out of which the 3rd and 5th note create the basic chord (Fibonacci numbers). The dominant note is the 5th note, which is also the 8th note out of the 13 notes of an octave. The deviation of the longer part of this segment (number 8) by the shorter one ( $13 - 8 = 5$ ) gives us the golden ratio, the number 1.6.

The connection between math and music is therefore neither random nor narrow. The two have almost everything in common, even if the nature of the two fields is different. Their relationship is characterized by strong interdependence, which justifies the strong presence of mathematics in the music we enjoy every day. ❏

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<sup>4</sup> carla-pinkney. "Great Music and the Fibonacci Sequence." *Carla J. Pinkney*, 14 Feb. 2022, [www.lancaster.ac.uk/stor-i-student-sites/carla-pinkney/2022/02/14/great-music-and-the-fibonacci-sequence/](http://www.lancaster.ac.uk/stor-i-student-sites/carla-pinkney/2022/02/14/great-music-and-the-fibonacci-sequence/).

# The Historic Neighborhood of Kifissia

By Ariadni Makrydaki



Villa Kazoulis

I have always been captivated by Kifissia's architecture. Nine years ago, my family and I moved to the northern suburb of Kifissia, which is known for its old traditional villas, dating back to the 19<sup>th</sup> century. Our house is a red stone villa built in the 1920s, which features many architectural features of that era. Yet, it is certainly not the oldest one in the neighborhood. Living in this area has given me the opportunity to notice a plethora of beautiful homes, many of which have been restored to their original condition. Among the most impressive ones are Villa Atlantis, a historic mansion designed by Ernst Ziller, a German architect later turned Greek national, the Goulandris Museum of Natural History, originally built in 1875, which served as the home of the famous author Penelope Delta, and Villa Kazoulis, built in 1902 by the Greek businessman from Egypt, Nikolaos Kazoulis.

The majestic Villa Kazoulis, located at 241 Kifissias Ave. & 1 Grig. Lambraki Street, is the first thing one sees at the “entrance” of Kifissia.<sup>1</sup>

Its distinctive neoclassical architectural style differentiates it from the other buildings in the area. The Greek merchant from Egypt, Nikolaos Kazoulis, constructed it in 1902, and it has since housed cosmopolitans, intellectuals, and occasionally even royalty. Interestingly, The mansion was used as an SS garrison after the Nazis acquired control of it during the German occupation. Hearing of the medieval tortures imposed on captive resistance members makes the ghost stories inside the building seem increasingly real. Twelve

Greeks were put to death by the SS's horrific tactics and buried in the grounds of the mansion. However, in the years following World War II, it served a variety of purposes before serving as the set for the popular film “Lieutenant Natasha”. The drama, filmed in 1965 is set in World War II, where an officer in the Greek army flees to the Middle East. The protagonist, Lieutenant Natasha Arseni, who is in love with him follows him and returns with him to occupied Greece for a mission. She is arrested, interrogated and tortured, and is finally sentenced to execution. The Ministry of Environment has owned it since 1995, and it is currently a protected site.

Villa Kazoulis as well as all these impressive houses mentioned, are strongly inspired by neoclassicism. The neoclassical movement that originated

<sup>1</sup> Network, A. M. (2024a, February 23). *Villa Kazouli*. Athens24.com. <https://www.athens24.com/guide/villa-kazouli.html>



Villa Atlantis

in France in the 18<sup>th</sup> century stems from the Greek and Roman architecture. Since then it has become one of the most distinguished architectural styles in the Western world. Neoclassical architecture is characterized by its grandeur of scale, geometric form simplicity, Greek or Roman decoration, particularly Doric or Roman, dramatic column use, and a tendency for blank walls. This penchant for simplicity came as a general response against the excesses of the Rococo style as well as some classicist elements of the late Baroque. Undeniably, beautiful examples of neoclassical architecture may be found in Kifissia. Visitors can see the stunning houses and mansions that adorn the tree-lined lanes of the suburb while taking a stroll. Many of these villas have been declared landmark historical buildings, which means they cannot be torn down and must be restored according to their original style. This governmental regulation has made it possible for many regions in Greece, among them Kifissia, to retain their unique identity.

