The KSA Times

020/2022 FALL & WINTER

The KSA English Mo

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Seniors Overseas Program
The 40 Rules of Love
Quantum Computers

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The KSA Times

MAKE SOME NOISE

NO NATURE
NO FUTURE
STOP
RACISM
LOVE
EVERYBODY
NO MORE
LIES
NO
WAR
PROTEST!

20,000 TERRORISTS OR 20,000 EXCUSES?

TOGZHAN TYSHKANBAYEVA TALGATQYZY

MY PEOPLE WILL FOREVER REMEMBER *BLOODY JANUARY*. PEACEFUL PROTESTS TURNED INTO THE BLOODSHED OF INNOCENT PEOPLE. AND EVEN NOW, SIX MONTHS LATER, THE FULL LIST OF VICTIMS HAS NOT BEEN PUBLISHED, AND THE AUTHORITIES WHO TORTURED THEIR PEOPLE HAVE NOT RECEIVED THE PUNISHMENT THEY DESERVE.

It all started with the blockage of the Internet in the center of the city. We all knew for a long time that if the Internet was turned off, someone was protesting. It was the west of our country. The whole nation was proud of these people. They were the first to publicly and loudly express their dissatisfaction with the prices of liquefied gas. On the second of January, the people of the gas-producing city of Zhanaozen woke up. Wanting to support the West, the whole country began to protest. A couple of days later, the protest swept Almaty, my hometown and the economic center of the country. My family and I were sitting at home constantly checking social networks. It was somewhere near midnight. People marched to Republic Square with the flag of the country and posters, expressing their discontent and loudly chanting “shal ket!”, which translates from Kazakh to “get out, old man," referring to the first president of the country. People sang the national anthem, played the dombra (a traditional Kazakh instrument), read poetry, and competed in aitys (Kazakh poetic competitions).

The economic protest quickly turned into a political and anti-governmental one. Explosions could be heard from afar. The protesters were met with stun grenades and tear gas. We all communicated using telegram because it was the only platform that woredk and transmitted information without censorship. Due to the violence of the military and police, the situation began to escalate. Tired of keeping silent for so long, people got angry, which caused numerous scuffles. Many were taken by vans to the police departments, where very often they were beaten and bullied. Images with overturned and burned police cars were sent via messengers, then an official message from the presidential administration appeared declaring a state of emergency in the city and a curfew was imposed; a military prosecutor's office had been established; entry and exit was restricted; a special regime was being introduced for the sale of alcohol and medicine; public transport and any mass events were suspended. Citizens living near Republic Square saw with their own eyes the first clashes between security forces and demonstrators. In the morning, the Internet was completely unavailable. Now, in the whole country. TV channels and radio also stopped working. The people of Kazakhstan remained cut off from the whole world. Millions of people could not contact their loved ones. The country fell into darkness. The only source of information we had was the governmental TV channel which constantly broadcasted presidential ideological propaganda. The government kept saying that all those protesters, all those normal people were a threat to the

stability of the country and a danger to the whole society.

In reality, I knew them, those people. I was part of them. Those were people of all ages and all fields of life, from doctors, dancers, to university students. Unfortunately, major destructions, marauding and swashbuckling began. City hall and the residency of the President were taken over and burnt. Somewhere around 4 p.m., my father received a phone call from my aunt and cousin. The airport was on fire. Everyone was afraid and confused. How has something that started so peacefully turned into chaos? Where were the ones who gave the whole country the pledge to protect its citizens and their opinions? Instead of protecting demonstrators and making sure that everything was safe, most of them fled the country or tried to hide somewhere, abusing their powers through the army and soldiers, among which some young boys just wanted to be the protection of the nation, not the protection of the government.

Due to the destruction, robberies, and mess that was created by unknown people, the president and his media deemed all demonstrators as terrorists. My family and I couldn't blame families that wanted to get food and other resources for free while the chaos was all around. People have been trying to overcome inflation, regular corruption, and unfair treatment depending on their social status for so long. All of us were tired. Yes, some people fell into sins and anarchy. But that was just the consequence of the "dictatorship" and the silence that everyone had to keep. Our parents told us to stay away from the windows and close all the curtains in the house.

My father didn't sleep for all those nights trying to protect us. He sat in front of the main entrance to the house with his hunting gun. At that time, we didn't know who could be the danger. We were afraid of cars without number plates—those were the ones who decided to vandalize and rob everything and everyone. I couldn't sleep during those nights as well. Every time a car would pass through our home I would pray for it to keep moving further and not stop. We read books to somehow get distracted from the gunshots and vandalism outside. Citizens decided to protect and guard their districts together since the police were not there for us anymore. Riots spread to all regions. Buildings were burned in Shymkent, Taraz, Kyzylorda, Taldykorgan, and Pavlodar.

President Tokayev dismissed the government, returned the gas prices back to their previous rates, and called on compatriots to be reasonable, but this was already useless. Tokayev announced that he now is the head of the Security Council, the right of the leadership which belonged to the first president, Nazarbayev for life. The CSTO peacekeeping forces arrived in Kazakhstan, taking control of strategic facilities. On Friday, January 7th, mass riots were under control. Local sweeps of disparate groups of rioters began. The rhetoric of the president, who addressed the people on this day, was changed: "I have given the order to law enforcement agencies and the army to open fire to kill without warning. There are calls abroad for the parties to negotiate for a peaceful solution to the problems. What stupidity! What kind of negotiations can there be with criminals and murderers?

We had to deal with armed and trained bandits, both local and foreign. It is with bandits and terrorists. Therefore, they must be destroyed. And it will be done soon." The President ordered a shoot on sight policy which caused the deaths of hundreds of people in my city. Tokayev claimed that among the protesters there were twenty thousand trained terrorists among which there were foreigners. Now everyone who was part of the protest had the name “terrorist”. But perhaps it’s more suiting to say that those were twenty thousand excuses.

How could the competent authorities—the National Security Committee, and the Ministry of Internal Affairs—not notice the preparations for a riot? And this is although, since the events in Zhanaozen in 2011, the security forces have always been in a state of mild paranoia on the eve of the holidays. This "blindness" is either evidence of complete professional unfitness or deliberate intent. According to official estimates, the number of “terrorists” in Almaty alone was twenty thousand people. They had to be placed somewhere, employed or fed, and provided with communication and management. But organized “performances” were in most major cities of the country. It was simply impossible to do this without a clear plan and coordination. How many years has the power unit of the state, trained and motivated to protect the authorities, been unable to resist the vandals who seized strategic objects—the buildings of the security forces with rooms full of weapons, the airport, and TV channels? These issues were also voiced by President Tokayev: "There will be a ‘debriefing’ in connection with the actions of law enforcement agencies and the army, as well as their interdepartmental

coordination," he said in an address to the people on January 7th. It is unlikely that the public will know the whole truth about these tragic events soon. Moreover, there is a high probability that in the medium term they will be mythologized and become another ideological construct. We can only hope that the current government will draw the right conclusions from what happened, begin to solve the accumulated problems and change the conditions that gave rise to them, and most importantly, begin to adequately perceive the surrounding reality. The refusal of the Kazakh authorities to publish a full list of those killed in January increases public distrust of official bodies, undermined even before the tragic events of that month. The international human rights organization Human Rights Watch notes with regret that no State body in Kazakhstan has reported that it is establishing the circumstances that led to the murder of 238 people. This is the highest number of deaths as a result of violence in Central Asia since the declaration of independence by the countries of the region.

My people's blood wasn't poured for nothing. So tired and exhausted we were. We were lost. During those dark few days, we didn't know whom to trust, who was the danger, or if we would be free. We still don't know what happened. There are a lot of versions. But we all can agree on is that January 2022 was the time when most of the citizens including me woke up from those childish dreams about a "perfect" and the most "peaceful" country called Kazakhstan. Tragically, for the government to hear us—to listen to us—the residency of the president had to be burnt and people had to sacrifice their lives.

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OPPRESSION & FREEDOM

Hyunmin Lee

On September 16th 2022, a series of protests began as a response to the death of Mahsa Amini, a 22 year-old woman, who was visiting relatives in Tehran and was arrested by Iran's Morality police for "unsuitable attire." Her family was told that she was being taken for "re-education" and would be released later that night. She was declared medically braindead, three days after her arrest.

The government denied any affiliation with her death; the Iranian judiciary claimed that the Forensic Medicine Organization's investigation has shown no signs of injury or bruises on her head and face, and that the death came from preexisting conditions. However, a picture that has circulated online of Amini in a Tehran hospital—in a coma, with a bloodied head—said otherwise.

Protests that erupted were led by girls and young women. Burning their hijabs and cutting their hair in public, they protested the oppression of women—and the regime itself. "Death to the Oppressor," shouted the demonstrators in Tehran, calling for an end to the theocratic rule established in the Iranian Revolution. According to the non-profit organization Iran Human Rights, at least 448 people had been killed in the Iranian protests, including 63 minors: from gunshots, executions, tortures, and other mistreatment—planned and carried out systemically.

In a country roughly 10,000 kilometers away from Iran, another series of protests continued throughout 2022. On May 2nd, 2022, Politico leaked the draft of a majority opinion by Justice Samuel Alto for the Supreme Court case *Dobbs v. Jackson Women's Health Organization*, deciding to overturn the 1973 Supreme Court decision for *Roe v. Wade*. For some context, *Roe v. Wade* was the lawsuit that led to the U.S. Supreme Court's establishment of a constitutional right to abortion in the United States; it gave federal protections for women who wished to have an abortion. The decision in 1992, for *Planned Parenthood v. Casey*, reaffirmed the decision, while proposing a new standard of "undue burden." The leaked draft sought to overturn both decisions. Quoting Politico, "the draft opinion is a full-throated, unflinching repudiation of the 1973 decision which guaranteed federal constitutional protections of abortion rights and a subsequent 1992 decision." Alito writes in the leaked document, "*Roe was egregiously wrong from the start.*"

The leak caused an uproar among the pro-choice community and civil rights advocates. Not only was the overturning itself unprecedented, but also the women's reproductive rights were in direct threat; according to the Guttmacher Institute, at least 26 states were certain or likely to ban abortion once Roe was overturned. The resulting protests were widespread; multiple rallies occurred in cities throughout the country; Women's March, along with Planned Parenthood and other rights groups organized several large-scale marches. On June 24th, 2022, the court officially overturned *Roe v. Wade* and *Planned Parenthood v. Casey*. The struggle continues.

YOU CAN'T SPELL CAPITOL WITHOUT CAP

Francis Erluph Barro Cabanting 20-205

What happened on the 6th of January, 2021 was a horrifying event and an eye-opener to the recklessness of human behavior. For the first time in centuries, the Capitol was stormed to prevent the formal recognition of Joe Biden as the new president of the United States. Thousands of protestors who sought to keep Trump in power and whose nationalistic rage was partly fueled and leveraged by the former president himself managed to penetrate through glass, wood, and concrete leaving the symbol once known for its democracy and bureaucracy in ruins.

Since then, the face of far-right activism and white supremacist movements televised in multiple media outlets have struck a sour note on its political counterpart and those who believed in the founding principles of a previously great nation. Harrowing protests like this are valid under the premises of the 1st and 14th amendment of the US constitution, but its validity, as a consequence, begs their responsibility to make sure that exercising their rights still falls within the boundaries of right.

To trace how an incident has culminated into such a fiasco, we should look back to the signals that these rebels were sending even before the 2020 elections had begun. During the pandemic, members from famous radical right-wing parties such as QAnon, MAGA, Christian Dominionists, and Neo-Nazis amassed a huge following with the number of new members surpassing the millions, bolstered by increased user activity in various social media platforms. Their strategic advertisements in Instagram and community sites providing anonymity easily persuaded the masses by utilizing the digestibility and accessibility of the content and falsely posing their beliefs as universal, urging citizens who had not previously joined their institution to take action more than ever and join the fight.

However, what was more problematic was the hegemonist's use of erroneous statistics and unjustified beliefs, and since there were no political bodies similar in influence to crunch the numbers and counter the purported data, their power continued to be uncontested and their influence unrivaled. We have been ignoring their dissatisfaction; knowing we have seen the warnings before, how can we have the audacity to even act surprised at the degree of severity they can implement upon us when their leaders said to retaliate using force?

In cases like this, everyone is at fault: politicians for provoking dissent, and believers who think that everyone is entitled to their own opinion but forgot the latter part of the clause where they are not entitled to facts. To prevent future discord from reaching the same gravity as what transpired in the Capitol, the importance of doing one's research (properly) and developing a critical, skeptical attitude to innovative ideologies must be underlined and honed more than ever, especially in this age of disinformation and rapid digitalization. Months before the insurgency, in a website called My Military, patriots were already giving menacing hints about an uprising to happen on a tentative date: "Monday is the day of reckoning… I say take the hill or die trying."

9/24 CLIMATE JUSTICE MARCH

22-125 CHOI HYEONGSEO

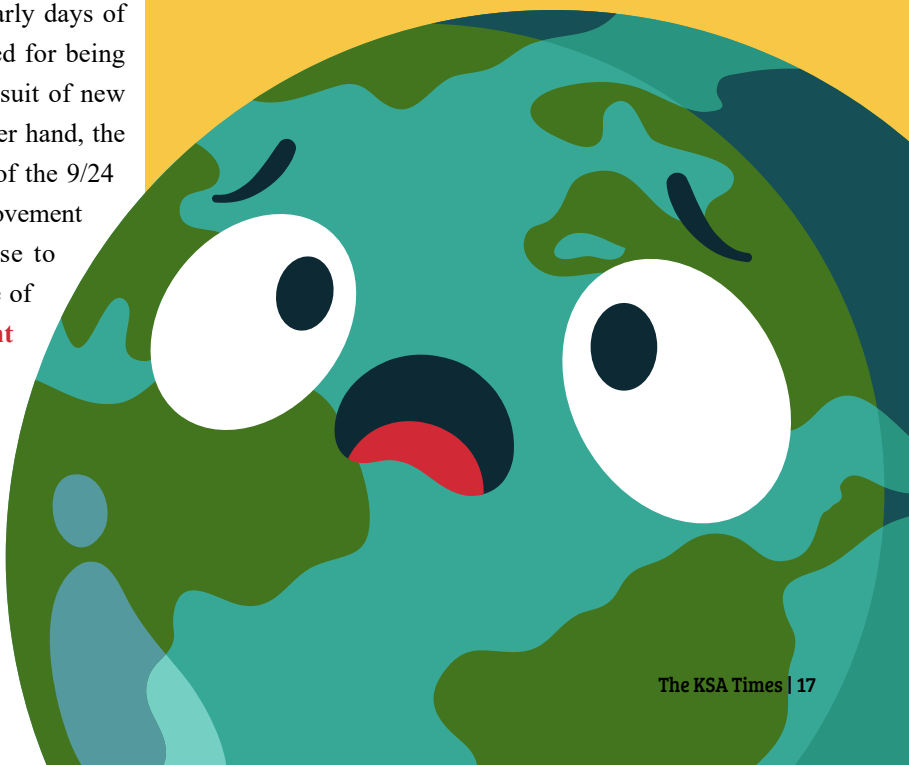
Over the past few years, we have been able to deeply feel the seriousness of the climate crisis. In Europe, the worst drought and heatwave occurred, followed by large forest fires. In Japan, heavy rains caused massive landslides, while in Pakistan, incessant rains submerged a third of the country. In South Korea, it's the same story. Last May and June, crop cultivation suffered due to unprecedented drought, and the Yeongnam region, including Pohang, suffered great damage due to Typhoon Hinnamno, which hit the Korean Peninsula recently. This climate crisis is directly related to our survival. Not only does it destroy the ecosystem, but it directly affects the food and water supply, causing hunger and poverty around the world, and soon threatens the survival of mankind. In 2018, the climate crisis began to approach our lives so rapidly that the Guardian redefined global warming, which is becoming increasingly serious, as "global heating". NASA's observations show that glaciers have disappeared by 13 percent in the past decade and sea levels have risen by more than eight centimeters in the past 30 years. It is a well-known fact that scientists say that if a 1.5-degree rise in the climate is not prevented over the next 20 years, the temperature will rise out of control beyond the range of natural recovery. But most importantly, the damage of this climate crisis is not fair. Pakistan, which has a third of its land submerged in water due to the climate crisis this year, is the country with the lowest carbon emissions in the world. How unfortunate is it that the country that emits the least amount of carbon on this planet is the first to face its consequences. Similarly, in August, when record-breaking heavy rain fell in Seoul, it was low-income residents living in semi-basements and small rooms that suffered the most from flooding.

As a result, citizens who are at the forefront of the climate crisis took a stand. On September 24th, the 'Climate Justice March' was held at Gwanghwamun Plaza under the slogan **"Climate crisis and inequality, we can't live like this."** The purpose is to raise awareness of the climate crisis and the inequality hidden in the middle.

'September's Climate Action Month' started in 2018 when Swedish climate activist Greta Thunberg took to the streets every Friday and young people around the world who supported the 'Stay Absentee Demonstration for Climate' shouted for a stronger response to the climate crisis. In Korea, this climate justice march is the first large-scale climate crisis-related rally since 2019. At the first rally held three years ago under the name of Climate Crisis Emergency Action, about 5,000 people gathered and marched around Seoul University. The Climate Justice March held this time achieved a scale of 35,000, exceeding the expected 20,000 people, and consisted of 400 organizations and tens of thousands of citizens gathered from all over the country. Groups representing each sector, such as youth, labor, disability, and farmers, also joined the protest.

The climate crisis, which seemed to have been accepted in the past, was rather aggravated because of the government's carbon-neutral policy in the early days of the Climate Crisis Action. This was criticized for being used for fictitious green growth and the pursuit of new profits by companies and capital. On the other hand, the three demands of the organizing committee of the 9/24 March recognize the limitations of the past movement method in which we entrusted the response to the climate crisis to those in power in a state of powerlessness, and remove **"the government and corporations that dominate the current system that caused the climate crisis."** It was filled with contents that demanded substantial greenhouse gas emission reduction and inequality based on the expansion of democracy from below as a target. First of all, it calls for an end to the fossil fuel and life-destroying system, suspending fossil fuel production, distribution and requiring consumption as soon as possible, suspending subsidies and other support for these companies, and insisting on democratic and public control over the entire energy industry, including renewable energy. "Inequality is both the result and the cause of the climate crisis," they said, emphasizing that a fundamental solution to the climate crisis cannot be found without ending all inequality. They also demanded that Korea, as a northern hemisphere country, to fulfill its responsibilities and obligations, which have contributed to the deepening of global inequality, beyond domestic inequality.

In a phone call with the Hankyoreh on the 22nd, Han Jae-gak, co-executive chairman of the Organizing Committee, said, "Unlike in 2019, when we tried to emphasize the climate crisis itself, this time we are emphasizing 'climate justice'." Climate justice refers to activities that try to rectify the mismatch between responsibility and damage that caused the climate crisis. He added, "The core of this event is to criticize the economic growth-centeredness that has created climate injustice and inequality and to present the direction to solve the climate crisis itself."

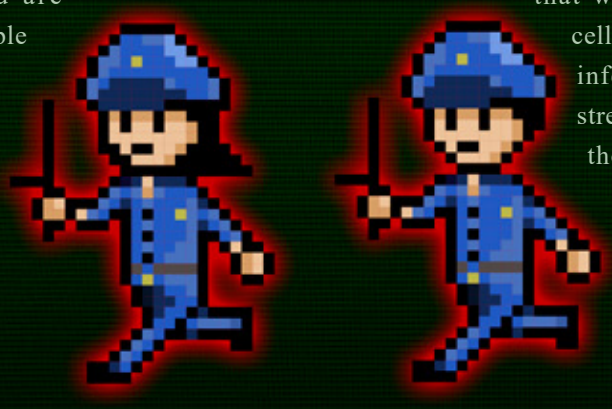


STAYING DIGITALLY SAFE IN A PROTEST

22106 JEYU CHUN

Protests are an important part of human culture, where a mass of people express their discontent about a certain topic. Even recently in Korea, there have been protests against the president, and another one targeting a food company. Although these protests are usually intended to improve conditions for the public, it does not mean the protesters are safe. Especially for protests that target powerful organizations like the government, people often get arrested, tortured, and killed just for being there. Although hiding from corrupt authorities may seem very hard or even impossible, there are steps you could take to reduce your chances of leaving any traces. In this article, I will discuss the methods employed by prosecutors to find people, and ways you can evade detection.

The most common way of detection is simply eavesdropping. Proper encryption is very hard, or even virtually impossible to break through even for groups with huge influence. However, in a lot of cases, the data simply isn't even encrypted. SMS and Kakaotalk, notably, aren't encrypted by default, and should not be used for sensitive data exchange. Look for end-to-end encryption, which means not even the service provider can know what data you are sending. Signal is an example of a service that provides this in chatting, and services like Protonmail provide end-to-end encryption for email. Do your research on what companies you can trust, because some companies will happily let others access your data if pressured by the government. Before we venture deeper, you should consider the level of power the entity you're hiding from has. Are they an overreaching government that monitors all internet activities, and knows who your phone number belongs to? Have they ever used those powers to punish anyone? For example, the South Korean government can link phone numbers to actual people and does monitor all internet traffic, and they also ban certain websites. Above a certain point, you have to sacrifice usability to gain greater safety, so you will have to judge how much protection you need.