Living in this neighborhood, I have come to appreciate the neoclassical style of architecture. My decision to study architecture was certainly influenced by my immediate environment. Although when I was younger, I didn't give these buildings much thought, later I began to notice details, which sparked my interest and motivated me to research

the background of these impressive mansions. I discovered that, despite the fact that during the 18th and 19th centuries, technology was nowhere near the level it has reached today, the talent and skill of the architects of that time remains unparalleled. **V**

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House of Penelope Delta

## Missing?

By Katerina Ioannidou

*Its all going to be okay  
It has to be okay  
It will be okay  
Its going to be okay because we are looking at the same stars,  
connected by the light.  
At least, we're still the same distance from Mars.  
Distance. Distance is strange.  
When you love someone in a different place.  
But it has to be okay.  
I have to be okay.  
Human relationships are weird.  
I miss you, but you were just here.  
Or you weren't, I'm not sure.  
Its definitely been a few years,  
At least one or two.  
But its going to be okay.  
I will miss you today.  
I will miss you tomorrow and forever.  
You are so close, but I don't see you ever.  
I can't see you because you are not here.  
I love you but you are not here.  
But it will be okay,  
Because we are looking at the same stars, just a few blocks away.*



Artwork by Theofania Apostolatos (IB DP Year 2)

## EINE KURZE GESCHICHTE

Der Deutschen  
Weltraumforschung

## A SHORT HISTORY

German  
Space Research

By Foteini Giakoumatou

**D**eutschlands Beitrag zur Weltraumforschung begann um 1920. Nach dem Ersten Weltkrieg musste Deutschland aufgrund der Verluste und Schäden, die es Großbritannien und Frankreich zufügte, zahlreiche Sanktionen hinnehmen. Aber

diese Sanktionen beinhalteten (seltsamerweise) nicht das Verbot von der Lizenz zur Herstellung von Raketen! So beschäftigen sich viele deutsche Wissenschaftler mit der Erforschung der Raketentechnologie. In den sogenannten „Goldenen Zwanzigern“ wurden Raketenwissenschaft und die Idee der Raumfahrt schnell zu einem kulturellen Phänomen. Große öffentliche Experimente wurden begleitet von Belletristik und Sachliteratur, Filmen und den Gründungen von Raumfahrtverbänden.

Mit Beginn des Dritten Reiches wurde die Luft- und Raumfahrtforschung praktisch vollständig militarisiert und zur geheimen Staatsangelegenheit erklärt. Die Wissenschaftler arbeiteten gleichzeitig an der Raumfahrt und der Bewaffnung der Raketentechnologie. Tatsächlich waren deutsche Wissenschaftler im 1942 die ersten, die eine Rakete ins All schossen. Weniger als zwei Jahre später werden Raketen des gleichen Typs im Zweiten Weltkrieg als äußerst zerstörerische Waffen eingesetzt, die heute als V2 bekannt sind. Nach dem Krieg ist Deutschland erneut von der militärischen Forschung ausgeschlossen, diesmal auch von der Raketenwissenschaft. Darüber hinaus werden verbleibende Technologie sowie zahlreiche Wissenschaftler in die USA und in die UdSSR gebracht.

Die neuen Generationen deutscher Wissenschaftler haben das Interesse an der Luftfahrt nicht verloren. Sie informierten sich immer wieder über die neuesten Erkenntnisse und institutionalisierten sich immer weiter. Nach dem Ende der Besatzung beteiligten sich deutsche Wissenschaftler sofort an

**G**ermany's contribution to space exploration began around 1920.<sup>1</sup> After World War I, Germany suffered numerous sanctions, like the disarmament of the country and the very large payment reparations to the allies, due to the damages brought

upon Britain and France.<sup>2</sup> But these sanctions (weirdly enough) did not include the prohibition of the license to build rockets! Many scientists started researching the subject of rocket technology. During the -so called- “Golden Twenties” decade, both rocket science and space exploration became sudden cultural phenomena. At that time, huge public experiments became sources of influence for fiction in media, such as in literature and cinema, the creation of unions that aim at Space Exploration initiatives.

With the onset of the Third Reich, aerospace research was almost completely militarized and declared a secret state affair. Scientists worked on space travel and weaponizing rocket technology at the same time. In fact, German scientists were the first to launch a rocket into space in 1942. Less than two years later, rockets of the same time would be used in World War II as highly destructive weapons, now known as the V2. After the war, Germany was again excluded from military research, this time also from rocket science. In addition, the rest of the technology and many scientists were transferred to



1 “Hermann Oberth | EBSCO.” *EBSCO Information Services, Inc.* | [www.ebsco.com](http://www.ebsco.com), 2023, [www.ebsco.com/research-starters/biography/hermann-oberth](http://www.ebsco.com/research-starters/biography/hermann-oberth). Accessed 15 May 2025.

2 Augustyn, Adam. “Treaty of Versailles - German Reparations and Military Limitations.” *Encyclopedia Britannica*, 21 June 2022, [www.britannica.com/event/Treaty-of-Versailles-1919/German-reparations-and-military-limitations](http://www.britannica.com/event/Treaty-of-Versailles-1919/German-reparations-and-military-limitations).

internationalen Raumfahrtprogrammen. Während westdeutsche Wissenschaftler und Behörden eng mit den USA kooperierten, beteiligten sich DDR (Deutsche Demokratische Republik) -Experten weitgehend an sowjetischen Raumfahrtprogrammen, da die DDR Teil der Sowjetunion war. 1967 startete die BRD (Bundesrepublik Deutschland) ihr erstes autonomes Weltraumforschungsprogramm und startete zwei Jahre später den ersten Satelliten.

In der zweiten Hälfte des 20. Jahrhunderts kam es zu zahlreichen deutschen Kooperationen im Bereich Weltraumforschung und Reisen. Maßgeblich beteiligt ist die Gründung der Europäischen Weltraumorganisation im Jahr 1975, darüber hinaus sind westdeutsche Wissenschaftler an so renommierten Missionen wie den Starts von Viking 1 und 2, Voyager 1 und 2, und den wiederholten Starts der Trägerrakete Ariane beteiligt. Die DDR hingegen startete 1969 ihren ersten Satelliten. Im Jahr 1978 war der DDR-Bürger Sigmund Jähn der erste Deutsche im Weltraum, als er eine sowjetische Raumstation besuchte. Fünf Jahre später schickt Westdeutschland seinen ersten Menschen ins All. 

the USA and the USSR.

Going forward to the years of ally-occupied Germany the new generations of German scientists have not lost their interest in aviation. They kept abreast of the latest findings and became increasingly institutionalized. After the end of the occupation, German scientists immediately participated in international space programs.<sup>3</sup> While west German scientists and authorities worked with the US, GDR (German Democratic Republic) experts were heavily involved in the Soviet space programs because the GDR was a part of the Soviet Union. In 1967, the FRG (Federal Republic of Germany) launched its first autonomous space exploration program and launched the very first satellite two years later. 

3 Zorzetto, Ricardo. "From War to Space." *Fapesp.br*, 2019, [revistapesquisa.fapesp.br/en/from-war-to-space/?utm\\_source=chatgpt.com](http://revistapesquisa.fapesp.br/en/from-war-to-space/?utm_source=chatgpt.com). Accessed 22 May 2025.

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Artwork by Evgenia Prokou (IB DP Year 2)

# Ecuador

By Manolis Loukopoulos



¡Hola a todos! En mi clase de español hemos hecho presentaciones en grupos de dos sobre varios países diferentes hispanohablantes. Mi compañero Stefanos Palyvos y yo, Manolis Loukopoulos hemos presentado Ecuador.

Ecuador es un país pequeño en Sudamérica con unas islas en el océano Pacífico. Limita al norte con Colombia, al sur con Perú y al oeste con el océano pacífico. Debe su nombre a la línea ecuatorial, en que se sitúa. El tamaño del país es de 256 000 km<sup>2</sup> y su población llega a los 17.7 millones de habitantes.