With that out of the way, let's look at more cases of corruption. In the US, there have been real threats to protesters that have been made using various methods. One that was extremely effective was traffic sniffing, where police set up fake mobile network towers that devices unknowingly connected to. This is a technique that the Korean government attempted to replicate, with them trying to gain covid tracing data using devices that were connected to an actual cell tower placed near a place of infection. Protestors who live-streamed the process, as well as those who simply possessed a cellular-enabled device, were

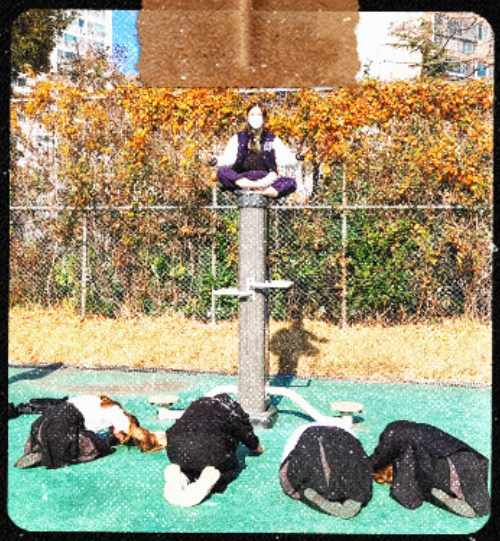
tracked down with relative accuracy. You can defend against this type of attack by simply not having your device on you, turning its airplane mode on, or even getting a burner phone. (A word of caution: Activated burner phones are illegal in South Korea. Check appropriate regulations before continuing.) Drawbacks can include data loss when a device is confiscated and being unable to contact close ones in an emergency. Another possible way of determining identity is by unlocking a smart device. Most smartphones today include a biometric authentication system, to allow greater convenience when unlocking. The vulnerability comes from the fact that you can forcibly gain access to this information even if the holder does not agree, since physical force cannot be restricted. The safest way would be using a burner phone (again, illegal in South Korea if you need to get a number) or not allowing biometric unlock in the first place, but this greatly sacrifices usability. So, as a compromise, you can temporarily disable this access in risky situations. In the case of modern Android devices, this comes in the form of "lockdown mode" (Exact wording may vary depending on the manufacturer). When enabled, you may bring up the power menu, then click on Lockdown. This will prevent all methods of unlocking aside from your password, PIN, or pattern, and you can still get video evidence by opening the camera app (double tap your power button). On iOS devices, access your power menu with your preferred key combination (the default for modern devices is side + volume for a few seconds). Your device will automatically disable biometrics until the next unlock. The last common vector to determining your identity is simply by physical means. This is the most low-tech way, but also the most effective in certain situations. Don't have your ID, address, keys, or whatever else that can single you out in your possession! These can be easily confiscated, copied, or even just have a photo taken, which will immediately identify you. Having said that, the technologically advanced methods I've introduced are certainly a big threat, and so are these brute-force methods. You will have to get these basics right to ensure a safe protest.

In an ideal world, we wouldn't need to use more extreme measures like protests to get our opinion through. However, as history proves time and time again, we certainly do not live in a perfect one. Corruption happens everywhere, and innocent people get hurt often, sometimes even by the ones that should be punished. However, we can make it better, with the power of numbers on our side. There are countless positive changes that can be attributed to protests. However, there have been many sacrifices that were made for these changes. Although protests will always have an inherent risk, I sincerely hope we can work more safely toward a better world for everyone.

KSA LIF

Welcome to the KSA lifestyle!

This year, we are finally returning to normality with festivals and student exchange programs back in the mix!



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INTO THE LAND OF KSA:

INTRODUCING THE CREATURES THAT LURK WITHIN

JAN BREY ESPIA

Somewhere in our world is a well-renowned place that nurtures gifted and talented creatures. These beings are diverse, coming from different regions of the world with all sorts of backgrounds. Despite this diversity, however, they live harmoniously within the confines of their kingdom. They train, eat, and sleep together for what feels like an eternity until they are deemed worthy to be released into the outside world. Some say they will become the pack alphas of the next generation, while others think they are just a bunch of kids with their creativity let loose. Yet, besides their competence and brightness, little is actually known about them in the outside world. Alas, the time has come for the curtain to be raised. Brace yourself as you will now learn about some of the most common creatures in this special land called KSA.

THE NIGHT OWLS

The Night Owls, for reasons unknown, has one of the biggest population shares in KSA with a very rough estimate of 20%. This species is asleep during the daytime, but highly active at night. Due to the mandate of the authorities, they are naturally only found in their sleeping quarters, otherwise known as dormitories. They often develop a sentimental connection with their cells as almost all of their activities, whether academic or recreational, occur there. Night Owls also form smaller groups, building a small village of some sort, and doing activities together that are naturally done in daylight.

During their wake periods, they love to engage in noise-abundant activities such as singing, shouting, and chasing each other. Although this companionship can be amusing to some, it is blood-boiling for the rest of the population, especially if it occurs late at night. The Night Owls' diet primarily consists of instant noodles and a whole lot of caffeine-rich drinks like coffee and, of course, their quintessential Monster. These are their holy grail or lifeline, particularly during the quarterly assessments. A millionaire will surely be born if one starts a business as a supplier of their diet necessities. Needless to say, it is the Night Owls that rule when everyone else is asleep.

THE LAB RATS

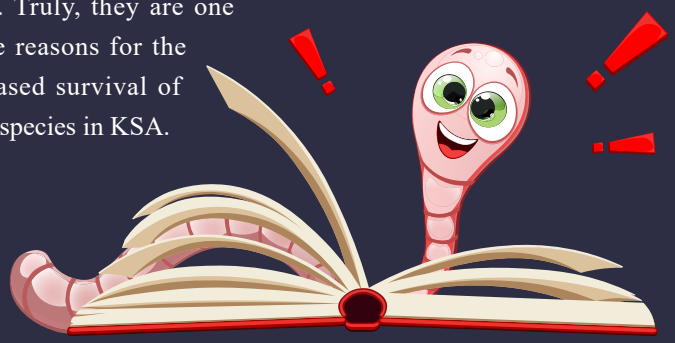
The Lab Rats population in KSA is not your usual lab rats. They have evolved from being experimental subjects to becoming bright researchers themselves. However, their kind is still quite rare with a population share of about 5%. The reason for this is that their lifestyle is really challenging to sustain in KSA's environment. For one, constituents of the land are required to follow a very strict schedule. Some tasks and responsibilities are also needed to be carried out on a regular basis. Lab Rats usually squeeze in their laboratory expedition in the already scarce free time they may have. As a result, this species usually has a very inconsistent sleeping pattern, hibernating only when their schedule permits. This applies same to their eating habits, stuffing themselves to the fullest when they have the chance.

Just like any other rodent species, they are generally hardly seen in common places, let alone get a hold of them. This characteristic is so prominent that you will always be surprised when you get even the slightest sight of them. If you do want to meet them, your best bet is to look for them in the nooks and crannies of Changjogwan and the Dream Design Center. It might be necessary to mention that, contrary to the rodents we know, they are a type that values their hygiene (or at least most of the time). A piece of good advice is to be conscious when around them, as they are quite emotionally sensitive. 99% of the time you will see them stressing out due to various reasons. In that 1% chance that you do see them bursting with joy, it is probably because of a successful result. Although not completely endangered, it would be nice to see the Lab Rats' population flourish, perhaps by providing much better living conditions for them.

THE BOOK WORMS

When people think about the members of KSA, they probably imagine it to be filled with the Book Worms. The reality is the Book Worm's population is much smaller than what outsiders make it to be. They take about 10% of the entire KSA population. The common misconception is that being intellectually gifted is the only requirement for becoming a Book Worm. If this was true, then everyone in KSA can be classified as such. In actuality, the Book Worms have characteristics that can be shared with other species but not entirely and characteristics that are totally unique to them. In terms of their sleep-wake cycle, they can be considered polar opposites to the Night Owls. Every day, Book Worms seems to have a race with the sun on who will rise earlier, and, to no surprise, they almost always win. Perhaps, this stems from the fact that they are quite a competitive group that is, in a way, stimulated by challenges.

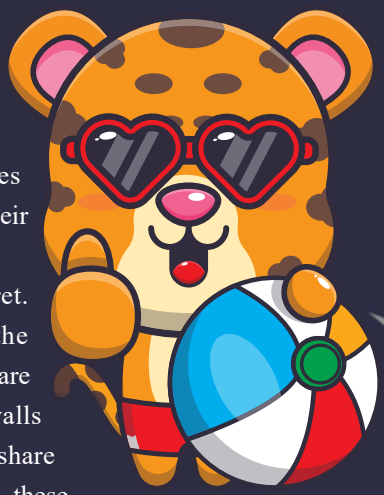
Unlike Lab Rats, they have no problem whatsoever with the inflexible schedule imposed by the authorities. In fact, they fancy such highly routine activities. Having their days completely planned out and successfully committing to such plans is what a normal day looks like to them. "What might those plans be," one can ask. Well, it could be one of two things: reading a textbook chapter or solving a chapter of textbook problems. Although this might seem to be dreadful to many, which it is, this is nothing that they cannot handle. This is the main reason why they are the only species prepared for the dreadful seasons coined as "Midterms" and "Finals". While other species turn into zombie-like beings due to panic and anxiety, they remain their regular selves. Book Worms are not surprisingly commonly found in the Library, Study Rooms, or their Dormitory Rooms. Often, all other species come looking for help from Book Worms as their last Hail Mary. Truly, they are one of the reasons for the increased survival of other species in KSA.



THE FIELD CHEETAHS

There never comes a day in the land of KSA when the field is not occupied. If that day ever comes, it would be safe to assume that the species of Field Cheetahs are extinct. Rain or shine, for them it is never too cold or too hot of a day not to be in their natural habitat. With an estimated population share of about 15% (and growing), it seems that the land of KSA would not be seeing the last of them soon. Although they consider the green green grass their home, they can also be frequently found congregating in the auditoriums or gyms when they deem it too dark to see each other outside. And while the rest of the population always seems to be just a bunch of sleeping brains in moving bodies, their kind rarely runs out of energy like a machine with multiple spare batteries and even a solar panel.

Perhaps the Field Cheetahs are the most recognizable among all the creatures found in KSA. With their vividly colored and designed tops, short shorts, and a ball accompaniment, it is really hard to miss them even if placed in a massive crowd. Just like their tight brotherhood within their community, it seems that they also have an unbreakable bond with injuries. Injuries have become an integral part of their identities that they have adapted to continue with their lifestyles embracing this fact. One can say that they have embodied the phrase “no pain, no gain”. Another key characteristic of them is that they identify themselves with specific factions and have a repertoire of idols they look after. These idols are not the ones that sing or dance, but those who have probably sustained more injuries than one can imagine. Field Cheetas, no matter how occupied they are, must always be updated on the latest news about their own factions and idols. Although this unmeasurable admiration occasionally causes internal feuds, at the end of the day, they are still united by their love for the field.



If you have been keeping up with the numbers, do not fret. Your math is correct as these species do not add up to the entirety of the population. As you might have guessed, there are more interesting and unique creatures lurking within the walls that are yet to be introduced. There are even creatures that share multiple characteristics or change as they develop. In due time, these species would also be let known to the outside world. For now, hopefully, the four introduced populations have induced your interest and curiosity and corrected some of your misconceptions. Despite their differences, they all live in harmony while completing a unified goal of leading our world into a brighter future.

Making the Most of KAIST HP Classes

an aspiring environmentalist's edition

Gayoung Choi

Last summer, I hesitated about applying to the HP program. However, the wide range of environmental courses in KAIST was the deciding factor; I have longed for classes where I can acquire proper knowledge about the climate crisis and contemplate my role in it. Fortunately, I could enroll in two environmental courses!

1. Human and The Environment: Sustainable Socio-ecological Systems

Course Code: HSS229

Professor: Hana Kim

Environmental issues are completely tangled. To address these complicated problems feasibly and equitably, we learned about systems thinking skills and used them to analyze the interplay of social systems and ecosystems. The latter half of the course focused on sustainable development, bouncing around past and current discussions. We are now summing up the class with an additional discussion on the future direction of sustainable development, including the rights of nature and environmental justice.

In-class activity: Fishbanks game

The Fishbanks game is a web simulation in which the participants play the role of a fishing company, dealing with real-time variations in the fish populations to maximize their profit. The class was divided into two-person teams and started the game. The class soon buzzed about which sea we should send the boats to or whether we should buy more ships or not. After fifty minutes of fierce clicks, however, we faced the devastation of the company assets and the fish population. To be fair, it was a brain-squeezing game involving a complicated system network. There is an individual player's version, too, so you may want to check it out:

https://forio.com/simulate/mit/fishbanks/simulation/login.html

Sejong National Arboretum

Field trip to Sejong National Arboretum

On the 4th of November, we gathered early to take a bus to the Sejong Arboretum. When we entered the arboretum, the greens and the yellows filling the vast field about the size of 100 soccer fields caught our eyes. In front of the stadium-like glass greenhouse, our guide of the education program, <Tan! San! Su!>, was waiting for us (Tan! San! Su! means reducing carbon (tan-so) and creating oxygen (san-so) while walking around the arboretum (su-mok-won)). As we laughed and ran around during the first activity called 'Acorn Game,' we soon forgot about the biting cold. After the game, the guide pointed out that enjoying outdoor activities instead of looking at the phone or PC screens is one way to reduce carbon emissions. I rolled the smooth acorn in my hand and fell into thought; there seemed to be various aspects of my daily life that I could make healthier, both for myself and Earth. The enjoyable time at the arboretum has let me realize the connections between me and nature.

"enjoying outdoor activities instead of looking at the phone or PC screens is one way to reduce carbon emissions"

UCLG Daejoen

2. Special Topics in Smart Convergence: Smart Energy, Environmental Technologies & Innovative Governance

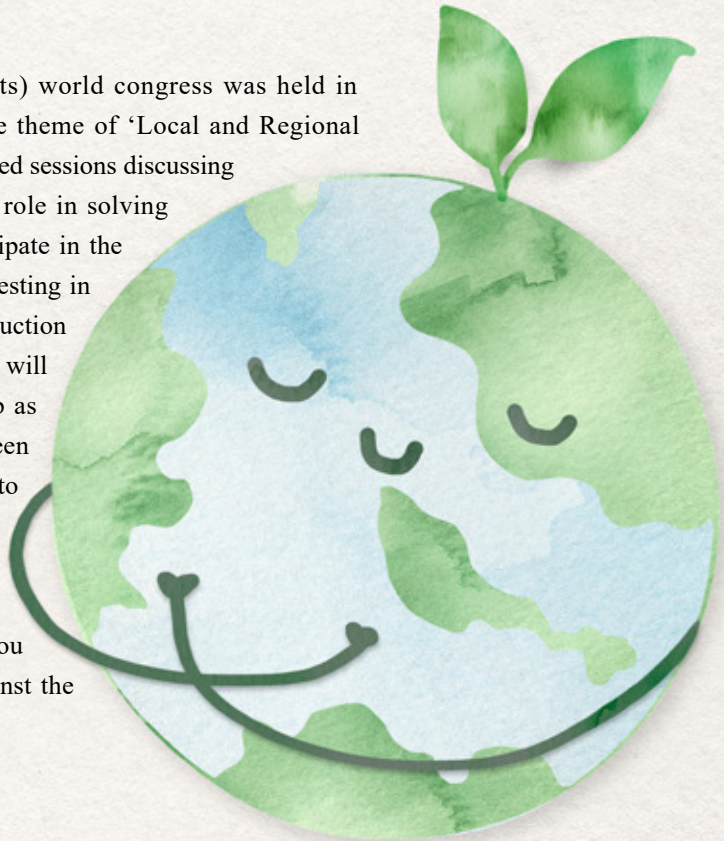
Course Code: CoE491

Professor: Doh-Chang Lee, Kyung-Ryul Park, Hyung-Jun Kim

This special topic class is the most diverse class I have ever taken in school: our grades range from high school to Ph.D., and we have students from Mexico, Sweden, Vietnam, and Ethiopia with a vast range of majors, and even our professors have different fields of interest! We have the chemical engineering professor Lee, the STP(Science, Technology, and Policy) professor Park, and the hydrology professor Kim. The topic of the class changes every week, too. Just to mention a few of them, we have learned about green technology, policy analysis, impact investment, and empirical analysis of the climate crisis so far.

Field trip to UCLG Daejeon

The 7th UCLG (United Cities and Local Governments) world congress was held in Daejeon from the 10th to the 14th of October under the theme of 'Local and Regional Governments Breaking Through as One." Among a hundred sessions discussing the local governments and international organizations' role in solving different social problems, I got an opportunity to participate in the session 'The Cost of Doing Nothing – Scenarios for Investing in Resilience,' led by the UN Office for Disaster Risk Reduction (UNDRR) and UCLG learning. More and more disasters will strike our world as the climate changes; one of my job as an aspiring scientist would be to narrow the gap between academia and politics to enable more reasonable policies to reduce the risk.



If you are coming to KAIST and surfing the course introduction site, go for the environmental courses! You would not regret taking a step to get into the fight against the climate crisis.

GAYOUNG CHOI: oshrose3@gmail.com

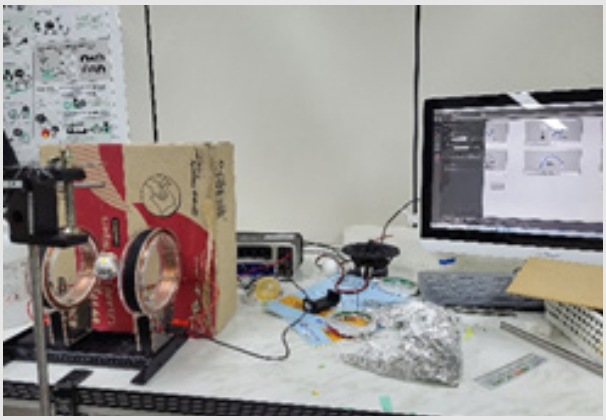
THE JOURNEY OF KYPT REPRESENTATIVES:

SELECTION, PREPARATION, RESOLUTION

22-060 SIHYEOUNG SONG

Korean Young Physicists' Tournament, called KYPT, is a momentous event for KSA's students, especially for promising young physicists. KYPT is a competition in which students discuss with other teams the given problem, which consists of natural phenomena that are not particularly well-known but have important physical significance, with the results they have studied and experimented with. In short, a "field of physical discussion".

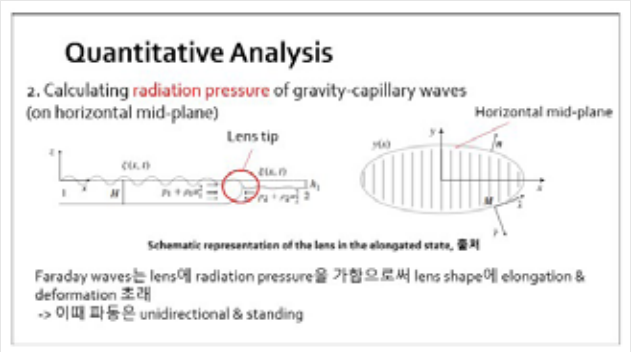
KSA has been making great achievements at KYPT, and in the case of last year's KYPT 2022 competition, two students were selected as Korean representatives to participate in the IYPT (International Young Physicists' Tournament), showing excellent results as a pioneering science academy. Also for this year, a lot of students did their best for the KYPT school representative selection, which was held on last September 17th.



Experiment about oscillating sphere

For this year's trials, participants were made to solve 3 common problems and 1 selection problem, which was extracted from 2023 IYPT problems that were released previously. Among 17 topics, an electromagnetics problem '2. Oscillating Sphere', classical mechanics problem '9. Oscillating Screw', and a granular physics problem '15. Pancake Rotation' were common problems, and each student worked on each problem which they assured of. Because the questions don't have answers, the participants had to set up a new method of inquiry.

The method of research varied slightly from person to person, but generally, the participants first analyzed the meaning of the problem and framed a hypothesis. Then they decided on related keywords, I searched for the paper about it, and based on the hypothesis, they established their own model and made a quantitative analysis (establishing equations of motion, drawing graphs, etc.). After that, they practiced the actual experiment and evaluated the results.



PowerPoint used during the presentation

KSA's representatives for 2023 KYPT. From the top left, Yoosoo Jung, Seonjae Kim, Seungmin Yang, Minsoo Kim, Hyunjune Yoo, Jaeyun Ko, DongGeon Lee, Jungho Ahn, Seogyeong Bae and Hyunmin Cho

After this arduous process, the day of the school representative selection finally dawned. At the trial, the candidates had to present and debate about their research in front of teachers of the physics and earth science department as well as students who took part in the KYPT and IYPT events last year. The participants overcame the tension and made a concise presentation about what they had studied with all their passion, and two teams, five students per team, total ten students were delegated as KSA's representatives.

Even though this was the first step for entering KYPT, further IYPT, the applicants say that they learned remarkable lessons. Seogyeong Bae, one of the representatives says she has learned the fundamentals of research, and debating techniques, and through many trial and errors, she got a new perspective on physics. Jaeyun Go, another representive, claims that this experience led him to go into the essence and tried to solve the problem by establishing the most basic, but powerful method, and this made him inquire about elementary theories, not fancy physical techniques or decent paper.

After the trial, the representatives are now exerting all of their possible efforts for the next KYPT which will be held on January 30th, 2023. Hyunmin Cho, the representative, disclosed his resolution, "As I'm working on physical research formally for the first time, I will learn how to learn and study as much as possible during the KYPT period.", and also Jaeyun Go strengthened his determination, saying "As it is a competition under the name of the school, I will hold the competition with heavy responsibility." Please show support and interest in KSA's KYPT representatives' remarkable achievements.

Seniors Overseas Program:

The Experience at Cambridge

Minwoo Kim 20-105

COVID-19 forced the overseas programs to go online, meaning students didn't get the opportunity to travel. Fortunately, this year the COVID-19 restrictions weren't so harsh, and the overseas programs was were conducted offline again! This year, four KSA seniors were given the opportunity to participate in the Oxford Summer Course. Students selected the subjects they wanted to learn and they got to experience college classes and culture at the University of Oxford or the University of Cambridge. As a participating student this year, I would like to share what I learned and enjoyed at the Oxford Summer Course.