Ecuador tiene un clima muy variado, debido a los desiertos cerca de los Andes y a la selva amazónica. Ecuador tiene dos estaciones, la seca



y la húmeda, porque está en la línea ecuatorial. Alberga el 8% de las especies animales del mundo. El sistema político es la República presidencial. Los ecuatorianos celebran

en 10 de agosto su independencia de Colombia. Su lengua oficial es el castellano con trece lenguas americanas indígenas como cooficiales.

Inti Raymi es una fiesta indígena para celebrar el sol y la cosecha en el mes de junio. La cocina ecuatoriana es muy variada y las comidas típicas difieren según la región: en la costa, se come ceviche (pescado con limón), pero en la sierra hay platos como locro de papas (sopa de papa y queso). El país cuenta con paisajes hermosos. En las Islas Galápagos habitan animales únicos como las tortugas gigantes. En la Amazonía hay ríos, plantas y animales exóticos. ¡Ecuador es ideal para quienes buscan la naturaleza y la aventura! 

Hello everyone! In my Spanish class we have made presentations in groups of two about different Hispanic countries. My classmate Stefanos Palyvos and I, Manolis Loukopoulos have presented Ecuador.

Ecuador is a small country in South America with a few islands in the Pacific Ocean. It is bordered to the north by Colombia, to the south by Peru and to the west by the Pacific Ocean. It owes its name to the equatorial line, on which it is located. The size of the country: its surface area is about 256,000 km<sup>2</sup>, its population reaches 17.7 million inhabitants.

Ecuador has a very varied climate, from deserts to the Andes and the Amazon rainforest. Ecuador has two seasons, the dry season and the rainy season, because it is on the equatorial line. It is home to 8% of the world's animal species. Its political system is unitary presidential republic. Ecuadorians celebrate their independence from Colombia on August 10. The official language is Spanish with thirteen indigenous American languages as co-official languages.

Inti Raymi is an indigenous festival to celebrate the sun and the harvest in June. Ecuadorian cuisine is very diverse and typical foods differ depending on the region: on the coast, people eat ceviche (fish with lemon), but in the mountains, dishes like locro de papas (potato and cheese soup). Ecuador has beautiful landscapes. The Galapagos Islands have unique animals such as giant tortoises. In the Amazon there are rivers, exotic plants and animals. Ecuador is ideal for those seeking nature and adventure! 



# Cuba

By Nikolas Pagonakis



[HTTPS://WWW.THESUN.CO.UK/TRAVEL/9150611/CUBA-NIGHTLIFE-HISTORY-VIBES-CHIC-HAVANA/](https://www.thesun.co.uk/travel/9150611/cuba-nightlife-history-vibes-chic-havana/)

**E**ste año en IB aprendo español pero aparte del idioma aprendo mucho sobre la cultura de los países hispanohablantes. En diciembre presentamos en clase algunos países y yo presenté la isla de Cuba.

Cuba es una isla en el Caribe, y su capital es La Habana. En Cuba, la gente habla español, es amable y simpática y su pasión es la música. Puedes encontrar música en cualquier parte de la isla y a los cubanos les encanta bailar salsa. Cuba es famosa también por sus playas bonitas, sus aguas transparentes y por los puros habanos. Una imagen característica de La Habana es la de los coches antiguos. La comida típica es arroz con frijoles y con ¡plátanos fritos...!



**T**his year in IB I am learning Spanish but apart from the language I am learning a lot about the culture of Spanish-speaking countries. In December we presented some countries in class and I presented the island of Cuba.

Cuba is an island in the Caribbean, and its capital is Havana. In Cuba, people speak Spanish, they are kind and friendly and their passion is music. You can find music anywhere on the island and Cubans love to dance salsa. Cuba is also famous for its beautiful beaches, its transparent waters and its Havana cigars. A characteristic image of Havana is that of old cars. The typical food is rice and beans and fried plantains...!



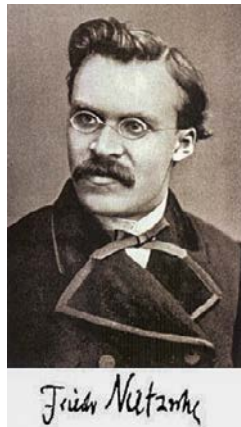
[HTTPS://WWW.TRAVELTALKTOURS.COM/6-MUST-TRY-DISHES-IN-CUBA/](https://www.traveltalktours.com/6-must-try-dishes-in-cuba/)

# Ignis      Fire Aurum Proat,      tests Gold, Miseria      Misery Fortes Viros      tests strong Men

By Theodoros Drosos

*Für sie, die diesen Artikel nie lesen wird:*

**D**er Mensch ist viel mehr als ein normales Wesen. Da wir Texte schreiben können, Musik komponieren, Literatur genießen, Wissenschaft und Philosophie produzieren, wäre es nicht sinnlos uns als etwas Höherwertiges zu halten. Es ist ja die Wahrheit, dass die menschliche Entwicklung vielstufig ist aber ein wichtiger Teil davon war das 20ste Jahrhundert. Zu dieser Zeit hat der Mensch verstanden, dass er eigentlich allein ist, dass er die Welt allein beherrscht hat, dass vielleicht Gott ihn nicht mehr helfen möchte, wenn er dort oben sitzt. Wir haben verstanden, dass wir einen anderen Weg finden müssen. Da wir aber, laut Nietzsche, Gott umgebracht haben, was sollen wir dann tun? Was sollen wir, die Verurteilten der modernen Welt, machen? Womit soll Er ersetzt werden? Anfangs sieht es schrecklich aus, gewaltig, neu, aber danach könnte man es auch lustig nennen. Lustig ja, denn wir haben die Macht über diese Realität zu herrschen. Wahrhaftig, wir haben deshalb zwei Weltkriege geführt, wir haben eine ganze Industrie dafür aufgestellt, wir haben unser ganzes Glaubenssystem oftmals in den letzten hundert Jahren verändert. Zuerst kam Nietzsche, er hat aber früher geschrieben, trotzdem hat er die menschliche Geschichte für immer beeinflusst, besonders dieses Jahrhundert worüber wir sprechen. Dann kamen die vorgenannten Kriege... und dann was? Was sollten wir dann machen? Die Kinder des Krieges fanden das Leben aber sinnlos, wenn wir auf diese Art und Weise einander vernichten wollen, dann warum sollen wir leben? Sartre sagte, dass diese Meinung nicht völlig falsch ist. Wir sind Gefangene unserer Freiheit, aber dieses Gefängnis kann ein Ursprung des Erfolgs und der Entwicklung sein. Dadurch findet der Mensch Sinn. Oder? Wenn nicht deswegen, wie? Existieren wir nur relativ zu unserer Beziehung mit anderen Menschen, haben wir keinen Selbstwert, war die ganze kantische Theorie einfach nur eine Illusion? Das heißt, ist der Menschenwert



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*For her, who will never read this article:*

**M**an is so much more than a regular being. Our ability to write texts, compose music, enjoy literature, produce science and philosophy, may deem it rational for as to be held as beings of higher worth in relation to other beings around us. It is thus the truth, that the progress of Man is multilayered, and yet one of its most prominent stages was the 20<sup>th</sup> Century. It was at that time that Man understood that he is completely and utterly alone, that he alone has conquered the world, and that perhaps God is no longer willing to help him, should he even be sitting up there in the first place. We understood that we need to find another way around this. Since we however, according to Nietzsche, killed God, what are we to do? Wherewith should we replace Him? Initially this situation seems horrid, greater than us, novel, and yet despite that one could consider this entire ordeal humorous.