Course and Studying

I took the Business and Entrepreneurship course from the University of Cambridge. Though I didn't have a deep background in Business, I wanted to explore something new.

The class consisted of small groups. The professor conducted four hours of classes based on various business topics. During the first week, classes were conducted based on discussions between students and professors. This teaching style was difficult to adapt to initially, but as I got used to it, it was helpful to ask questions freely and share my thoughts.

In the second week, I had a one-on-one class. The class time was reduced to two hours, but since the one-on-one class was customized to me, I could focus my learning on areas I was more interested in.

The professor emphasized the connection between various topics during the course. He wanted us to draw a big picture and interpret it rather than just directly learning the concept. Thanks to the big picture, it was much easier to understand and was helpful for beginners like me.

There were more than just lectures. The "Case Study" task of analyzing a business case was conducted as a team with other students. We become business consultants, analyze the business structure from various perspectives, and suggest future directions. I could use and apply what I had learned so far during the case study.

There was a workshop every Thursday. A professor who teaches humanities at Oxford and Harvard came and conducted a workshop on Linguistic and Humanities. I listened to the professor with concentration and great interest. The professor was very kind, and she shared her experiences and gave us advice as a person.

Excursion

After all the classes were over, it was excursion time. During the first week, I went on a university tour. A Cambridge student guided me to various colleges at the university. The buildings looked like a castle rather than a university. It was majestic! I went on a tour of London on the weekend. I visited London's tourist attractions, such as Big Ben and the London Eye, with my classmates. In the second week, I hung out with my classmates during excursion time. I went to various stores at the university, bought food, and had a picnic in the park. The professor said that we seemed to look like Cambridge students.

Final Review

What surprised me at Cambridge University was diversity. It was really impressive that students from various countries, cultures, and various backgrounds actively shared their opinions, experiences, and views.

KSA seniors will participate in a team with college and graduate students. As such, you can experience college-level courses. If you select an unfamiliar subject, it will be a difficult path. But personally, I believe it can be a great experience to learn many things. I am confident I had a more fruitful summer vacation than anyone else. I learned a lot, and I experienced a lot.

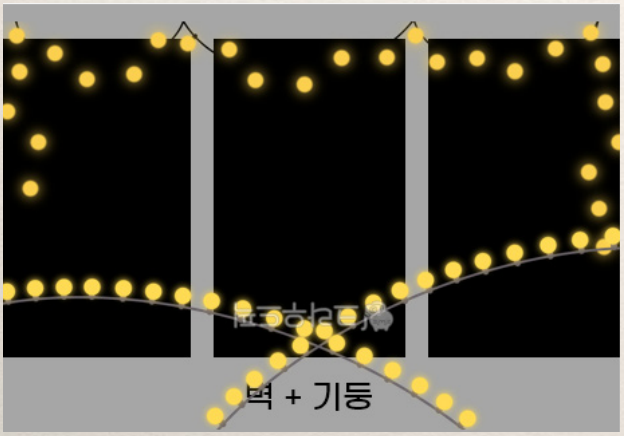
MINWOO KIM: 20-015@ksa.hs.kr

School Decoration Team

22-022 Soyul Kim

Did you enjoy SAC (Science Adventure Celebration)? I expect you have seen shining lights hanging on the main building and colorful neon lights in the Changjo-gwan. It might sound like I'm bragging, but the SAC PR team made all those beautiful school decorations. I applied to the SAC school decoration team because I wanted to change the school's mood into a festival mood. The 2022 SAC was the first for many people including myself because of COVID-19. Therefore, I desperately wanted to take part in this event! However, most students don't know about the school decoration team. Thus, in this article, I will tell the behind the scenes stories about school decorations that students didn't know.

Our ideas are always shining and perfect before we dive into the actual work. Our decorating plan also differed from reality because we expected a bigger budget and more space than we really had. I will add some ideas I had first. Our main idea was to express the festival's concept fully. The Hyeongseol-gwan was a past concept; the main building expressed a modern festival theme, and Changjo-gwan was a future concept. Also, one idea I wanted was to decorate the passageways into a time-traveling space. One of my ideas was to decorate the seminar room hallway in a dark mood and put some LEDs & small light bulbs on the wall to make people feel like they are walking through a time travelling vortex. Also, decorating the wall with glitter pens would have been beautiful.



However, there were also some successful ideas that became true. For example, we wanted to activate the acropolis with booths and make students freely use the acropolis chairs. During SAC, many students enjoyed delicious food in there. Also, we hung long light bulbs down the walls in the 1st and 2nd floors of the Hyeongseol-gwan. Lastly, we wanted to activate EOZ to the booth, and it became true. On the other hand, an unexpected future is not always bad. There were some great decorations that we didn't expect. The most successful examples were lights at the main building stairs and lights at the Changjocafe.

Even though there were many difficulties while preparing for SAC, decorating the school was a fun experience for me. We started to decorate the school on November 3rd, the day just before SAC was due to begin, to change the mood of the school rapidly. After checking the things we bought, we went on to decorate the school. We enjoyed International Culture Night during work, and it was a fascinating experience to experience different cultures' food. The decorating took longer than expected. We started working at 8pm, and we finished at 2am!

SAC is over, and we are already preparing for the final term. It almost feels like A Midsummer Night's Dream, but beautiful memories of 2022 SAC will last inside our hearts. Everyone who participated in SAC worked hard to make it successful, and we will never forget the memories we made. I was depressed because my club, Sturgeon's performance was canceled due to COVID-19… But the entertaining activities in SAC helped me enjoy the festival to the max. I want to participate in the school decoration team again in the next SAC, and I hope there will be more opportunities to make my ideas come true.

SOYUL KIM: 22-022@ksa.hs.kr

Main Auditorium

Changjo Cafe

Main Building Steps

Main Building Steps

ARTS & CULTURE

KOREA, THE BLACK SHEEP IN THE WORLD OF GAME CENSORSHIP

22-052 JEMIN PARK

Do you play games? There are many kinds of games these days. PC, console, mobile and so on. Games are probably the most ubiquitous form of entertainment in modern society. This is mainly due to the increase of better performance PCs and higher generation consoles in many homes. Another reason is the rise of the video game digital distribution services, such as Steam or Epic Games. As a result , the game industry has grown exponentially. Its economical scale is over 200 billion dollars, and eSports have become more popular. Gaming is no longer a minor activity, but a culture enjoyed by every generation.

Gaming is a culture, but few games have to be limited for certain ages. Some games are aggressive and others contain conent that is inappropriate for younger gamers. Which is why content rating systems are needed. There are many types of rating systems worldwide. For a typical example, there is the Entertainment Software Rating Board, aka ESRB. ESRB is an American game content rating association. ESRB's rating divides into five categories, E, E10+, T, M and Ao, each standing for Everyone, Everyone 10 and Up, Teen, Mature 17 and Up, Adults only. There are also other associations like CERO, PEGI and ACB. Indeed they do differ from each other; but there is one fact they have in common. They are all civilian organizations. This means that the developer doesn't have any say on what rating they get. You can just upload your game onto Steam and sell it. But even though they are civilians, they were once experts in each field, such as former game developers, highly experienced gamers or professors. That's why ESRB is considered an international standard in game rating.

Then how about in Korea? Well, things are not good here. The biggest difference between the rating system in Korea and ESRB is the entity that rates the games. As I stated above, ESRB is a civil association, but Koreas Game Rating and Administration Committee, aka GRAC is a government association. Their purpose of the establishment is different. GARC is more of a censorship association. Unlike ESRB, the GARC ratings are essential for developers and companies to publish games in Korea. Someone could ask, "Is it a problem? It's just a rating". But GRACs rating system has two very big problems. First: there are over 50 thousand indie games on the web. With manpower, rating all these games is impossible. Second: there are no specific rating criteria or professionals in GRAC. So, game ratings could easily be out of place. If a game got harshly rated and became R18, this could affect its popularity and profit.

The problem of GRAC is still ongoing. Many unrated games got region-locked in Steam by GARC. Many subculture games are rated highly over the world average. This is clearly a culture censorship. If this continues, no one will want to publish games in Korea, bringing the game industry in Korea to a halt. Korea would become a country with the most censorship on games, even more than the Great Firewall of China. To solve this problem, GRAC needs to start from square one, by leaving the rating system to the professionals like ESRB.

< Game Rating Comparison Between Global and S.Korea >

Games	Japan	Taiwan/HK	Global (ESRB)	South Korea (GRAC)
Girls' Frontline	Android : 12+ iOS : 12+	Android : 12+ iOS : 12+	Android : 13+ iOS : 12+	Android : 15+ iOS : 17+ Confirmed 18+ Rating
Azur Lane	Android : 16+ iOS : 17+	Android : 12+ iOS : 12+	Android : 13+ iOS : 12+	Android : 18+ iOS : 17+ No change
Arknights	Android : 7+ iOS : 12+	Android : 12+ iOS : 12+	Android : 13+ iOS : 12+	Android : ALL iOS : 9+ (ONEstore : 15+) Changed to 12+
Blue Archive	Android : 7+ iOS : 12+	Android : 12+ iOS : 12+	Android : 13+ iOS : 12+	Android : 15+ iOS : 12+ Confirmed 18+ Rating
Fate/ Grand Order	Android : 12+ iOS : 4+	Android : 12+ iOS : 12+	Android : 13+ iOS : 12+	Android : 12+ iOS : 9+ Confirmed 18+ Rating
Alchemy Stars	Android : 12+ iOS : 12+		Android : 13+ iOS : 12+	Android : ALL iOS : 12+ Will be raised more
Hatsune Miku: Colorful Stage!	Android : 3+ iOS : 4+	Android : 3+ iOS : 12+	Android : ALL iOS : 9+	Android : 15+ iOS : 12+ 3 songs banned due to 'inappropriateness' (No recovery yet)
Umamusume: Pretty Derby!	Android : 3+ iOS : 12+	Android : 3+ iOS : 4+		Android : 15+ iOS : 12+ No change
Genshin Impact	Android • iOS • Playstation • Epicgames : 12+ [13+]			Android • Playstation • Epicgames : 15+ iOS : 12+
Honkai Impact 3rd	Android : 12+ iOS : 17+	Android : 12+ iOS : 12+	Android : 13+ iOS : 12+	Android : 15+ iOS : 17+ No change
Epic Seven	Android : 12+ iOS : 12+			Android : 15+ iOS : 12+ Almost became 18+. Barely remained 15+ with self-censorship
Guardian Tales	Android : 12+ iOS : 12+		Android : 10+ iOS : 12+	Android : 15+ iOS : 12+ Rated 12+ first, but GRAC tried to censor. Self-rated to 15+
Princess Connect! Re:Dive	Android : 3+ iOS : 12+	Android : 7+ iOS : 12+	Android : 13+ iOS : 12+	Android : 12+ iOS : 12+ No change

**Not mentioned, most games self-rated themselves 15+ to avoid K-GRAC's non-professional censorship

게임물관리위원회
Game Rating and Administration Committee

K-GRAC: Game Rating and Administration Committee. Public Institution.
Known for censoring multiple Steam games, Minecraft (+18), Indie games, and kid flash game websites due to 'inappropriate content' and "not following censorship".

+18 rating will lead to end of game service due to 2D pornography law in Korea (their logic: 2D art = real abuse).
Currently in controversies of censoring Blue Archive to +18 rating without global or proper standards.

Korea Gamers opened national petition and complaints to stand up against unsensible censorship.
Please share this screenshot with others that enjoy mobile games.
Any action will help us protect our freedom of speech and content against K-GRAC.

is БОЯДТ real?

Дцush Gauli

Yes and No!

"Zatknis", is a Russian curse word. Someone said this to me when I asked them if they have watched Borat. I searched up what this meant, and it turns out it means "shut up" in a resentful manner. To be completely honest, not just "zatknis" but also some other infamous words which I cannot mention in this article, but you can imagine. Although I can understand why people from Kazakhstan might get so offended when anyone mentions Borat. Especially people who may not know what or who he really is. He is a fictional Kazhak journalist with minimal English proficiency, who goes to the USA to learn about western culture. This ingenious character was created by Sacha Baron Cohen, the actor himself. Borat is a walking red flag. If Borat had twitter, he would be trending in #cancel #misogynistic #racist, literally every negative hashtag Twitter has ever had. He might not be banned from Twitter today because Elon Musk is the new CEO, but that's a completely different topic. Basically what I was saying is that Borat is someone you don't want around your wife, girlfriend, or even your husband or boyfriend. But, personally speaking, I myself would love to meet Borat.

I hope you got a general idea of Borat's character. If not, then you can just search him up on your phone. Honestly, those of you who think you have an idea of who Borat is, I still recommend you to search him up because trust me whatever you imagined about him is less than what he actually is. This article is not a movie review though. I won't talk about the movie's direction or cast or any other cinematic stuff. I solely want to emphasize Borat's character and personality.

The only thing I want to mention from the movie is that while filming Borat, Sacha Baron Cohen, the actor portraying Borat, fooled an entire village in Romania, making them seem so backward and conservative that I felt bad for some of the people there. He basically walks around the village showing the world (the viewers) his "family and friends" (they were just unsuspecting Kazakh people). While doing so, he says, "meet Yarn, town mechanic and abortionist". If there was a technology to put video clips on paper, I would love for you to see this scene from the movie right away because it's hilarious. Absolutely ridiculous but hilarious. So, I think that in this sense Borat is real. However, the actor himself is a comedic genius and without any doubt the best in the world at what he does. He is also married to Ilsa Fisher, one of the most famous actresses in Hollywood. They married in 2010 and are still going strong. Well, I am mentioning his marital life because as I signified before, Borat is an extremely misogynistic character and a walking red flag for women. What I'm trying to imply is that Borat is not real at all. Even though I always knew it, the way Baron Choen portrays Borat, it's just brilliant. Nonetheless, he faced a lot of backlash online. In fact, the movie Borat (2006) was sued 7 times alone and Baron Cohen's lawyers didn't lose a single one of them.

Writing about this topic is very controversial as well. Since KSA has students from different backgrounds and cultures, this was a topic that me and my friends considered to be "swimming in dangerous waters", contrary to the other articles in this magazine. I hope I didn't offend anyone with my words. If you were, then you can always send some curse words to the email address situated below.

Ayush Gauli, ayushgauli@outlook.com

LET ME BRING YOU TO YOUR CHILDHOOD

21-203 HAZETA RAHMANI

When we were young, we frequently thought with our imagination about what it would be like to be adults who could do anything by themselves and become independent individuals. Unfortunately, many people desire to revert to their childhood—when they didn't have to worry about life's responsibilities—because they have experienced the realities of ups and downs.

There are countless recollections from childhood and aspirations for adolescence. Childhood is a period that is impossible to happen twice as time moves forward following current events in life. The feelings are about pure happiness, and we don't feel the weight of life's responsibilities during that period. The truth about the past cannot recur, and only the future is left. If we think about how we will be in the future tomorrow, will it be the same as in previous times? Or is it even better than before?

Even if some people do not wish to revert to their youth, others could miss it. You're not alone if you occasionally yearn for the days of your youth and desire to go back there. Here are a few things that will make you long for your early years.

1. Extensive social environment

In general, everyone makes a lot of friends during their childhood, starting with those they meet at home, at school, in the academies, and so forth. We have a lot of time to play and develop our social environments when we are children.

In order to play all day, adults yearn to return to their childhood. Having fun with our buddies is the only thing we thought about and stuck in our minds. Isn't it true? We always played hide-and-seek when we were kids or played ball games till the sun went down.

But as we get older, we are all required to focus on realizing our goals in life. So, we will start to be preoccupied with each other's interests. As a result, one by one, our friends begin to disappear, and when we grow up, the number of friends is not as large as when we were children.

2. Able to be close and get full attention from parents.

When we were young, our parents were the ones who knew us best and who truly understood us. Children can share tales and whine about all of their issues. You may recall that as you grew older, you began to demand "independence" so that you wouldn't be treated like a child, wouldn't feel humiliated to be called "Mammy's son," and wouldn't have people meddle in your affairs excessively. Additionally, as your schedule fills up, you miss spending time with your parents.

Unfortunately, when we get that "freedom," we miss our childhood when we could get full attention from our parents. We sometimes remember when we could spend time with our parents, be spoiled, and express our feelings without feeling shy like when we were children.

3. Craving to try again in order to realize the ideals

When we are young, we discuss our aspirations frequently with our teachers, parents, and friends. Grown-ups learn that objectives require effort to achieve when what they receive falls well short of what they craved and hoped for in the future. In times like these, we occasionally yearn to return to our youth and correct what needs fixing. Thus, we can accomplish our objectives.

Every young child told their parents, "When I grow up, I want to be a police officer so I can arrest bad people." That exchange serves as a perfect illustration of why adults yearn to return to their youthful years. Yes, it feels as though you have definite life goals when you are between the ages of 3 and 7.

When you grow up, all of these things change. You must be so confident in your future. How is everyone else feeling?

4. Easily pleased with a simple solution and susceptible to persuasion.

Try to remember how, as a youngster, you used to stop crying when your parents convinced you or gave you what you desired. Even though the objects they entice are simple, like candy, chocolate, food, or essential toys, you could still be happy when you got them.

Adults tend to consider these things to be cliché and to make themselves happy. Thereby we need something pricey.

5. A desire to live without having to carry enormous loads

Wanting to live a carefree life is another factor that drives adults to yearn for their early years. Adults may wish to go back to their youth because they feel that the weight of life's responsibilities is too great and makes them frail. A period when we only know how to play and learn, with no need to worry about life's responsibilities.

However, if you're experiencing that right now, it's possible that you simply need to rest and go on vacation. So there's no need to give it any thought.

So some basic things occasionally make people long for their younger years. What aspect of your childhood do you miss the most, if you still have any?

Assault on the Ears: The Sound of Noise Rock

Hyunmin Lee

2022 has been a good year for rock music. Black Country, New Road and Black Midi—two vaguely post-punk-inspired bands from England (sometimes classified as part of the movement called the "Post-Brexit New-Wave" or the "Windmill Scene")—released arguably two of the best albums this year, "Ants From Up There" and "Hellfire." American band Soul Glo showcased their manic fusion of hardcore punk and rap with "Diaspora Problems." Two members of the art-rock legends Radiohead made a comeback in their new band The Smile with the album "A Light for Attracting Attention." In mainstream circles, the resurgence of pop-punk is becoming ever-prominent; even in Korean music, (G)I-DLE's song TOMBOY, a pop-punk-inspired song, was a widespread success.

Of the rock records released this year, one album especially caught my attention: "Most Normal" by Gilla Band. The album starts out with the opener The Gum. Beginning with high-pitched static and synthetic beating sounds, the song is quickly overwhelmed by undecipherable shouts and blistering noise: an amalgam of distorted guitars and pummeling drums. The album continues onward with an awesome mixture of catchy rhythms, deafening noise, and surreal lyricism. Take, for instance, the song Backwash; featuring hypnotic drums and basslines, the song immediately latches onto your ears.

Overthought it, still was excited /
Still needs improvement, but that was perfect /
Dirty forward, back washed /
No one looks cool around a wasp

Dara Kiely, the vocalist speak-sings in a snarky tone, quickly followed by an unrelenting wall of noise. The record is full of nonsensical phrases like the above. For instance, "We got the alphabet in the bag / To remember it, I have to sing it / And no one ever joins in with" from the song Bin Liner Fashion and "Who's that with the balding earwig? / Who's that with a bucket of hairspray? / Who's living in a coma for silence?" from I Was Away: although these by themselves don't make much sense, you can feel a certain sense of emotion—confusion, isolation, and longing for peace of mind. The album ends on a quiet note. In Post Ryan, the closing track of the record, there are no sudden outbursts of loudness. Instead, the song features buzzing background noise, sinister guitar strums, and a weirdly upbeat drum rhythm. It also holds some of the most introspective lyrics from Kiely: *"I'm in between / Breakdowns, constantly / In recovery,"* perhaps reflecting his own mental well-being. *"Basically I get / Inevitable depression when I do nothing / Inevitable depression when I do nothing…"* then silence.

Gilla Band's music is usually classified into a genre called "noise rock." Noise rock melds together staple sounds of rock music with noise: in other words, unwanted sound. The origin of this genre goes back to 1968, with

Velvet Underground's album "White Light / White Heat," commonly regarded as the first ever noise rock record. Fueled by the group's avant-garde sensibilities, the music in this album is filled with—you guessed it—noise. Take a listen to the 17-minute-long standout track, Sister Ray, where nearly all sounds are drowned out by a barrage of guitar, utterly formless. In the late 70s and early 80s, the genre label is taken up by young musicians from New York, starkly opposed to mainstream music; they are the pioneers of a genre known as "no wave." Albums like "Filth" by Swans and "Confusion is Sex" by Sonic Youth showcase dissonant and heavy soundscapes, the former also being influenced by the clanking sound of industrial music. (However, the career highs of both bands would come later, after they moved away from no wave—listen to "To Be Kind" by Swans and "Daydream Nation" by Sonic Youth.) It is also noteworthy that Kurt Cobain of Nirvana was a huge fan of Sonic Youth and other noise rock outfits; you can hear the influence in songs like Endless, Nameless or Scentless Apprentice. Funnily enough, the producer for Nirvana's third album (In Utero) also led a prominent noise rock band. His name is Steve Albini of the band Big Black, who combined the sharp mechanical beatings of a drum machine with noisy guitar and aggressive lyrics. Their album "Atomizer" is one of the best in the genre.

Most Normal isn't the only noise rock album to come out this year. In "God's Country," the band Chat Pile mixes sludge metal along with noise rock, creating a filthy sound suited for its name. "Trouble The Water" by Show Me the Body is an energetic and chaotic noise rock record, with chugging guitars and eccentric vocals. Noise rock isn't something that's immediately accessible; however, once you get past the initial barrier of confrontational loudness, you may just see the excitement that lies beneath.