Humorous indeed, for we have the power to reign over this reality. It is true, that we have fought two entire World Wars therefor, that we created an entire industry therefor, that we have oftentimes changed our belief system in the past hundred years therefor. In the beginning of this novel scope came Nietzsche, who- despite the fact that he wrote somewhat earlier- influenced human history for ages to come, especially the century whereabout we speak. Then came the aforementioned Wars... and then what? What should we have done then? The Children of the War found that this life is rather pointless: if we in such a manner wish to annihilate one another, then why are we to live? Sartre posited that that this outlook is not entirely wrong. We are indeed prisoners of our Freedom, but this prison can also be the source of success and evolution. Therethrough can Man find meaning in his existence. Right? Do we exist only in relation with our relationship with the people around us? Do we have no self-worth? Was the entire Kantian theory an illusion? *Id Est*, is the value



instrumental, trotz inhärent? Das kantische Argument ist, dass der Mensch würdig ist nur weil er ein Mensch ist. Ja, der kategorische Imperativ hat es gesagt! Viermal hat er es gesagt Damen und Herren! Viermal und mit vier verschiedenen Wegen... der Zweite ist aber der wichtigste. Der Mensch ist nicht nur ein Mittel zum Zweck, sondern auch ein Selbstzweck! Deshalb fragt der Mensch sich, oder fragte noch besser, wenn so etwas wahr wäre dann warum kommen Führer und „Staatsväter“ die den Menschen als ein Werkzeug sehen? Wo liegt der Wert?

Da kommt Nietzsche wieder... theoretisch haben wir keinen Wert, wenn wir keinen Willen zur Macht haben, wenn wir die Schwäche als Schicksal akzeptieren und damit Frieden machen. Dann ist der Mensch nichts Anderes als ein Affe. „Ein Gelächter“, so Nietzsche, nichts mehr als eine Evolutionsbremse. Diese Evolution hat eigentlich nicht so viel mit Biologie zu tun, sie ist mit der menschlichen Aktualisierung verwandt, mit unserer Fähigkeit etwas mehr als was wir gestern waren zu sein. Heutzutage haben wir das verlernt; die moderne Welt liebt die Schwäche, es ist jetzt in Ordnung die Prinzipien der Macht zu verachten es gibt heute kein Problem mit der Schändung unserer Psyche. Wahnsinn, oder? Die Schwachen haben eine große „Narbe“ so haben sie eine Sklavenmoral entwickelt. Ursprünglich hörte sich so etwas extrem an. Der Mensch findet immer Wege die Wahrheit zu vermeiden, und seine Sklaverei zu verbergen, da sie schamhaft ist.

Ehrgeiz, darüber haben die Engländer viel gesprochen, aber vor ihnen sagten die Italiener insgesamt, dass die Schönheit und die Ästhetik wären das, was das Menschtum retten würde. Ein David aber, der vom Michelangelo kreiert ist, ist nicht genug ohne den Rahmen, womit Michelangelo ihn hergestellt hat. Wofür steht dieser David fragte sich der Mensch, und der Ehrgeiz rückt in den Vordergrund aber Geduld bitte, weil David eine Interpretation der menschlichen Macht war und um diese Macht zu erreichen muss man auch viel geben, viel verlieren, viel Schmerz ertragen. Heutzutage sind wir aber schwach geworden, übersensitiv, wir sind Befürworter der Mittelmäßigkeit geworden und niemand kann das sehen. Dadurch haben wir uns als unwürdig erwiesen leider...

Ja, das sieht schrecklich aus, es hört sich auch so an, aber wir sprechen nicht über eine Frage der Chance oder des Determinismus, glücklicherweise. Wir sind jawohl vernünftig, und deshalb sind wir mehr als fähig diese Realität zu verbessern, ich wage zu hoffen. Aber um das zu erreichen, müssen wir nicht Nietzsche vergessen, nicht den Übermenschen die Nietzsche vorgestellt hat, und vor allem, wir dürfen unsere grandiose Natur nicht verlassen! 



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of Man instrumental, rather than inherent? The Kantian argument is that Man is worthy by the sole virtue of being human. Yes indeed, the Categorical Imperative says so! Four times in fact, and in four different formulations... the Second formulation being the most important. Man is not merely a means to an end, but an end in himself! Therefore, questions Man, or used to question rather, should such a thing be true then how is it that Fuhrers and “Fathers of Nations” who see Man as a tool appear? Where does then our worth actually lie?

Then comes Nietzsche again... theoretically we are worthless, if we do not possess the Will to Power, if we accept that our weakness is destiny and make peace therewith. Then Man becomes nothing more than an ape. “A laughingstock”, as per Nietzsche, nothing more than an obstruction to evolution. This evolution has little to do with biology however, more so with the actualisation of Man, with our ability to become something more today than what we were yesterday. Nowadays we seem to have

forgotten that; the modern world has grown to love weakness, it is now perfectly acceptable to despise the principles of Power, there seems to be little issue with the defilement of the human psyche. Outrageous is it not? The weak have a great “scar”, and they have hence developed a slave-morality. Originally something of the like would sound extreme. However, Man always finds a way to avoid the truth, and

conceal their true slavery, since it is a thing most shameful.

Ambition, thereon have the English a lot to say, but before them argued the Italians that it is beauty and aesthetics which have the potential to save mankind. A David however, who was by the hand of Michelangelo materialised, is not enough without the context wherein Michelangelo created him. Wherefor stands David, asks Man, and the ambition comes again in the fore but patience please, for David is an interpretation of the Power of Man, and for the attainment of this power it is necessary for Man to give a lot, lose a lot and suffer great pains. We have become weak however, hypersensitive, we have rendered ourselves proponents of mediocrity, yet no one seems to be able to see this. We have proven therefore that we are unworthy, sadly...

Yes, it does indeed seem awful, it sounds awful too, but we speak not about a question of chance or determinism, thank God. We are of course rational, and therefore we are much more than capable to better our reality, I dare hope. However, to achieve such a thing it is imperative that we do not forget Nietzsche, the Hyper-man he envisioned, and above all, we are most definitely not allowed to abandon our grandiose nature. 

# Die Nürburgring Rennstrecke & Niki Lauda

By Dimitra Labaki

Die Nürburgring Rennstrecke befindet sich in Nürburg, Deutschland. Viele Wettrennen finden dort statt und viele Leute aus der ganzen Welt besuchen sie um Spaß zu haben. Trotzdem ist sie eine sehr gefährliche Rennstrecke, wo 70 Motorsport-Rennfahrer gestorben sind. Es gibt 3 Hauptgründe warum sie so gefährlich ist. Zum Ersten gibt es sehr steile Erhebungen.

Der Höhenunterschied vom höchsten zum niedrigsten Punkt beträgt 300 Meter. Ein Teil der Strecke, genannt Pflanzgarten, hat eine sehr steile Steigung, die fast alle Fahrer in die Luft führt und deshalb werden viele Unfälle verursacht. Ein weiteres Problem ist, dass es viele blinde Kurven gibt. Das bedeutet, dass die Fahrer viele Kurven nicht vorhersehen können oder dass es schwierig ist, zu erkennen wann sie bremsen und beschleunigen müssen. Der letzte Grund ist, dass es wenige Auswege für kaputte Autos oder Autos außer Kontrolle gibt. Das ist etwas, dass auf anderen Strecken üblich ist. Außerdem sind die Schranken sehr nah an der Strecke und ein kleiner Fehler kann zu einem Unfall führen.

Für viele Jahre hat Formel-1-Rennen in Nürburgring stattgefunden, aber als Niki Lauda einen sehr großen und gefährlichen Unfall hatte, schloss Formel-1-Rennen in Nürburgring. Dieses Grand Prix passierte im Jahr 1976, wo Niki Lauda, ein österreichischer Fahrer geboren im Jahr 1949, die Kontrolle über sein Auto verlor und an die Leitplanke krachte. Sein Unfall passierte mit 240 km/h an einem Teil der Strecke, der Bergwerk heißt. Vor dieser Kurve gibt es ein großes Gefälle, wo die Autos schnell ansteigen. Deshalb ist es schwierig richtig zu bremsen. Und gleich danach gibt es einen großen Anstieg. Niki Lauda stand fast eine Minute lang in Flammen, bevor 4 seiner Mitfahrer ihm geholfen haben. Seine Hände und sein Gesicht waren verbrannt und seine Lungen waren geschädigt wegen der giftigen Gase. Trotzdem ist er nach zwei Rennen zurückgekommen und er hat 2 Meisterschaften gewonnen. 