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Snowed Under? Right as Rain!

20-205 Francis Erluph Barro Cabanting

Originally, this article was supposed to be titled as "K-Indies: Music That Will Make You Think You Look Cool (an introduction to cathartic songs and their power to reduce levels of melatonin)." Just by looking at the caption itself would be enough for you to turn your attention to more interesting parts of this magazine, so in an effort to stay in touch with your eyes for a brief minute, I have used the enigmatic description written above.

We students are constantly subjected to problems both existing and nonexistent within the walls of our academia, so much so that there are times where we are on the brink of giving up while still coping with our struggles that had mingled to an unbearable obstacle. During these moments, we usually seek out cathartic processes that soothe our soul, tricking us into thinking that there might be a better future in store for us, but in reality, it's quite the opposite. This trickery can further invoke vicarious doubts that we want to relive again; hence, the need for some people to lie to themselves, reminiscing the times when nobody expected anything good from them for they were still young and lively. For some, these might come from reading books and watching movies; however, others rely on music too, integrating it in their life: in times of happiness, sorrow, and even nonchalance. The next time that you feel the need to feel something again, you are more than welcome to come back to this article and listen to these tunes for a change whenever you are snowed under and you want to be as right as rain someday!

이웃에 방해가 되지 않는 선에서
(lit. To Not Bother Neighbors)
By 브로콜리, 너마저? (Broccoli, you too?)

There must be some mishap in the translation as I first encountered the song titled as "Dancing in the Moonlight." Anyways, there have been several attempts of translating the song and interpreting the lyrics of song, for there might be a hidden message one needs to read between the lines in both a literal and figurative sense. All of the attempts in making sense of the words used in the song reached a conclusion that such actions of comprehension are futile: these critics and avid fans of the band argue that as charismatic their album covers are, so are their lyrics. "The words you hear are what the band wants to convey to their audience, nothing more, nothing less." they said. Giving you a snippet and somewhat a guide in listening to the song, I implore those reading this sentence right now to take out their phones and go to any streaming app right now to listen as I abridge my own interpretation and other's as well to form an affinity between you and the song.

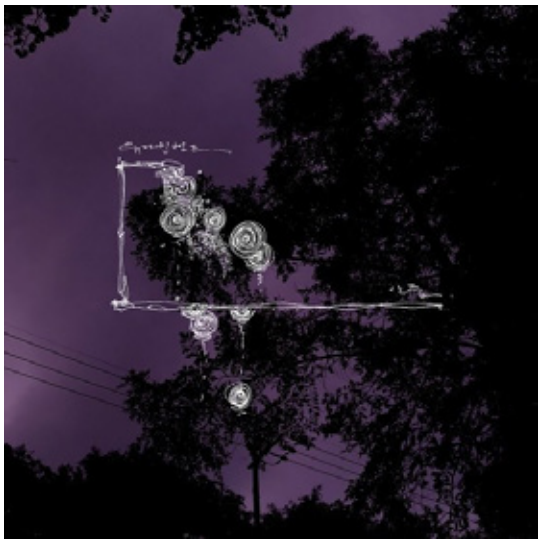
친구가 내게 말을 했죠 기분은 알겠지만 시끄럽다고 음악 좀 줄일 수 없냐고 네 그러면 차라리 나갈게요	My friend told me I know what you feel but it's too noisy Can't you turn down the music? Sure, but, I'll just/rather go out

We always share a common space, especially at KSA. The dormitory is the best example where the majority of our interactions occur. At night, halls and corridors contain evils that come from the sounds of endless karaoke and arguments between students reveling in whatever matters they have. It seems that our main protagonist in this song is quite respectful of their surroundings because they have planned to go out instead of clashing with people living nearby.

그래 알고 있어 한심한 걸 걱정 끼치는 건 나도 참 싫어서 슬픈 노랠 부르면서 혼자서 달리는 자정의 공원	Yes, I know that I worry you I hate worrying you As I sing a sad song I run alone in the midnight park

This stanza might refer to the lyricist's depiction of their lamentation and reminiscence. The precious times where they have created memorable memories that would highlight the lives they had once lived. Praised by their fans for the simplicity of the beat and the poetic meaning one can come across with this song, the catchy tune that repeats throughout the song never fails to brighten up my mood the moment I press play. Repetitive syllables heard at the end perfectly wraps up the melody, giving it a casual, lighthearted feel as if a child was singing it, caring not a single thing in the world because they are spending their time mesmerizing themselves in the imagination and happiness they felt before.

안중 (Attention)
By 유다빈밴드 (Yudabindand)



The hardest part for my final article at KSA would be this one since I do not have any tools that can directly translate the lyrics of this song into English. I realized that I have to rely on my Korean skills if there even is one floating by that would guide me in pouring the correct translation here. So, I hope even though I might make mistakes in the translation, I must ensure each party recognize the hidden beauty of the tune, arrangement of this composition. Without further ado, please pick up your earphones and hearing devices and plug them back to your ears as you follow the lyrics I have presented to you below!

지나온 시간을 하나둘 밟아 내려간다 다시는 생각나지 않게 잊혀져 버리게 돌아올 사람은 언제든 다시 돌아온다지만 우리의 시간들은 뒤도 돌아보지 않네	I'm passing through our moments one by one So I eventually won't remember them again They say that whoever goes comes back But, I guess our time won't come back later

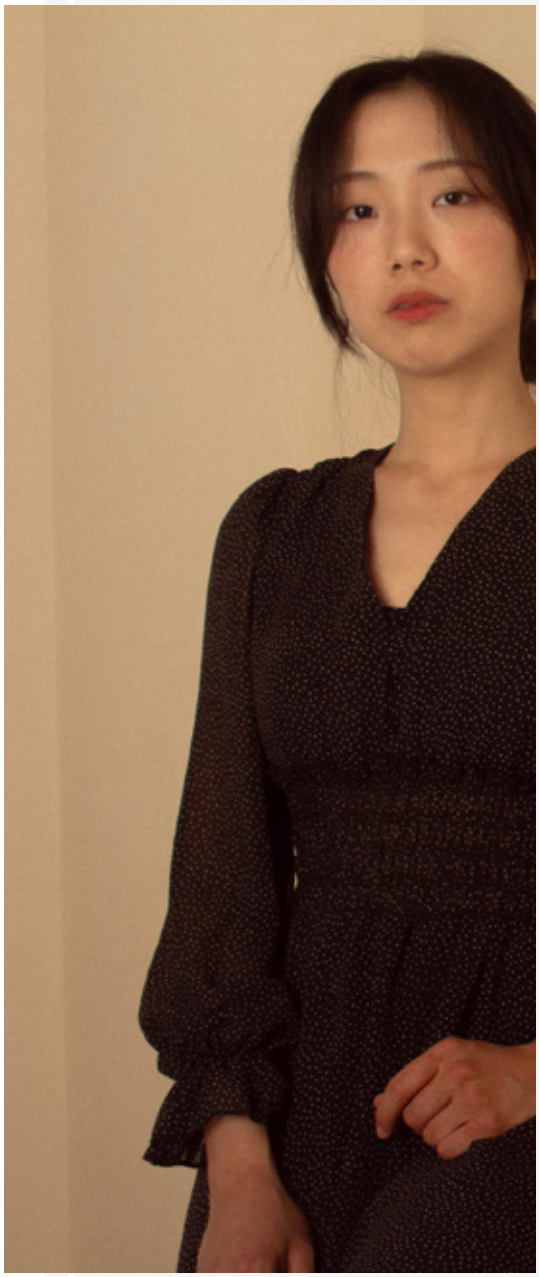
A smooth voice, groovy introduction, and the easily digestible beats of the guitar start this work of art. Lead vocal of the group, Yu Dabin, showcases her playful rendition of the lyrics above, alluding that the star of this piece is someone who is currently under the throes of a breakup. Though surrounded by people who are still giving them hope that there could be something salvageable in their relationship, they acquiesce to those opinions and accept the reality of their situation. We pick up a progression in their story as the beat hits strongly heard in the fourth line, accenting that there is no turning back from their realizations.

난 아무것도 하지 않고 흐르는 대로 천천히 다가왔다 물러나는 너를 너를 너를 째깍째깍 자꾸만	I don't even do anything I slowly go with the flow As soon as I approach, you step back Right away, again and again

As soon as the fourth line ends, basic chords coming from the piano and the snare hits from the drums pick up the rhythm of the initially slow hit. From the first two clauses, we can see that the lyricist and composer did nothing in changing the beat, but the development of timbre made it sound like it was more upbeat and joyful which is contradicted by the lyrics used—I didn't even do anything. Use of multiple pronouns in the use underlines the main character's frustration with their significant half's actions towards them; this is succeeded by several hits of the essential chords that are the backbone of the melody. Repeating sound words found in the last phrase emphasize the description of the bitterness they had felt.

We continue directly and are greeted by a spirited voice clashing with a dispirited sound, creating a harmonious balance between consonance and dissonance. A brief stop is heard in the part where the singer mimics the bawling they were planning to convey with the song supported by the part that separates the pre-chorus and chorus. In this part, we can see the severity of the transpired separation as the dominating voice narrates the trauma they are experiencing up to this day: a weary heart, damp pillowcase, and the ever-growing distance between them. Eventually, all of this reaches a climax at the latter sections of Yudabinband's creation accompanied by a number of accompaniments, feelings of annoyance traversing through their lead vocal's screams and employment of a jagged-sound rock guitar. The song closes after the instruments become quieter on the very last seconds of the recording and at the last strum of the guitar.

I have decided on these songs because, for me, they are clearly underrated songs that deserve the recognition and due credit to their efforts. The genre that these hits belong to already hinders them from being discovered by the general public because of the lack of publicity and the trends that these so-called "pop songs" establish in the market. As a result, young talents such as the aforementioned bands are barely managing to live. Similarly, another relation that I could leverage for the sake of creating a closed-loop story is that these artists are just like us students, swimming to and fro in the sea of competition, pressure, and homeworks. Give these songs a try, and tell me what you think about it.



Francis Erluph Barro Cabanting, 20-205@ksa.hs.kr

THE MYTH OF SISYPHUS: QUESTIONING THE VALUE OF LIFE

HYUNOOK HUR

A simple question: why do you live? I mean, why don't you just kill yourself? (Just to make things clear: I'm not encouraging you to jump out of the window or do something else that is terrible. It's JUST a question) What makes you choose life instead of death every morning when you wake up? A religion? Your friends and family? What will happen if someone starts to deny every single virtue he can imagine? No god, no absolute knowledge, no meaning at all. This book is kind of an answer to this fundamental philosophic inquiry.

"If life is meaningless at all, is it still valuable? How can we justify its value?"

About the writer

A few readers of this article may have already heard of the French writer Albert Camus. He won a Nobel Prize in literature in 1957 for his famous novel "The Stranger (1942, L'Étranger)". Even if you're not interested in "The myth of Sisyphus", I Strongly recommend reading The Stranger. It's a rather short and easy read, but still offers you great insight. Every piece of Camus' literature contains a strong, but a subtle message on existentialism. This message comes to us in a more organized and detailed manner when we read his essays. "The myth of Sisyphus", the book that I'll review in this article, is one of them.

The myth of Sisyphus

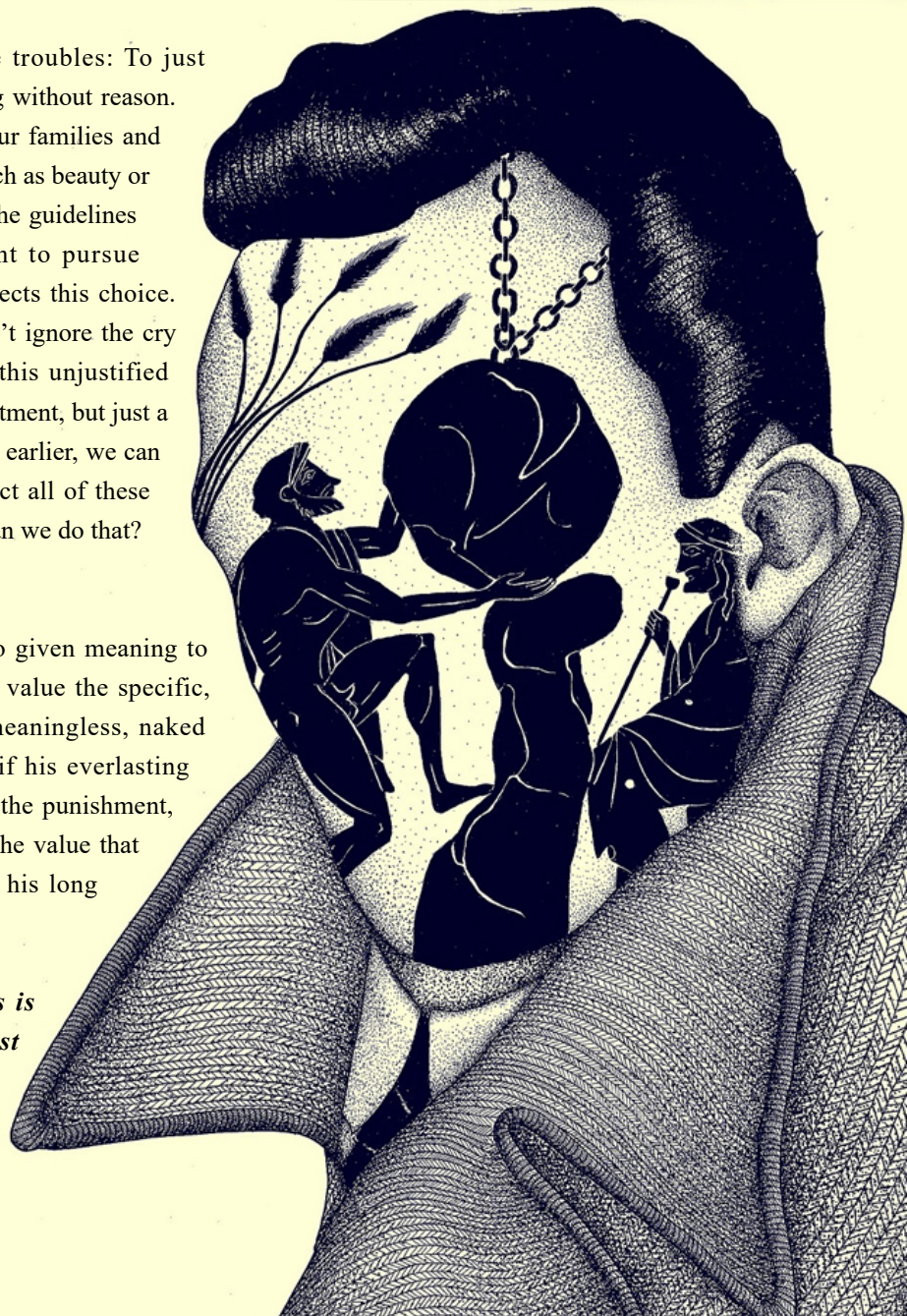
Sisyphus is a character from a Greek myth. Sisyphus was a cunning man. He tricked Thanatos, the god of death, several times to avoid imminent death. However, he eventually died and got punished. And what we focus on is the punishment. Instead of burning flames and torture, Sisyphus was destined to move a large rock to the top of the mountain. After he finishes, the rock rolls to the opposite side of the mountain. So, he must repeat the same work. Then the rock rolls down again, and so on. He must do this meaningless task, eternally. What Camus points out is that our life is essentially not different from the punishment given to Sisyphus. We are just waiting for death, repeating our pointless everyday routine. Even if something good happens, it is merely a moment, compared to the vast sea of nihil in front of us (some people may disagree at this point. Camus understood. But the book is not for them).

Absurdity of Life

Camus first suggests that life is, in general, absurd. An individual may try to understand what's going on around him, lying about his reason and rationality. However, he fails. Whenever he tries to find some underlying truth about the world, the world responds to him with unpredictable, undesired consequences. Every piece of logic he tried to justify, and any single fraction of reality brought him back where he started. This cicularaity put his entire idea of life in doubt (imagine a brain in a vat). The worst thing is that you must encounter the violence of this incomprehensible world on your own. You can not fight for your freedom--because you can't be free! The nature of the world you're thrown into will exhaust you continuously, finally kill you, still remaining as a secret.

A Veto on the Values

There is a simple escape to all of these troubles: To just surrender, and believe. Believing something without reason. Attaching to religion, social values like your families and your friends, or some metaphysical ideas such as beauty or morality. This will automatically generate the guidelines for your life with a goal that you ought to pursue throughout your life. However, Camus rejects this choice. Why? Because it's 'unbelievable'. One can't ignore the cry of his rationality arguing that satisfying this unjustified belief is deceiving. Those pills are not a treatment, but just a painkiller that lies to you. But as mentioned earlier, we can justify nothing about the world! If we reject all of these 'beliefs', we'll remain with nothing. How can we do that?



A Happy Sisyphus

Camus Tries a new solution. If there is no given meaning to life, we'll value the 'life'! Now we don't value the specific, underlying 'meanings' of life, but this meaningless, naked life itself. Sisyphus is now happy. Even if his everlasting punishment lacks any value, he can enjoy the punishment, and his body doing it. This joyfulness, IS the value that we were looking for. So, Camus finishes his long essay with these two sentences:

"The struggle itself toward the heights is enough to fill a man's heart. One must imagine Sisyphus happy."

A Bit of Elif Shafak's "The 40 Rules of Love"

22-205 Malakbozova Zevarniso

They say everybody needs a soul that fulfills you from within. Even when you think you are enough, somewhere there is someone who someday may appear and help you figure out the void you have been carrying for 16, 25 or maybe even 38 years of life deep down in your soul.

As stories and myths have been brought down to us, it was Shams of Tabriz who ignited the flames of inspiration in the great Rumi to become a poet and a figure renowned worldwide. Even though there is no concrete historical evidence of Shams ever to have existed, Rumi's mesmerizing pieces of work leave one bemused and mystified as he continuously puts forward the love that changed his view of the world. But tell we must, that this story did not have a storybook-like ending, one that is joyous and fitting, bright and carefree. Instead, after 6 years of their life together, an atrocious case paved its way across their lives.

Amid devotion and reverence between Shams and Rumi, but also hostility and malevolence in the eyes of the society, there was something more to it – envy. Aladdin, the youngest son of Rumi, whose hatred very soon transformed into resentful jealousy did something he did not expect to end up regretting for the rest of his life. Seeing his father bit by bit drawing away from the family and the society, Rumi's own son devoid him of the love that gave his life sense. Aladdin, with the intention of getting his father back to life barely realized that Shams was Rumi's life. Shams' death meant Rumi had no more life inside him…

…until he realized the void. The void that was filled by Shams. The mission that his companion had successfully completed. The love that awoke his soul and empowered him to leave behind the 40 rules of religion of love to us.

As you wade through these powerful messages, imagine yourself looking at Shams through the eyes of Rumi.

Rule 1

How we see God is a direct reflection of how we see ourselves. If God brings to mind mostly fear and blame, it means there is too much fear and blame welled inside us. If we see God as full of love and compassion, so are we.

Rule 2

The path to the Truth is a labour of the heart, not of the head. Make your heart your primary guide! Not your mind. Meet, challenge and ultimately prevail over your nafs with your heart. Knowing your ego will lead you to the knowledge of God.

The Forty Rules of Love

Every true love and friendship is a story
of unexpected transformation . . .

Rule 3

You can study God through everything and everyone in the universe, because God is not confined in a mosque, synagogue or church. But if you are still in need of knowing where exactly His abode is, there is only one place to look for him: in the heart of a true lover.

Rule 4

Intellect and love are made of different materials. Intellect ties people in knots and risks nothing, but love dissolves all tangles and risks everything. Intellect is always cautious and advice, 'Beware too much ecstasy', whereas love says, 'Oh, never mind! Take the plunge!' Intellect does not easily break down, whereas love can effortlessly reduce itself to rubble. But treasures are hidden among ruins. A broken heart hides treasures.

Rule 5

Most of the problems of the world stem from linguistic mistakes and simple misunderstandings. Don't ever take words at face value. When you step into the zone of love, language as we know it becomes obsolete. That which cannot be put into words can only be grasped through silence.

Rule 6

Loneliness and solitude are two different things. When you are lonely, it is easy to delude yourself into believing that you are on the right path. Solitude is better for us, as it means being alone without feeling lonely. But eventually it is best to find a person who will be your mirror. Remember only in another person's heart can you truly see yourself and the presence of God within you.

Rule 7

Whatever happens in your life, no matter how troubling things might seem, do not enter the neighbourhood of despair. Even when all doors remain closed, God will open up a new path only for you. Be thankful! It is easy to be thankful when all is well. A Sufi is thankful not only for what he has been given but also for all that he has been denied.

Rule 8

Patience does not mean to passively endure. It means to look at the end of a process. What does patience mean? It means to look at the thorn and see the rose, to look at the night and see the dawn. Impatience means to be shortsighted as to not be able to see the outcome. The lovers of God never run out of patience, for they know that time is needed for the crescent moon to become full.

Rule 9

East, west, south, or north makes little difference. No matter what your destination, just be sure to make every journey a journey within. If you travel within, you'll travel the whole wide world and beyond.

Rule 10

The midwife knows that when there is no pain, the way for the baby cannot be opened and the mother cannot give birth. Likewise, for a new self to be born, hardship is necessary. Just as clay needs to go through intense heat to become strong, Love can only be perfected in pain.

Rule 11

The quest for love changes user. There is no seeker among those who search for love who has not matured along the way. The moment you start looking for love, you start to change within and without.