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# The Nürburgring Track & Niki Lauda

The Nürburgring racetrack is located in Nürburg, Germany. Many motorsport races take place there and many people from all over the world visit to race for fun. Nevertheless, it is a very dangerous racetrack, where 70 motorsport racers have died. There are 3 main reasons why this track is so dangerous. Firstly, there are very steep elevations in the track. The

height difference from the highest to the lowest point of the track is 300 meters. A part of the route, called Pflanzgarten, has a very steep incline that causes almost all drivers to go airborne and therefore many accidents are caused. Another problem is that there are a lot of blind turns in this track. This means that drivers cannot anticipate many corners or that they may have difficulties knowing when to brake and accelerate. The final reason is the lack of run-off areas for broken or out-of-control cars. However, this is something common on other tracks too. In addition, the barriers are very close to the track, so a small mistake may lead to a major accident.

For many years, Formula 1 races took place at Nürburgring, but when Niki Lauda had a very big and dangerous accident, they stopped having them at this racetrack. This Grand Prix happened in 1976, where Niki Lauda, an Austrian driver born in 1949, lost control of his car and crashed into the barriers. He crashed at 240 km/h on a part of the route called Strecke. Before this corner, there is a big decline where the cars accelerate quickly, making it difficult to brake properly, and right after there is a big incline. Niki Lauda was on fire for almost a minute until 4 of his competitors helped him. His hands and face were burned, and his lungs were damaged because of the toxic gases. However, after missing just 2 races, he returned to Formula 1 and won 2 championships. 

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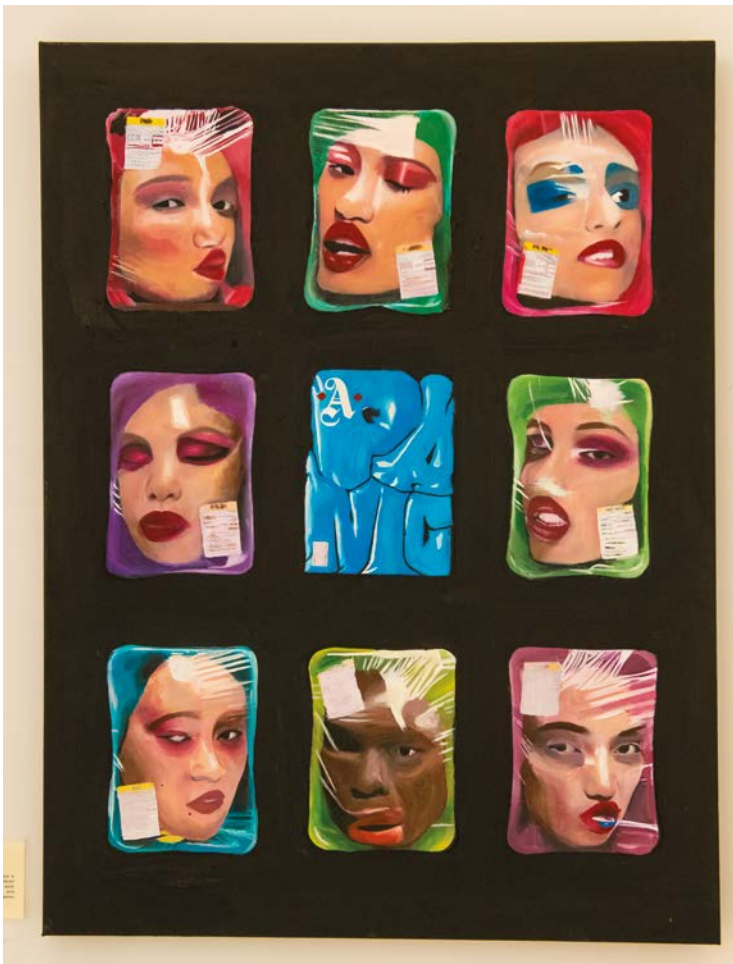
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