Rule 12

There are more fake gurus and false teachers in this world than the number of stars in the visible universe. Don't confuse power-driven, self-centered people with true mentors. A genuine spiritual master will not direct your attention to himself or herself and will not expect absolute obedience or utter admiration from you, but instead will help you to appreciate and admire your inner self. True mentors are as transparent as glass. They let the light of God pass through them.

Rule 13

Try not to resist the changes, which come your way. Instead let life live through you. And do not worry that your life is turning upside down. How do you know that the side you are used to is better than the one to come?

Rule 14

God is busy with the completion of your work, both outwardly and inwardly. He is fully occupied with you. Every human being is a work in progress that is slowly but inexorably moving toward perfection. We are each an unfinished work of art both waiting and striving to be completed. God deals with each of us separately because humanity is fine art of skilled penmanship where every single dot is equally important for the entire picture.

Rule 15

It's easy to love a perfect God, unblemished and infallible that He is. What is far more difficult is to love fellow human beings with all their imperfections and defects. Remember, one can only know what one is capable of loving. There is no wisdom without love. Unless we learn to love God's creation, we can neither truly love nor truly know God.

Rule 16

Real faith is the one inside. The rest simply washes off. There is only one type of dirt that cannot be cleansed with pure water, and that is the stain of hatred and bigotry contaminating the soul. You can purify your body through abstinence and fasting, but only love will purify your heart.

Rule 17

The whole universe is contained within a single human being-you. Everything that you see around, including the things that you might not be fond of and even the people you despise or abhor, is present within you in varying degrees. Therefore, do not look for Sheitan outside yourself either. The devil is not an extraordinary force that attacks from without. It is an ordinary voice within. If you set to know yourself fully, facing with honesty and hardness.

Rule 18

If you want to change the ways others treat you, you should first change the way you treat yourself, fully and sincerely, there is no way you can be loved. Once you achieve that stage, however, be thankful for every thorn that others might throw at you. It is a sign that you will soon be showered in roses.

Rule 19

Fret not where the road will take you. Instead concentrate on the first step. That is the hardest part and that is what you are responsible for. Once you take that step let everything do what it naturally does and the rest will follow. Don't go with the flow. Be the flow.

Rule 20

We were all created in His image, and yet we were each created different and unique. No two people are alike. No heartbeat to the same rhythm. If God had wanted everyone to be the same, He would have made it so. Therefore, disrespecting differences and imposing your thoughts on others is an amount to disrespecting God's holy scheme.

Rule 21

When a true lover of God goes into a tavern, the tavern becomes his chamber of prayer, but when a wine bibber goes into the same chamber, it becomes his tavern. In everything we do, it is our hearts that make the difference, not our outer appearance. Sufis do not judge other people on how they look or who they are. When a Sufi stares at someone, he keeps both eyes closed instead opens a third eye – the eye that sees the inner realm.

Rule 22

Life is a temporary loan and this world is nothing but a sketchy imitation of Reality. Only children would mistake a toy for the real thing. And yet human beings either become infatuated with the toy or disrespectfully break it and throw it aside. In this life, stay away from all kinds of extremities, for they will destroy your inner balance. Sufis do not go to extremes. A Sufi always remains mild and moderate.

Rule 23

The human being has a unique place among God's creation. "I breathed into him of My Spirit," God says. Each and every one of us without exception is designed to be God's delegate on earth. Ask yourself, how often do you behave like a delegate, if you ever do so? Remember, it feels upon each of us to discover the divine spirit inside and live by it.

Rule 24

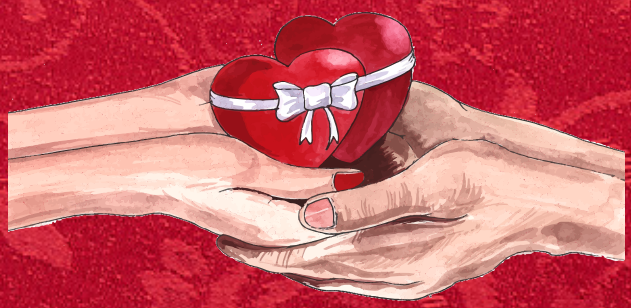
Hell is in the here and now. So is heaven. Quit worrying about hell or dreaming about heaven, as they are both present inside this very moment. Every time we fall in love, we ascend to heaven. Every time we hate, envy or fight someone we tumble straight into the fires of hell.

Rule 25

Each and every reader comprehends the Holy Qur'an on a different level of tandem with the depth of his understanding. There are four levels of insight. The first level is the outer meaning and it is the one that the majority of the people are content with. Next is the Batin – the inner level. Third, there is the inner of the inner. And the fourth level is so deep it cannot be put into words and is therefore bound to remain indescribable.

Rule 26

The universe is one being. Everything and everyone is interconnected through an invisible web of stories. Whether we are aware of it or not, we are all in a silent conversation. Do no harm. Practice compassion. And do not gossip behind anyone's back – not even a seemingly innocent remark! The words that come out of our mouths do not vanish but are perpetually stored in infinite space and they will come back to us in due time. One man's pain will hurt us all. One man's joy will make everyone smile.



Rule 27

Whatever you speak, good or evil, will somehow come back to you. Therefore, if there is someone who harbours ill thoughts about you, saying similarly bad things about him will only make matters worse. You will be locked in a vicious circle of malevolent energy. Instead for forty days and nights say and think nice things about that person. Everything will be different at the end of 40 days, because you will be different inside.

Rule 28

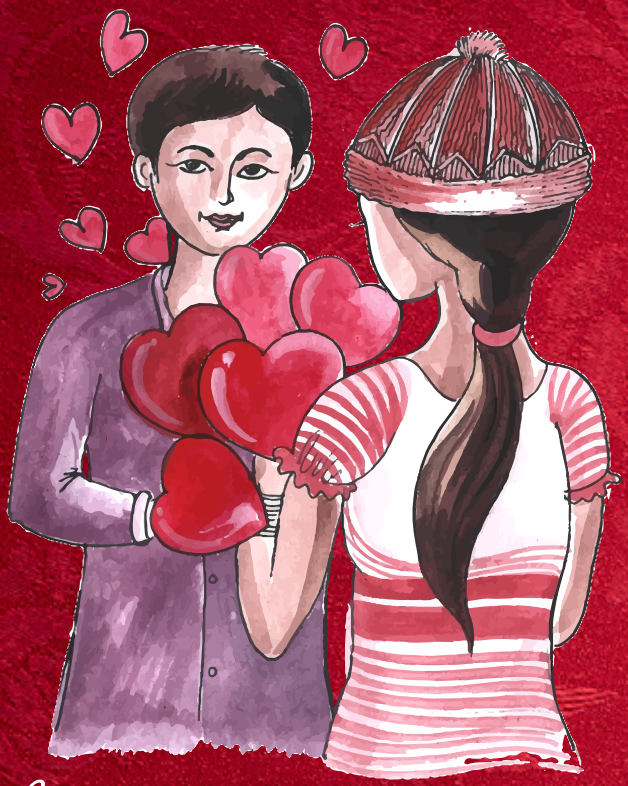
The past is an interpretation. The future is an illusion. The world does not more through time as if it were a straight line, proceeding from the past to the future. Instead time moves through and within us, in endless spirals. Eternity does not mean infinite time, but simply timelessness. If you want to experience eternal illumination, put the past and the future out of your mind and remain within the present moment.

Rule 29

Destiny doesn't mean that your life has been strictly predetermined. Therefore, to live everything to the fate and to not actively contribute to the music of the universe is a sign of sheer ignorance. The music of the universe is all pervading and it is composed of 40 different levels. Your destiny is the level where you play your tune. You might not change your instrument but how well to play is entirely in your hands.

Rule 30

The true Sufi is such that even when he is unjustly accused, attacked and condemned from all sides, he patiently endures, uttering not a single bad word about any of his critics. A Sufi never apportions blame. How can there be opponents or rivals or even "others" when there is no "self" in the first place? How can there be anyone to blame when there is only One?



Rule 31

If you want to strengthen your faith, you will need to soften inside. For your faith to be rock solid, your heart needs to be as soft as a feather. Through an illness, accident, loss or fright, one way or another, we are all faced with incidents that teach us how to become less selfish and judgmental and more compassionate and generous. Yet some of us learn the lesson and manage to become milder, while some others end up becoming even harsher than before…

Rule 32

Nothing should stand between you and God. No imams, priests, rabbits or any other custodians of moral or religious leadership. Not spiritual masters and not even your faith. Believe in your values and your rules, but never lord them over others. If you keep breaking other people's hearts, whatever religious duty you perform is no good. Stay away from all sorts of idolatry, for they will blur your vision. Let God and only God be your guide. Learn the Truth, my friend, but be careful not to make a fetish out of your truths.

Rule 33

While everyone in this world strives to get somewhere and become someone, only to leave it all behind after death, you aim for the supreme stage of nothingness. Live this life as light and empty as the number zero. We are no different from a pot. It is not the decorations outside but the emptiness inside that holds us straight. Just like that, it is not what we aspire to achieve but the consciousness of nothingness that keeps us going.

Rule 34

Submission does not mean being weak or passive. It leads to neither fatalism nor capitulation. Just the opposite. True power resides in submission a power that comes within. Those who submit to the divine essence of life will live in unperturbed tranquillity and peace even the whole wide world goes through turbulence after turbulence.

Rule 35

In this world, it is not similarities or regularities that take us a step forward, but blunt opposites. And all the opposites in the universe are present within each and every one of us. Therefore the believer needs to meet the unbeliever residing within. And the nonbeliever should get to know the silent faithful in him. Until the day one reaches the stage of Insane-I Kamil, the perfect human being, faith is a gradual process and one that necessitates its seeming opposite: disbelief.

Rule 36

This world is erected upon the principle of reciprocity. Neither a drop of kindness nor a speck of evil will remain unreciprocated. For not the plots, deceptions, or tricks of other people. If somebody is setting a trap, remember, so is God. He is the biggest plotter. Not even a leaf stirs outside God's knowledge. Simply and fully believe in that. Whatever God does, He does it beautifully.

Rule 37

God is a meticulous dock maker. So precise is His order that everything on earth happens in its own time. Neither a minute late nor a minute early. And for everyone without exception, the clock works accurately. For each there is a time to love and a time to die.

Rule 38

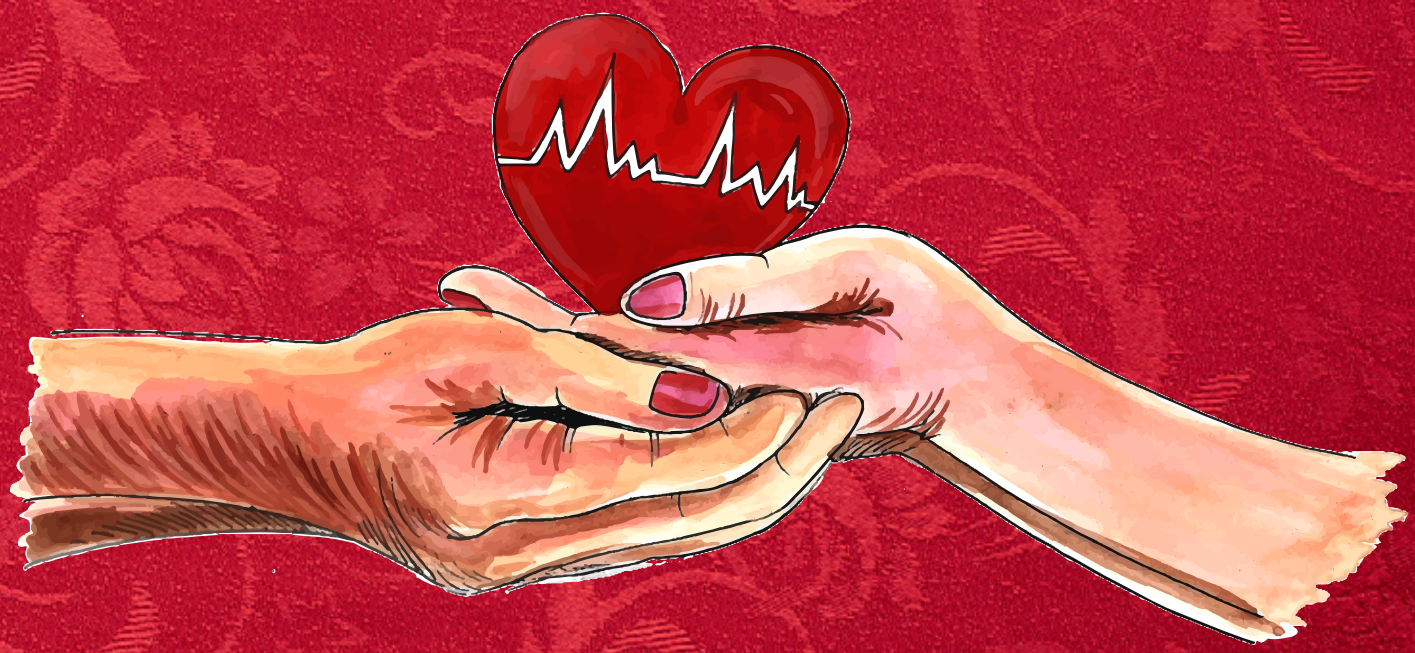
It is never too late to ask yourself, "Am I ready to change the life I am living? Am I ready to change within?" Even if a single day in your life is the same as the day before, it surely is a pity. At every moment and with each new breath, one should be renewed and renewed again. There is only one-way to be born into a new life: to die before death.

Rule 39

While the parts change, the whole always remains the same. For every thief who departs this world, a new one is born. And every decent person who passes away is replaced by a new one. In this way not only does nothing remain the same but also nothing ever really changes. For every Sufi who dies, another is born somewhere.

Rule 40

A life without love is of no account. Don't ask yourself what kind of love you should seek, spiritual or material, divine or mundane, Eastern or Western. Divisions only lead to more divisions. Love has no labels, no definitions. It is what it is, pure and simple. Love is the water of life. And a lover is a soul of fire! The universe turns differently when fire loves water.



Everything Everywhere All at Once: Optimism in the Face of Nihilism

Macharia Wanjagi

How has each decision affected your life? What if choosing a red sweater instead of a blue one is the difference between you becoming a mundane office worker or a critically-acclaimed singer? Could your life be that different due to such a seemingly minuscule, insignificant decision? A24 Studio's Everything Everywhere All at Once (EEAAO) delves into this concept, taking the audience on a trip through the multiverse.

Directed by the screenwriting and directing duo, the Daniels, *EEAAO* hit cinemas in March 2022 and took Hollywood by storm. With exceptional cinematography and visual effects, it's surprising that the film was made on a budget of a relatively low $14.5 million and I won't be shocked if it picks up some silverware at next year's Oscars. Surpassing $102 million worldwide, it quickly became studio A24's highest-grossing film. It features a star-studded cast, led by Michelle Yeoh, Ke Huy Quan and Jamie Lee Curtis. In particular, I thought Stephanie Hsu really shone in her role. She had a much more significant role here than she did in *Shang-Chi* and *the Legend of the Ten Rings*, and she did not disappoint.

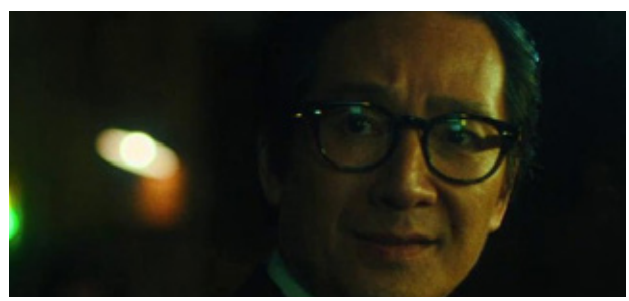
EEAAO follows Evelyn Wang (played by Michelle Yeoh), a directionless Chinese immigrant in the US overwhelmed by the stress of managing her family's laundromat, dealing with her worsening marriage, and the growing distance between her and her daughter, Joy. As she prepares to save herself from being audited by the IRS, she daydreams of the life she could have had if things panned out differently. Her monotonous life is turned upside-down when an interdimensional rupture threatens the fabric and it is Evelyn that is tasked with traversing multiple realities to stop the antagonist, Jobu Tupaki.

The subject of the 'multiverse' has had a resurgence as of late, with blockbuster movies such as Marvel's *Spiderman: No Way Home* and *Doctor Strange: Multiverse of Madness*. However, it seemed to me that these films used it as more of a spectacle and for 'nostalgia bait', bringing in big names like Andrew Garfield and Patrick Stewart for a fan reaction, rather than using it to its full potential. On the other hand, EEAAO used it as a means to explore Evelyn's relationship with her daughter, her husband, and herself. It has a more unique take on multiverses, with each parallel being similar to her own in many respects but all linked to the original, the 'alpha verse'. Fans of *Rick and Morty* or *Spider-man: Into the Spider-verse* will be more familiar with this form of the multiverse. Moreover, more complex themes, such as generational trauma, parenthood and nihilism are explored. Though it is easy to get swept up in the pageantry of the multiverse being displayed, I got the impression that this was the Daniels' way of scrutinizing and dissecting Evelyn's character and her relationships, that it was more of a metaphor rather than a plot device.

The visual effects and cinematography of *EEAAO* deserve an entire article on their own but I will just briefly mention them here. For more than 10 years, Marvel films have made us as audiences accustomed to ground-breaking visual effects, so much so that there is an overreliance on CGI recently and our sense of immersion can easily be broken. EEAAO was refreshing as a lot of the effects were done practically and the shots that were CGI matched the frantic style of the film, all while looking near-photorealistic. It had a more grounded feel to it, something that's been missing from recent Hollywood blockbusters. Additionally, there are multiple aspect ratios, themes, scores and costume changes throughout the film, illustrating the variety of each universe the picture takes us through. Considering that all this was done with a small team of just a few visual effects artists, led by the Daniels' close friend Zak Stoltz, it definitely stood out to me from this year's releases. The movie is chock-full of a variety of references from the *Matrix to 2001: A Space Odyssey*, and even *Ratatouille*. The choreography of the fights really impressed me as it was reminiscent of classic martial-arts movies and some of the actors performed their own stunts.

Without getting too much into spoilers, the movie concludes on a beautiful note, with the perseverance of optimism in the face of crushing nihilism. The ending message is something that I think a lot of people these days can resonate with. The sense of ennui in our lives may seem overwhelming, but "do whatever you want, nothing matters" can be interpreted in two ways: from a pessimistic viewpoint or an optimistic one. The film ends by telling us to live life day by day, to take things in stride, and enjoy the little things rather than worry about things out of our control or too deeply about the future. However, this is just one of the many different interpretations.

The Daniels' certainly made something special with their *EEAAO*. The film's commentary on the destructive nature of nihilism is one that left me leaving the theatre with an altered viewpoint on life. If you are looking bold, invigorating movie, *EEAAO* is worth the 2 hours and 20 minutes runtime.



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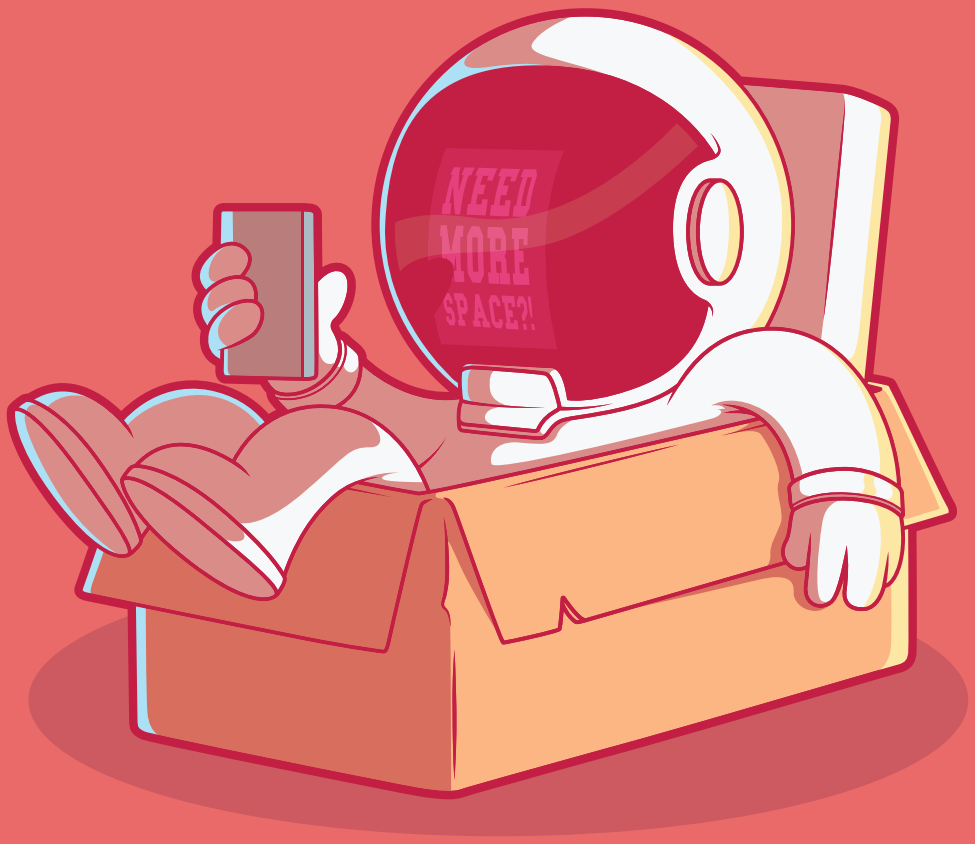
SCIENCE & TECHNOLOGY


NEED
MORE
SPACE?!

THE BASIC CONCEPTS OF A

QUANTUM COMPUTER

20-105 JUNWOO JUNG

As it may be implied in the name quantum computer, a quantum computer is an advanced type of classical computer, taking advantage of quantum mechanical concepts such as superposition or quantum entanglement. For further understanding, let us briefly look over those concepts.

Wave-Like Characteristics of a Particle

We have learned from Young's double slit experiment that when light passes through two narrow double slits, light diffracts and interferes with each other—which is considered a wave-like characteristic—creating a repeated pattern of narrow stripes parallel to the slits.

This surprising fact is true not only for photons(light) but also for electrons or any other particles. Such results could not be explained with classical mechanics, and scientists had to admit that the experiment implies that every particle possesses wave-like characteristics.

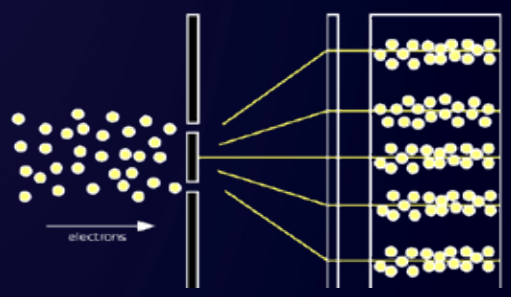


Figure 1. Image of the Electrons Passing through the double slits forming a parallel pattern

Every Particle exists in a Form of a Wave Function

Quantum physics views a particle as a wave function. Each wave function carries all the possible information of a particle. For instance, if a particle is in the wave function A, then all the physical quantities (or the possibilities for the physical quantities to have the certain values) are determined. According to such a perspective, every particle does not have a specific position in the three-dimensional world we are living in, but it can possibly have various positions with corresponding possibilities. As a matter of fact, the intuition of our classical-view is just an illusion hence the position appears to be determined every time we 'observe' the particle.

$$\langle A|x\rangle = \sqrt{\frac{2}{a}}\, sin\left(\frac{\pi x}{L}\right)$$

Equation 1. Wavefunction of the electrons passing thorough the ideal slit length of L in position basis

Such view-point interprets the double slit experiment that the narrow slit occurs as a boundary condition which causes the wave-function to be in a wave-like mathematical form in the basis of position.

Superposition and Collapse of Wave Function

A particle not only exists in a single 'state' or a wavefunction, but it has possibilities to exist in various states among the possible candidates determined by the Schrodinger equation. For example, let us assume that there is a particle A that can exist in both state |P_1⟩ and |P_2⟩. We say that the particle A is in a super-positioned state of |P_1⟩ and |P_2⟩. Mathematically, the state of the particle A can be described as the linear combination of the possible states -which are |P_1⟩ and |P_2⟩ for this case- whose coefficients are real numbers.

$$|Particle\ A\rangle = a|P_1\rangle + b|P_2\rangle$$

Equation 2. Super positioned Wavefunction of a particle A

When the particle A is 'observed', the particle exists in either state |P_1⟩ or |P_2⟩. If the particle turns out to exist as |P_1⟩, we say the particle A collapsed in to |P_1⟩. The probability for a particle to exist in certain state is the square of its coefficient (which are a^2 and b^2 for |P_1⟩ and |P_2⟩ for this case, respectively). Hence, the sum of square of coefficient should be 1.

Wave Function of a System and its Quantum Entanglement

For each system, let us first observe the state of particle 1. For system-alpha, when state |a⟩ is observed, the possible wavefunctions are 1/2 |ab⟩ and 1/2 |aB⟩, whose ratio of possibility is 1:1, which makes probability of observing whether |b⟩ or |B⟩ 50%. Similarly, when the particle 1 is observed |A⟩, probability of observing |b⟩ or |B⟩ is equally 50%, which implies that observing the state of particle 1 does not affect the result of observing particle 2. We say particle 1 and particle 2 is independent.

$$|System\ \alpha\ \rangle = \frac{1}{2}|ab\rangle + \frac{1}{2}|aB\rangle + \frac{1}{2}|Ab\rangle + \frac{1}{2}|AB\rangle$$

Equation 4. Wavefunction of system beta, entangled

For system-beta, when state |a⟩ is observed, the possible wavefunctions are as same as system-alpha 1/2 |ab⟩ and 1/2 |aB⟩, which the probability of observing |b⟩ or |B⟩ is 50%. However, when the particle 1 is observed |A⟩, the possible wavefunction is 1/√2|Ab⟩, which means the state of particle 1 is determined |b⟩. Unlike system-alpha, probability for particle 2 be in |b⟩ or |B⟩ changes depending on the result of particle 1's observation. We say that the particle 1 and the particle is entangled.

	Observation of Particle 1	Probability of $\|b\rangle$	Probability of $\|B\rangle$
System α	$\|a\rangle$	50%	50%
	$\|A\rangle$	50%	50%
System β	$\|a\rangle$	50%	50%
	$\|A\rangle$	100%	0%

Figure 2. Table of the possible states and their possibility to be measured in system alpha and beta.

Qubits: The Basic Unit of Information in Quantum Computer

Classical computers recognize data as a long sequence of zeros and ones. When electric current flows, the signal is interpreted as one and if it is not, the signal is interpreted as zero. This basic unit of information is called a bit, which can have a value of zero or one.

Similarly, the basic unit of information that quantum computers process is called a qubit. Unlike bit, qubit is a super-positioned state of two states: $|1\rangle$ and $|0\rangle$. Each state is 2×1 matrix which stands for $\begin{bmatrix}1\\0\end{bmatrix}$ and $\begin{bmatrix}0\\1\end{bmatrix}$, respectively. Therefore, arbitrary qubit $|v\rangle$ can be represented as below.

$$|v\rangle = a|1\rangle + b|0\rangle = \begin{bmatrix}a\\b\end{bmatrix}, where\ a^2 + b^2 = 1$$

Equation 5. Mathematical form of Qubit

Advantage of Quantum Algorithm: Binary Search vs Grover's algorithm

The powerfulness of qubits appears when associated with quantum algorithm. The time complexity of quantum algorithm can be lower than classical algorithm in solving certain problem.

Let us think of a simple situation. There are 100 boxes containing one balloon each and one of them is red, others have all different colors; we want to find the red one. Assuming that the box is opened one by one, it takes at least one time and up to 100 times. Generalizing the result, if the number of boxes is n, then the time complexity function of the search is $O(n)$.

However, if the balloons are ordered in a certain way, alphabetically for example, more efficient way exists. If we pick a balloon in the center and checked it is blue, since blue <red in alphabetical order, we can know that the red one is somewhere between 51~100. If we check the balloon in the center of 51~100, it reduces the group size to the half again. Repeating this process takes up to $\log_2 n$, which makes the time complexity reduce to $O(\log(n)$.

Specific process requires further explanation, but Grover's' algorithm involving qubits operates similarly by manipulating the coefficients of the qubits so that they can somehow make it ordered as it was likened to alphabetically ordered balloons.

Though quantum algorithm performs reduced time complexity on various situations, there is a non-negligible error. For the upper situation, the possibility of error is $O(1/n)$ which can be considerable when n is not big enough.

Advantages and Limitations

Despite quantum computers having a clear advantage in which the quantum algorithm is much more efficient than the classical algorithm counterpart when solving certain problems, there are difficulties in implementing an actual quantum computer: extreme sensitivity to the external environment, amplification of errors due to the linearity of the computation, relative lack in reliable matrix transformation, etc.

Nevertheless, a quantum computer is no longer a concept that only seems to appear in a sci-fi creation, but it is currently developed in universities and companies all over the world, including Google, IBM, KAIST, etc. It is visioned that quantum computers will not fully replace the classical computer, but the two types of computers will be utilized in appropriate situations and will help mankind to take a big step forward again.

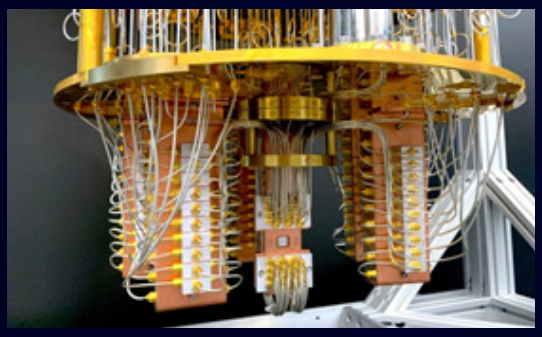


Figure 3. The first commercialized quantum computer in the world developed by IBM

COMPUTERS PREDICT CHEMICAL REACTIONS

20-082 YEJIN LEE

The hardest thing about organic chemistry research is that most of the experiments are based on repeated trial and error. This is because the optimal reaction path, experimental environment, and synthesis results are not known in advance. During my own experience of research, the products that I thought would naturally dissolve in water didn't dissolve at all, or the important properties sometimes disappeared during the synthesis process. Eventually, this process of trial and error resulted in a lot of effort, limited sample consumption, and time delay. These worries have been a chronic problem that many chemists have been agonizing over and confronting over the long history of organic chemistry.

But as chemistry progresses and chemical reactions become more complex, it's no longer practical for scientists to sit in laboratories and mix chemicals directly and see what happens. Tom Miller, a chemistry professor at the California Institute of Technology (Caltech), Matt Welborn, a post-doctoral researcher at Lesnick Sustainable Research Institute, and Lish Cheng, a graduate of Caltech Chemical Engineering, developed a technology that can predict chemical reactions before reagents touch test tubes. "This tool connects what we care about in the macro world with the characteristics of the micro world," Miller said. "This prediction can tell us which catalysts have better capabilities than other catalysts and can be used to select new drug candidates."

They are not the first to develop a technology that uses computers to predict chemical reactions. Many supercomputers on Earth are already being used to predict chemical reactions. Previous tools are based on three computational modeling methods known as "density functional theory" (DFT), "coupled cluster theory" (CC), and "Mlller-Preset perversion theory" (MP2). These theories are three different approaches to the Schrödinger equation, which describes complex systems in which quantum mechanics plays a large role.

Density-functional theory (DFT) is a computational quantum mechanical modelling method used in physics, chemistry, and materials science to investigate the electronic structure (or nuclear structure) (principally the ground state) of many-body systems, in particular atoms, molecules, and the condensed phases. Using this theory, the properties of a many-electron system can be determined by using functionals of the spatially dependent electron density. Coupled cluster essentially takes the basic Hartree–Fock molecular orbital method and constructs multi-electron wavefunctions using the exponential cluster operator to account for electron correlation. Møller–Plesset perturbation theory (MP) improves on the Hartree–Fock method by adding electron correlation effects usually to second (MP2), third (MP3), or fourth (MP4) order.

DFT is fast and simple, but it is less accurate. CC and MP2 are much more accurate, but they take longer to calculate and require more computinger power. Miller, Cheng, and Wellborn's tools are not only more accurate than DFT's, but also help predict chemical reactions in less time than CC or MP2. This is possible because the researchers focused their machine- learning algorithm on the properties of molecular orbitals (electron clouds around molecules). In contrast, existing tools focus on the angles at which the atoms or atoms that make up the molecules are bonded to each other.

So far, their approaches show many possibilities, although they are only used to predict relatively simple systems. "The real test is to find out how to react to more complex chemical problems," Miller said. Still, he is optimistic about this based on preliminary results. "If we make this possible, computers will be very helpful in solving chemical problems," he said. "We're very excited."

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Are You in Love?

A Scientific Explanation of How Love Affects Humans

22-203 Emelyn Nashely Illatopa Yali

Romantic love is difficult to understand, yet a fascinating emotion. While for some people love is like a curse, for others love is a blessing that makes life more interesting and meaningful.

Science has been trying to uncover the mysteries behind this emotion that has affected humans since ancient times but has so far been unable to come to any exact conclusions. According to genetics, love is a means by which humans follow their instinct to procreate. Psychology, on the other hand, says that love is a complex emotion that involves the occurrence of specific "reactions" when perceiving or being in contact with another individual. These "reactions" occurring in our bodies when feeling love include an intense desire for intimacy and physical union with the individual, a desire for reciprocity, fear of rejection, frequent thoughts of the individual interfering with daily activity, loss of concentration, strong physiological activity in the presence of the individual, having the other individual as the sole focus of attention, and a strong idealization of the individual.

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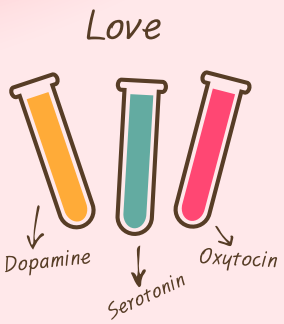
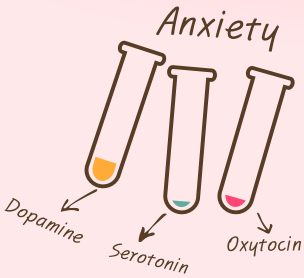
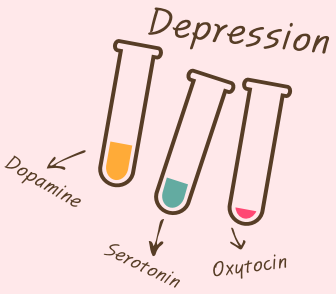
Seeing how love affects people's external behavior, the next question would be how love affects us physically and internally.

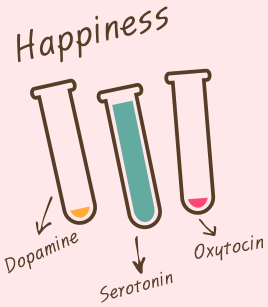


When a person feels love, more than 250 substances are triggered in his or her brain. These substances mainly include oxytocin, dopamine, and serotonin. Oxytocin (also known as the love hormone), helps us to create a strong connection with our loved ones, which provokes a strong need to be in constant physical contact with each other while providing people in love with joy and euphoria. Dopamine on the other hand makes us feel pleasure and energy, which makes us feel good with our loved ones, even when performing common activities such as eating food. Finally, serotonin acts on our emotions and moods, giving us a feeling of well-being and optimism, which plays an important role in inhibiting anger and rage. That is why people in love feel cheerful and have a wonderful perception of life.





In conclusion, love is a double-edged sword. It is capable of providing us with so many benefits in our attitude and mood, while at the same time it can give us so much pain and little concentration. It is up to us to decide whether to experience it or not and when to do it. No better person can talk about romantic love than the one who has already experienced it or is experiencing it. Would you dare to try it?



The Return of Ground Effect

What is it?

21-087 Lee Hyunseung

2022 has been an interesting year for motorsport fans, all thanks to one keyword: ground effect. The 2022 season of Formula One finally saw the long-awaited adaptation of new regulations, mainly focused around the "ground effect." Not only that, the World Endurance Championship also introduced the hypercar category, a new category with a lot less limits and more room for constructors to work with, where Peugeot debuted their 9X8 race car, equipped with ground effect. Then what actually is the ground effect? What are the benefits? Let's find out.

1. What is it?

Ground effect is a heavy application of the Venturi effect to cars, especially on the lower parts of the car, used in order to create downforce. Venturi tunnel can be imagined as three components: the volume-reducing throat section, followed by the minimum diameter nozzle section, and the expanding diffuser section. The nozzle section, which has a smaller cross-section, increases the speed of airflow. As a result, the pressure under the car drops while the pressure on top is unaffected, and together this results in a net downward force, also known as downforce. Viscosity also plays a part. When a car moves over the ground, the boundary layer on the ground becomes helpful. In the reference frame of the car, the ground is moving backward at some speed. Since air has viscosity, as the ground moves, it pulls on the air above it and causes it to move faster. This enhances the Bernoulli effect and increases downforce. This is an example of the Couette flow.

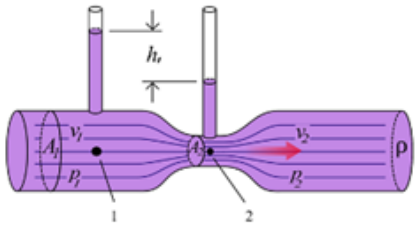
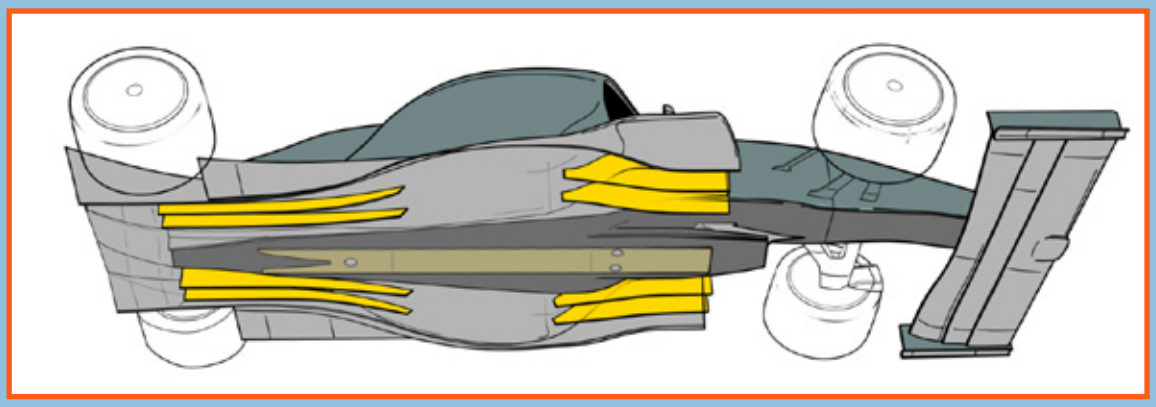
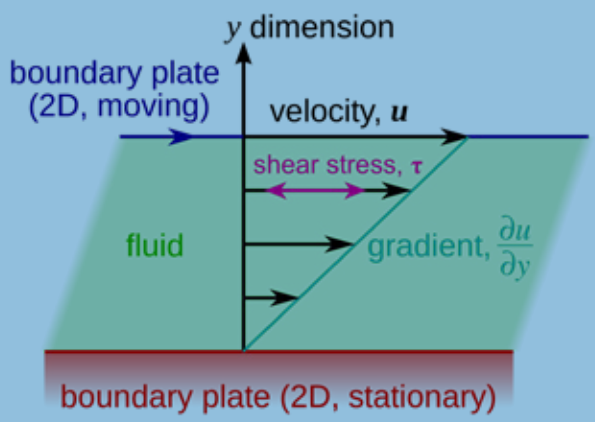
	Wide Region	Narrow Region
Bernoulli's Equation	$P_1 + \rho gh + \frac{1}{2}\rho v_1^2 = P_2 + \rho gh + \frac{1}{2}\rho v_2^2$	
Linear Speed (v)	↓	↑
Cross-Sectional Area (A)	↑	↓
Dynamic Pressure ($\frac{1}{2}\rho v^2$)	↓	↑
Static Pressure ($P + \rho gh$)	↑	↓
Height of Column	↑	↓
Illustration *(Note: h in Bernoulli's equation is the same throughout the tube; h_l refers to the difference in column height between the two regions)*		

Chart explaining Venturi tunnel



The underbody of 2022 F1 cars. The floor is integrated with Venturi tunnel, which extends to the diffuser on the rear



Demonstration of Couette flow. In our case, the moving boundary plate will be the floor of the F1 car

2. Why? What's the benefit?

The aim of a designer in motorsports is to increase the downforce and grip, thus achieving higher cornering speed and eventually faster lap time. To achieve this, wings were used on racing cars from the mid-1960s and even to this day. Wings generate downforce by causing the venturi effect on top of the car, as opposed to the ground effect. Although this creates a large downforce, it also creates some problems. First of all, since there isn't control of airflow in the transverse axis, disrupted airflow also causes vortexes on the sides of the car, causing a considerable amount of drag and slowing the car in a straight line. Not only that, if a car is running ahead of you, disrupted air, A.K.A "dirty air", will give you much less downforce, making it harder to follow cars in front, which is not only bad for drivers to get better results but also stops good racing with multiple overtakes for fans to enjoy. Legendary F1 designer, Colin Chapman, first applied it on Lotus 78 and won the world championship the next year with Lotus 79 which won six races that season and proved the effectiveness of the ground effect. Ground effect was later outlawed by the officials in 1983. So then why did it come back almost 40 years later? Modern Formula One, especially the hybrid V6 era, has been dominated by Mercedes. Not only that, regulations that focused on enhancing cornering ability using complicated aero devices have been in effect since 2017. This caused much more dirty air and considering their dependence on aero, racing has become a lot more stale and lacking overtakes. A lot of complaints about closer racing were made. In order to achieve that, the ground effect was brought in. Since the ground effect doesn't disturb the air and doesn't get affected by the dirty air as much as using traditional aero does, it allows cars to run at a similar pace even when they are close together, which will eventually lead to more wheel-to-wheel action. According to the FIA, 2022 cars will lose only about 10% of downforce compared to 50% of 2019 cars, which would allow closer racing.

Peugeot 9X8's debut race at 6 hours of Monza. Notice the lack of rear spoilers compared to its competitors

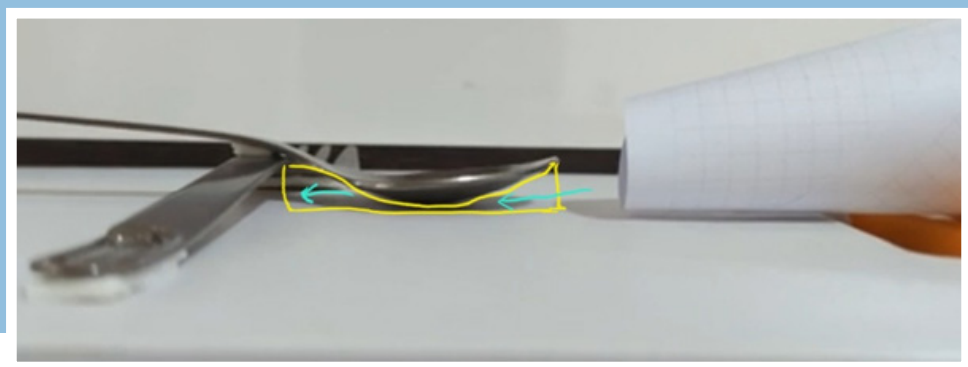
Peugeot opted for ground effect + wingless design for faster straight line speed

Taken at 2022 6 hours of Monza. Notice how every hypercar (Light blue-Glickenhaus SCG 007, Red&White-Toyota GR010, Blue - Alpine A480) except 9X8 has rear wings

Visualisation of how an F1 car affects the surrounding clean air, creating "dirty air"

3. What's the downside?

Just like anything in the world, it isn't the perfect solution. The biggest problem, and the reason that got it banned in the first place, was that it actually could be dangerous. Since it requires constant airflow underneath the car, if the airflow leaks out of the floor or gets disrupted for any reason, the car will experience a sudden loss of downforce, making the car unstable. This has been managed since then by applying other sources of downforce to keep the minimum amount of downforce at all times. Another problem came up during this year's F1 season, nicknamed porpoising. Now, porpoising itself has been around for a long time. In the early days of car design, the sensitivity of aerodynamics to roll, pitch, or yaw change caused downforce to constantly change in significant amplitude, causing the car to oscillate. As the technology advanced, stronger suspensions, more sophisticated aero map, better materials and more have allowed engineers to overcome porpoising. However, the ground effect seems to be much more vulnerable to this problem. The widely accepted explanation for porpoising in the ground effect is that it's due to the blockage of airflow. At higher speeds, the air flowing underneath the car can stall. This is caused by there simply not being enough space for the air to flow cleanly through the space between the ground and the floor of the car. If this happens, the floor stops generating downforce, and the car springs back up to its normal ride height. However, it immediately starts accumulating air again and is pushed back down, only for the cycle to repeat. You can actually simulate this with just a spoon and a hairdryer.



Demonstration of ground effect and porpoising using spoon and a hairdryer. The space between the spoon and the floor is in the shape of a Venturi tunnel, which allows the ground effect to take place. When spoon touches the ground, the airflow gets disrupted and the downforce is lost.

As we can see, since the space between the spoon and the floor is shaped like a venturi tunnel, the venturi effect pushes the spoon downwards. When the spoon and floor touch, the airflow gets blocked and that downward push disappears, allowing the spoon to go back up, allowing the airflow and creating downforce again. In reality, the problem is even worse. Tracks are not smooth and are often bumpy. This increases the possibility and amplitude of porpoising.

4. What's the solution for porpoising?

The fundamental fix will be to raise the ride height so that ground doesn't make contact with the floor and doesn't disturb the airflow. However, it also weakens the ground effect, making the car slower, leaving the teams a dilemma to solve. Formula one is all about pushing the limits of regulation. Naturally, teams came up with some clever solutions.

A. Stiffer Suspension

The most universal and obvious mechanical solution was to stiffen the suspension. Now, F1 cars already have very stiff suspensions in order to keep the car as flat as possible through corners for cornering accuracy. However, this year, it got even stiffer, as we can see from this picture.

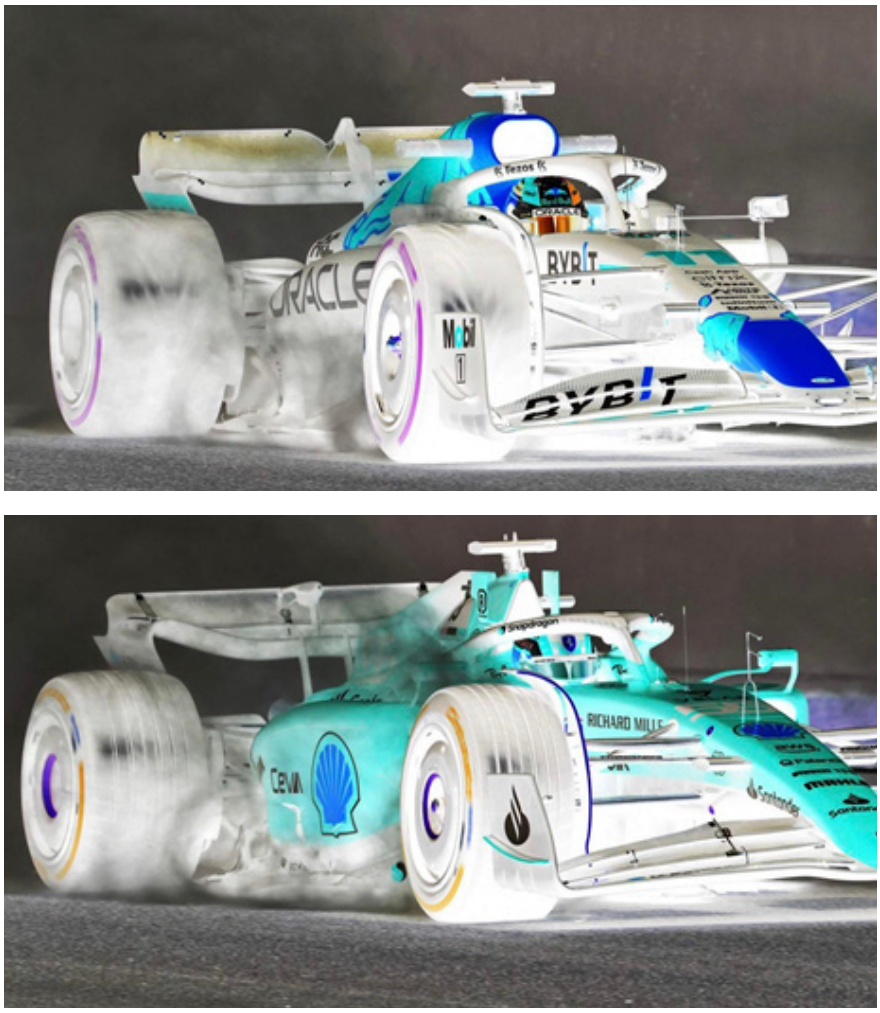
Taken during the 2019 Japanese Grand Prix at Degner 1 corner. F1 cars can go through this corner at almost 250kph

Taken during the 2019 Japanese Grand Prix at Degner 1 corner. F1 cars can go through this corner at almost 250kph

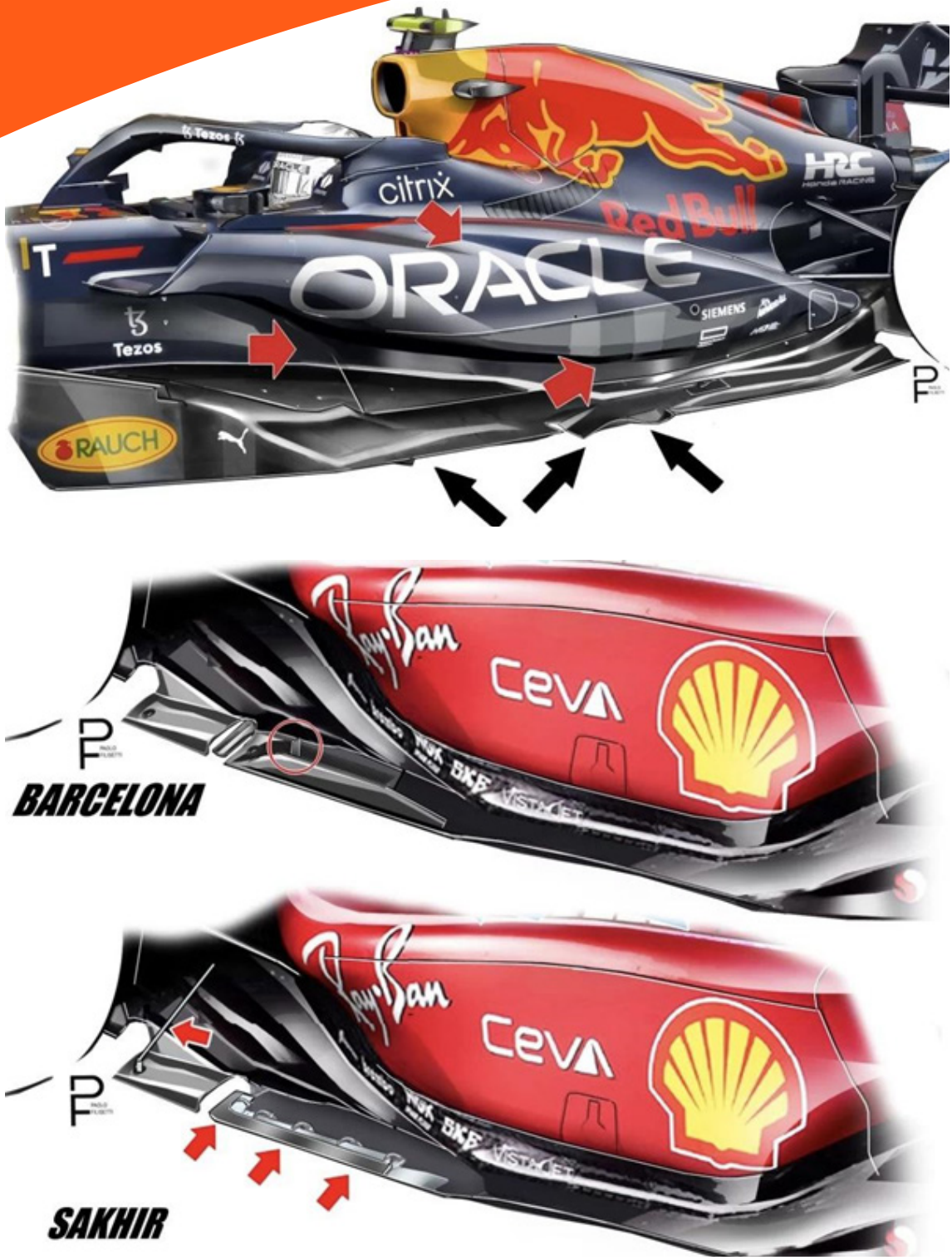
This was done in an attempt to reduce the amplitude of oscillation. This solution has a few problems. Additional heave increases the propensity for sudden loads into the tires reducing grip, shortening tire life, increasing tire failure risk, increasing tire temperatures, and more drag.

B. Floor-sealing Vortices

One of the more complicated aero solutions teams adopted was to deliberately cause vortices underneath the car, known as floor-sealing vortices. These vortices are designed to happen at certain ride heights so that the tunnel will be sealed on the side by vortices, and prevent airflow leak from the venturi tunnel. In other words, it helps keep constant airflow within the venturi tunnel regardless of ride height for stable downforce.



Demonstration of floor-sealing vortices on RB18 and F1-75



Different devices on sideskirts used in RB18 and F1-75 to create floor-sealing vortices

C. Sidepod Utilization

One of the talking points before the start of the season was the highly varying sidepods of each car. Turns out, sidepods were a key factor for the 2022 season. Mercedes and Ferrari, two teams with the most extreme designs of sidepod showcased this. It seems that Ferrari's deep, curved sidepod helps with pushing extra airflow through its floor and making effective floor-sealing vortices, while Mercedes' nearly non-existent sidepod design relies more on the rear wing which is much more vulnerable to ride height.

Different devices on sideskirts used in RB18 and F1-75 to create floor-sealing vortices

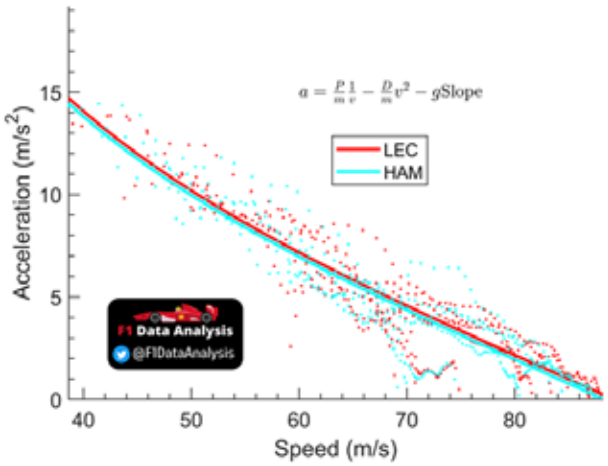
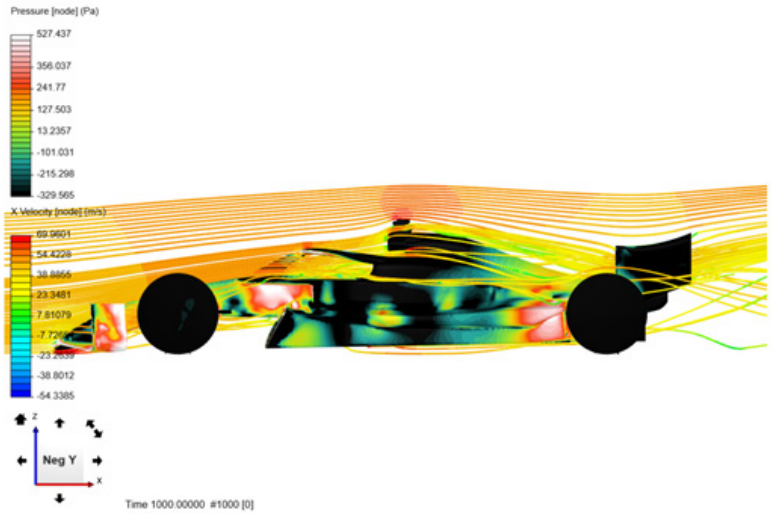


Chart showing difference in acceleration between F1-75 and W13. Even though F1-75 was much quicker in corners, it also had less drag, showcasing the importance of sidepod

More diverse solutions would have been found by the teams, but since it is an intellectual property of the team and designers we would never know their details until they open it up. However, it is also important to note that these explanations are extremely simplified. Teams spend thousands of hours testing and developing their car using CFDs and wind tunnels. You can never undermine the effort and cost of the development of an F1 car, even when they are the slowest ones on the grid.

CFD done on 2022 F1 car



CFD done on 2022 F1 car

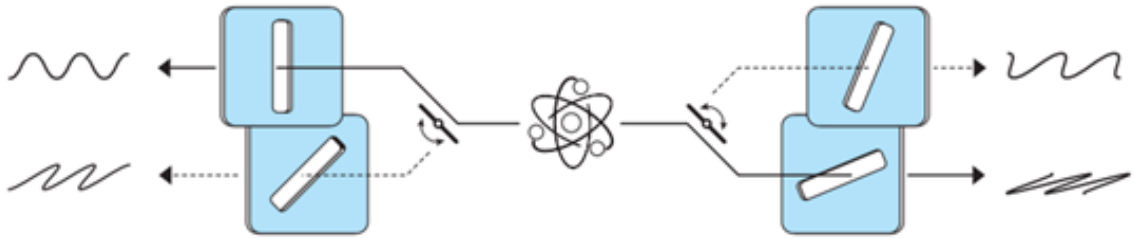
5. Conclusion

Well, in F1, Scuderia Ferrari and Redbull Racing made the fastest car, one risking porpoising but having greater downforce, and the other focused more on reducing porpoising and increasing the straight-line speed. Eventually, Redbull Racing won both the driver's and constructor's championship this season in a pretty dominant fashion thanks to the utter incompetence of Scuderia Ferrari's strategy team. However, this season still proved that the ground effect worked as intended, as fierce midfield fights have shown. Not only that, it showed the impressiveness of the ability of engineers to be able to achieve such a magnificent project in such a short time and with limited resources.

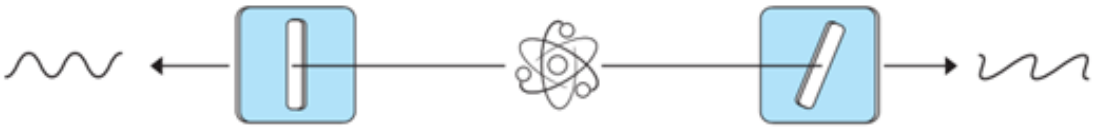
WHY THIS YEAR'S NOBEL PHYSICS PRIZE IS ACTUALLY IMPORTANT

22-115 HYUNMIN CHO

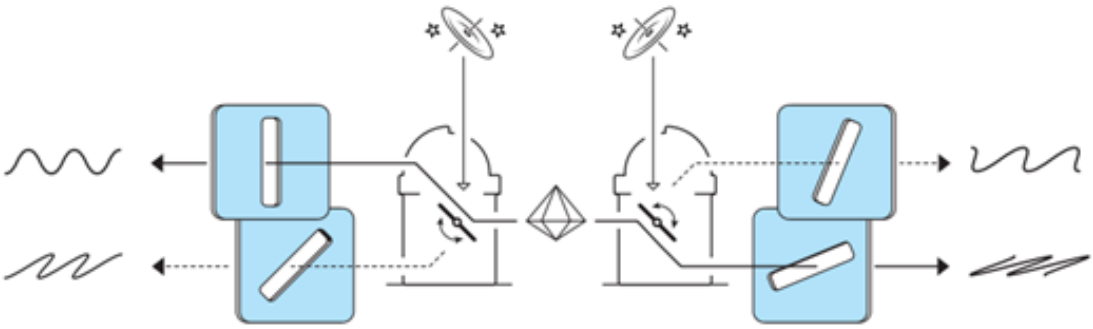
The significance of the Nobel Prize is well-known, after all, it's probably the world's most famous prize. Accordingly, the Nobel Prize is the most prestigious prize you can get in the world of physics, and all sorts of famous physicists, such as Albert Einstein, Niels Bohr, and Erwin Schrödinger have been awarded this honor. How then do you win the Nobel Prize?



Alain Aspect developed this experiment, using a new way of exciting the atoms so they emitted entangled photons at a higher rate. He could also switch between different settings, so the system would not contain any advance information that could affect the results.



John Clauser used calcium atoms that could emit entangled photons after he had illuminated them with a special light. He set up a filter on either side to measure the photons' polarisation. After a series of measurements, he was able to show they violated a Bell inequality.



Anton Zeilinger later conducted more tests of Bell inequalities. He created entangled pairs of photons by shining a laser on a special crystal, and used random numbers to shift between measurement settings. One experiment used signals from distant galaxies to control the filters and ensure the signals could not affect each other.

The nomination process for Nobel Prizes begins in September each year, with thousands of academics, scientists, past winners, and parliamentary members submitting candidates. According to the Nobel Prize organization, the nominators "are chosen in such a way that as many countries and universities as possible are represented over time." Once the winners of the prize—three being the most amount of individuals that can share a prize—are chosen, they are awarded the Nobel Prize on December 10th, the day called Nobel Day and also the

day Alfred Nobel died. The only exception is the Nobel Peace Prize, for which Alfred Nobel specifically stated in his will that he wanted it to be awarded in Norway.

This year's Nobel physics prize was awarded to three people: Alain Aspect, John F. Clauser, and Anton Zeilinger. If we quote the Royal Swedish Academy of Sciences directly, they won the prize for the "experiments with entangled photons, establishing the violation of Bell inequalities and pioneering quantum information science". Speaking more specifically, the three prizewinners each conducted experiments using entangled quantum states which helped solve some big questions involving the foundation of quantum mechanics.

Quantum entanglement happens when one of the particles in an entangled pair determines what happens to the other particle, even if they are far apart. Since there is no one concrete explanation of quantum mechanics, for a long time the question was whether the correlation was because the particles in an entangled pair contained hidden variables— instructions that tell them which result they should give in an experiment. In the 1960s, Irish physicist John Stewart Bell developed a mathematical inequality that is named after him. This inequality stated that if there are hidden variables, the correlation between the results of a large number of measurements will never exceed a certain value. However, the current Copenhagen interpretation of quantum mechanics predicted that a certain type of experiment would violate Bell's inequality, thus resulting in a stronger correlation than would otherwise be possible.

John Clauser, an American physicist, developed John Bell's ideas, deriving the CHSH inequality, which if proved, would also prove Bell's theorem. John Clauser carried out the first experimental test of the CHSH-Bell's theorem predictions. When he took the measurements, they supported quantum mechanics by clearly violating a Bell inequality. That meant that quantum mechanics couldn't be replaced by a theory that uses hidden variables.

However, Clauser's experiment did not indicate how to deal with certain problems arising from the appearance of errors in the measurements of the experiment. The French physicist Alain Aspect developed the setup, using it in a way that closed an important loophole involving local realism, which states the cause of a physical change must be local and that reality is objective. He was able to switch the measurement settings after an entangled pair had left its source, so the setting that existed when they were emitted could not affect the result.

Austrian professor Anton Zeilinger is the one who actually started to use entangled quantum states. Among other things, his research group proved the existence of a phenomenon called quantum teleportation in 1997. Quantum teleportation is a phenomenon in which it is possible to move a quantum state from one particle to one at a distance almost instantaneously, and it is also the only way to transfer quantum information from one system to another without losing any part of it. Zeilinger has been discovering new ways to send quantum information from ever further away even as recently as 2012 when he sent information between locations 143 kilometers apart.

What ramifications do these discoveries have? These discoveries and experiments have opened the doors to new technologies in computing and cryptography, also laying the foundation for the current advancements in quantum information science. Being able to manipulate and manage quantum states and all their layers of properties allowed access to tools with unexpected potential, forming the basis for quantum computation, the transfer and storage of quantum information, and algorithms for quantum encryption. Entangled quantum states have now been demonstrated between photons that have been sent through tens of kilometers of optical fiber, and between a satellite and a station on the ground. Researchers all around the world have already found lots of new ways to apply quantum teleportation in various situations. It seems that, although we can't quite term this a second quantum revolution, we are looking at a bright future for physics, information, and beyond. Who knows where these new inventions will take us?

The 2022 Nobel Prize in Physiology & Medicine; Next of Kin

Jungho Ahn

Since the birth of civilization, one of the most important questions we humans have pondered was, 'Are we truly alone in the world?'. Some searched for the answer in the skies imagining sentient beings far away, while others adhered to denying the possibility of their existence. However, unexpectedly, the real answer might lie nowhere else but within.

A discovery made by a German school teacher named Johann Carl Fuhlrott in 1856 proved that in fact, we were not alone. What he discovered in the caverns of Neander valley were the remains of people, which he thought to be old, and built differently from ours. And with the help of the anatomist Hermann Schaaffhausen, he concluded that they were the remnants of an ancient human race, which was later nicknamed 'Neanderthals', after the valley.

Neanderthals were a species of ancient humans that lived in the continent of Eurasia tens of thousands of years ago. They were more sturdily built compared to contemporary humans, with distinctive features such as shorter limbs, greater body fat storage, and enlarged nostrils, which were adaptations for the cold climate they had to endure. They are believed to have built a fairly advanced society, being capable of hunting large animals, cooking food, weaving cloths, and making art. The exact date these people appeared, or deviated from our common ancestor is still a matter of dispute, and the only thing that remains sure is that they mysteriously disappeared 40 thousand years ago, leaving behind all their hearths, paintings, and relatives. So the question remains: where did they goand why? It was commonly believed that there were conflicts between them and our ancestors, Homo Sapiens, which gradually drove the defeated to extinction. However, current researchers are in doubt of such an idea, suggesting new possibilities about their vanishing. And in the center of this now widely popular study is Svante Pääbo, a Swedish geneticist.

Svante Pääbo was born in Stockholm, Sweden in 1955 to an Estonian chemist Karin Pääbo and a Swedish biochemist Sune Bergström, who later won the Nobel prize. Since his parents' relationship was an extramarital affair, he had to live only with his mother, while identifying himself as Swedish. Although he dreamed of being an archaeologist or an Egyptologist as a child, for practical reasons he ended up studying biology and medicine. Dr. Pääbo himself says that he 'had much too romantic ideas about what it would be like'. His learning did ultimately bring him back to his childhood dreams, however. His expertise turned out to have a great deal of applications, with the newly found study of paleogenetics being one of them.

The possibility that modern humans may have interbred with Neanderthals has been questioned since the 19th century. However, since the right tool for the research had yet to be devised, no one could prove it until the dawn of the 21st century. Finally, in 2006, the department of genetics of the Max Planck Institute of Evolutionary Anthropology, with Dr. Pääbo as its director, announced that they would sequence the entire Neanderthal genome within the next two years. Pääbo's team extracted the DNA from three 38000 year old femur bones found in Vindija cave, Croatia, along with other bones from Spain, Russia, and Germany. Despite various predicaments such as bacteria infesting the samples, they finally finished the

report of their draft in 2010. It yielded a fascinating result, which Dr. Pääbo refers to as an 'emotionally quite a strong thing.' Examinations on mitochondrial DNA indicated that the genetic contribution of Neanderthals to modern humans varied from 1 to 4%, and that interbreeding between them did occur before our ancestors migrated to Europe.

Another important discovery also took place in 2010, in a remote cave in Siberia. Dr. Pääbo published another report on the DNA analysis of a finger bone found in it, and concluded that it belonged to another extinct human race of the genus Homo, which was later named the Denisova hominin. He initially wanted to classify the Denisovans, or Homo Denisova as a new species completely distinct from both modern humans and Neanderthals. However, later research proved that they were in fact genetically related to us, and more so to Neanderthals. Moreover, among the remains was Denisova 11, a skeleton of a thirteen year old girl that surprisingly turned out to be a hybrid between a Neanderthal mother and a Denisovan father. This discovery is a strong evidence that interbreeding between various archaic human species was in fact more common than we thought before.

Thus, Dr. Pääbo's theory on the admixture of modern human and Neanderthal genes is currently being widely supported by academics, and in 2022 his effort in sequencing Neanderthal DNA rewarded him with a Nobel prize in physiology and medicine. His story does not end here, however, for the correlations between our own characteristics and the Neanderthal genes within us is just starting to be revealed. For instance, in 2020, he found out that the reason for some people showing exceptional vulnerability to COVID-19 is associated with variants in chromosomal region 3, a feature rooting from European Neanderthal heritage.

"We'll probably never be able to fully understand what went on in the past, of course, but we might be able to understand some important aspects of it.", says Dr. Pääbo. He does think that there is something special about human sociality and modern human cognition, that we might be able to understand certain aspects of.

Field Medalists of 2022: Focusing on the Achievements of June Huh

Kyuhan Kyung

June Huh, a professor of mathematics at Princeton University in the U.S., made history in the field of Korean mathematics by becoming the first mathematician of Korean descent to win the Fields Medal. The International Mathematical Union (IMU) announced on July 5 that along with June Huh, Maryna Viazovska (Swiss Federal Institute of Technology Lausanne), Hugo Duminil-Copin (Institut des Hautes Études Scientifiques), and James Maynard (Oxford University) were selected as the winners of the Fields Medals in 2022.

The Fields Medal is the most prestigious academic award in mathematics for young mathematicians under the age of 40 who have made outstanding achievements in mathematics. Presentation and awarding are done at the opening ceremony of the International Congress of Mathematicians (ICM), and it is well-known as the equivalent of the Nobel Prize in mathematics.

Since the start of the Fields Medal in 1936, a total of 64 people have won the prize, including four winners this year. Nine of them are classified as Asian, but only six have received university education in Asia. There were only two Asian winners within the last 30 years: Maryam Mirzakhani (Stanford University), who won the medal in 2014, and June Huh.

The Fields Medal Committee said, “We award June Huh the Fields Medal for developing ‘geometric combinatorics’ by solving various combinatorial problems using tools of algebraic geometry.” Algebraic geometry is the study of understanding geometric objects as equations like the equation of a circle, and combinatorics is the study of counting the number of cases.

Professor Huh, who was born in California, dropped out of high school after graduating from elementary and middle schools in Korea. He received his bachelor's degree in physics & astronomy and mathematics at Seoul

National University in 2007 and his master's degree in mathematics at the same school in 2009. He later moved to the U.S. in 2012 to get his doctorate, and quickly became a star by solving the “Read’s conjecture,” which had been an unsolved problem for 45 years. Six years later, he surprised the mathematics society again by solving the “Rota’s conjecture,” a generalized version of Read’s conjecture.

Eric Katz (Ohio State University) was the one who suggested Huh to solve Rota’s conjecture together: he contacted Huh after seeing his method of solving Read’s conjecture with algebraic geometry. Katz said, “I knew he would become an important mathematician right after I saw his method. He knew more in combinatorial algebraic geometry, which was my field of study, than I did, in only a few weeks.”At the time, an American media outlet described his amazing achievement as “a person who first grabbed a tennis racket at the age of 18 winning Wimbledon at the age of 20.” Carlos Kenig, president of the IMU, said, “June Huh found an intersection between two very different fields, algebraic geometry and combinatorics, and solved a difficult problem of combinatorial theory.”

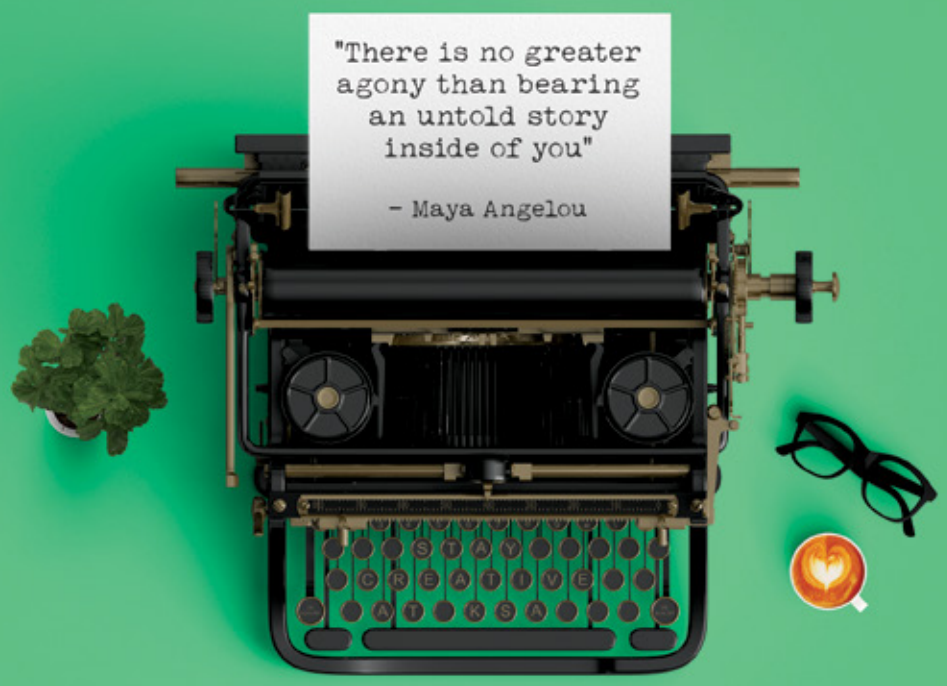
Other Fields Medalists of 2022:

Maryna Viazovska, who won the medal with Huh, is also notable: she is the second female winner after Maryam Mirzakhani in 2014. As a Ukrainian, Viazovska contributed to resolving the "Kepler conjecture" at higher dimensions. Kepler conjecture is a mathematical problem related to how to stack as many spheres as possible in a given space. The Fields Medal Committee announced, “We highly appreciated the fact that the method Viazovska found could be applied to other fields.”

Hugo Duminil-Copin received the Fields Medal in recognition of his work in solving mathematical problems related to the “lattice model.” The lattice model is a field of mathematics about proving how particles move with probabilistic methods, assuming that there are several particles on the square or hexagonal lattice. In physics, this is very important because different properties appear depending on how randomly moving particles interact. The Fields Medal Committee claimed that “the Fields Medal is awarded to him for solving long standing problems in statistical physics.”

James Maynard has been credited with his great contribution to the study of analytic number theory: especially the study of prime numbers. The problems solved by Maynard were famous for being unsolved for a long time in number theory; the twin prime conjecture was unsolved for about 173 years, Duffin–Schaeffer conjecture about 81 years, and one of Erdős's conjectures about 25 years. The Fields Medal Committee stated, "We took into account his contribution to improving our understanding of number theory."

ENGLISH WRITING CONTEST



2022

1st PLACE WINNERS OF THE KSA 2022 WRITING CONTEST.

Redesigning the KSA Curriculum

20-201 Aizhan Sadykova

1st Place Persuasive

Korea Science Academy of KAIST, or in short KSA of KAIST, is one of the best science schools of South Korea for educated students who have a great passion for different fields of science. KSA is well known not only for its good education system, but also for various activities, such as sports, clubs, research groups in different topics etc. Moreover, KSA provides a lot of types of courses for students who are interested in the divergent area of science biology, physics, chemistry, math, and more. Additionally, there are many elective subjects that students are able to choose according to their future majors. Unfortunately, not many options for elective courses are available for international students in English, since the majority of KSA's students are Korean. Therefore, the chance of the course being conducted in Korean is much higher than in English. Hence, in my opinion, it would be a great opportunity for international students to choose any course they prefer to take despite the language barrier. Besides that, another issue that students in KSA are encountering is the grading system, which has huge pressure on the mental health of scholars. I think that relative grading is not a good way to decide someone's academic abilities because, in most cases, students end up studying not for themselves or for their personal growth but just for their grades which they think are more important than their actual abilities. Our school's environment forces students not only to have excellent grades but also to be the best among all others, and because of that, many students have to compete even with their friends, which I personally think is so appalling. For this reason, the comparison should be the last thing that a person has to worry about because every human being is good just the way they are. It is a very common thing among KSA students when they try to do good better than their classmates academically all the time. They always care about each other's scores and for example, if one student gets to know that he or she is not doing well enough than their friends, it leads to unpleasant mental health consequences and sometimes even to serious depression. Thus, I truly believe that one day a mess with relative grading and comparison between students will be solved and KSA will start considering it seriously in order to provide a safe environment for its students and prevent suicide cases that might happen again as it did a few times in the past.

When it comes to extracurricular activities, KSA does have sports clubs such as football, tennis, badminton, baseball club, etc. But I wish there were more clubs like volleyball or basketball since I'm

pretty sure that a lot of students are interested in playing these sports, especially volleyball, thus would love to join them. This kind of sports activity would have a good impact not only on the health of students but on their academic achievements as well since the sport is directly related to the human physical body and brain. Also, having tournaments not only within KSA but also outside of it would be a good idea in order to have more experience and just overall to have more fun besides studying. Once more, I want to mention the pressure that students get because of their studies. As I previously indicated, in general, KSA encourages students to study mostly for their grades so that they can apply to good universities after graduation. Certainly, I agree with the fact that students have to study hard to get good grades and apply to high-rated schools for their prosperous careers and future. Yet, I'm convinced the actuality that grades are not the most important thing in this life, and they should not decide a person's ability and potential that he or she has. Some people do good in university but some do good in life. So I think our grades should not decide the future that we want to have because everything depends only on a person itself and there are so many other things to be evolved with besides going to university. As long as there is a specific goal that person wants to achieve in his life, it's only in the hand of that person but no one.

Definitely, Korea Science Academy of KAIST gives a great opportunity for students to get a quality education despite all its disadvantages. For me, I am more than glad to be a KSA student and extremely grateful for being able to get a worthy education, being taught by qualified teachers, being surrounded by smart and ambitious students, and for a lot of unforgettable experiences that I've already had and will have henceforward.

Mirror Reflects Darkness

21-115 Ham Jaewook

1st Place Fiction

"I'm so sorry, boss! I won't make the same mistake again. I mean… you can't just fire me…" I begged. The call ended. I was fired from my job again. Staring at the rain clouds outside, I sat down on my soft red couch and thought, why does everything like this happen to me? I'm such a dumb guy. I just hated myself so much since I was in middle school.

I was a quiet Asian boy who had just come to the United States back in middle school. My English was so bad that it sounded like a parrot crying aloud. I always heard a burst of laughter before I finished my sentence. After hearing the laugh repeatedly, I just stood dead quiet. Like a statue. A statue without emotion.

Then I became a big grown adult who didn't have anyone's attention – even my parents. I talked to nobody. Nobody spoke to me. Even my close neighbors just stared at me and walked away. It was my birthday today, but there were no notifications on my SNS. I wasn't even surprised. I angrily threw my phone on the couch. I stood up from my couch and headed toward my tiny bathroom. A stinky smell from my small bathroom stabbed my nose like a spear. I removed the dust from the standing mirror above a little sink and looked at myself. My eyes were small and stretched like a needle. My gigantic nose looked like a pig nose, and my lips were so thin that I could barely see them. My long hair was black with white dandruff all

over. I squeezed a red pimple on my chin. Blood came out of it. I just hated myself. I hated myself so much that I wanted to end everything.

While cleaning my dirty face, I accidentally dropped a soft blue soap. As I leaned down to grab my soap, I slept and fell towards the mirror. Then, the magical thing happened. Instead of bumping into the mirror, I went through it.

"WHAT?" I screamed. I was suddenly in a completely different world. A world where everything was reversed! The shape of everything, including the sink and the toilet, seemed the same, but the color of them was white instead of black.

How is this possible? I thought. Not only did the color change, but my emotions also began to change! I looked at myself in the mirror again. My small eyes looked like a bright, beautiful crescent moon in the night sky. My big nose looked very attractive like the Himalayas: It was high and sharp. My long black hair was clean and shiny. I touched my face and smiled, looking at the mirror. I was delighted with my beautiful face. I truly loved everything about myself! I even liked the fact that I was always dead quiet. I'm always careful with my words, I smiled.

I was thankful for everything: my house, my appearance, my town, my parents. I was even grateful for my old boss, who fired me. "I could easily get a new, better job!" I said to myself. "It won't be hard for me at all!"

I picked up my phone on the couch and listened to an upbeat song with AirPods. I banged my head slightly with the beat. My heart felt as light as a dove's white feather. I opened the door and went outside to feel the brightness of the beautiful air. The sunlight slightly poked my skin and hugged me warmly. The sky was amazing – clouds of sheep were wandering around the blue painting. As I loved myself more, I began to feel that everyone loved me, too.

While having a walk, my close neighbor, Alina, was walking toward me. She was a beautiful Russian girl with long brown hair and blue eyes. My heart started to beat faster as Alina came closer. Thump… Thump… Thump… Finally, when her face became clearer, I cleared my throat and said, "Hi, Alina!" This was the first word I said to Alina. I waited for her response excitedly, with goosebumps all over my skin.

"Oh, hi, Devlin! Nice to meet you!" Alina said. "Where are you going right now?"

"I'm just having a brief walk. You know. Just feeling the bright sunlight and fresh air," I answered.

"Great! I hope you have a great time. I'll see you around!"

Alina walked past me and headed went on.

"Alina!" I shouted. She turned her head towards me, and her beautiful long brown hair waved slowly. "Huh?" she said.

"Umm…. How about walking with me if you have some time?" I asked with a confident face.

"Sure! I'd love to!" she answered. She ran towards me, and we started walking together. I couldn't believe it! Alina is actually standing next to me! It must be a dream, I thought. I slowly turned my head and eyes and glanced at Alina. Yes. She was right next to me. We were walking together. I looked at her again, and we made an eye contact. We both had big smiles on our faces.

As we were walking, I felt fingers touching my left palm. The fingers crawled towards my hand and grabbed it. When I looked at my left hand, it was covered by Alina's right hand. My heart was beating so fast that it was about to explode. I was also able to feel her fast heartbeat as well. This was the moment that I wanted to keep for the rest of my life.

After the sunset, I came back home. I couldn't believe what had happened in just one day. While watching a comedy show on the television, my phone rang. I picked up my phone and realized my mom was calling me. It was almost the first time she had called me.

"Hello?" I said.

"Hi, Devlin! How's everything going?" she asked.

"Great, mom! I miss you so much…"

"Me too. I just called you to celebrate your birthday. Happy birthday, son!"

I thanked her and remembered that it was my birthday. I checked my phone, and there were almost 50 notifications on my SNS! I checked all of the messages sent to me. It was the first time to receive a message celebrating my birthday. I was so excited that I wanted to fly to the sky and touch the bright moon.

I went back to my bathroom to see the magical mirror again. I wasn't able to go through the mirror again like before. Instead, there was something written on the mirror: "Love yourself. Love the world." The mirror reflected the darkness, and only brightness existed in this universe.

The Place That Gave Me Wings

21-211 Togzhan Tyshkanbayeva

1st Place Non-Fiction

I clearly remember the place, the neighborhood where I grew up. I lived on the north edge of the city near the airport, where I spent my childhood until I went to school. At least twice an hour you can hear the sound of arriving or ascending airplanes. They were so close to the rooftops of the houses that it seemed like you were able to touch them just by jumping high enough. Old, ramshackle houses where there was no internet connection. Many people in this area were engaged in animal husbandry or farming. Compared to the skyscrapers, thousands of night lights, and neon signs, it was just a village that seemed like nothing to someone from the center. But what mattered in this "village" were the people. I grew up with representatives of many nationalities and religions. Our traditions and cultures, even though different, never stopped us from close communication and friendship. We have never thought deeply about it, the main thing is that we all watch the same cartoons and love to run to the only convenience store to buy "Love is" bubblegum with stickers or temporary tattoos inside. We collected them. Our views on the world were not much different at that age. And even with the language barrier, we could still play together. My friends spoke Russian, Uighur, Turkish, and Ukrainian while I understood only Kazakh, but that never

stopped us. We had been learning each other's mother tongues while spending our free time together. Everyone in this area knew each other well enough. We celebrated absolutely all of the holidays together, starting with Eid and Nauryz and ending with Hanukkah and Easter. Poorly paved roads, full of potholes and cracked pavements, on which we used to have bicycle races; simple soil, grass on which we played football in the evenings before the sunset. There was a grove nearby. I often ran away there when I had hard times, or when I just didn't want to go somewhere with my parents. We had a playground in this grove with car tires and a broken, rusty basketball hoop. There, we played with my friends using only our imagination and the world around us. We were pirates, and witches, created our own Narnia or many other worlds, we competed in whose story is cooler or who deserves to be called "Hokage" or the king/queen of the forest. The trees were our kingdoms, and the bushes and hummocks were the gates to other worlds. Passing further into the forest, you could hear dragonflies, the chirping of birds, and the buzzing of bees, and the sun could fall on you so interestingly from behind the ancient, mighty oaks. The lake, that was called "the airport lake", near the grove was so small but so clean that every summer, even though I was not allowed to, I used to go swimming there with my friends. After that, we all enjoyed visiting my aunt to warm up and drink her milk tea, because it was the best

tea in the world. To be honest, I still think so, because I hate tea since it's so bitter and hot, but her tea was so sweet and warm that it was the only one I would drink. She was always happy when we came and set aside sweets and cookies for us. In winter, the lake in which we swam turned into an ice rink and a place where people liked to sled. We often went there with plastic bags. Our parents wouldn't let us take our sleds, because we could lose them. Winter in our neighborhood felt like a fairy tale. Snow was so clean, white, and sparkly both under the sun and moonlight. On our way to the lake, snow was able to reach our waists which felt so soft and tingly. Since all of the neighbors were in a close relationship, my friend's mom was always happy when I went to them. They had so many plants and beautiful flowers. I loved walking in their garden. And my good friend told me about each of them. I still remember the dahlias and hydrangeas they had. My parents were also happy to have my friends as guests. We used to have a small library in the living room that was open to everyone.

Dad always arrived late at night after work. I loved to run out into the street and greet him with strong hugs. Sometimes we walked to the grocery store through the swamp and steppes. It was so beautiful at sunset. Nothing could block the skies that were painted yellow, pink, and purple by the sun. I used to feel so free and warm deep inside. The wind, sometimes just as strong as the one my grandfather used to tell me about, used to play with my hair and caused excitement deep inside my heart. My grandpa always told me about the spirits and souls of all living and

nonliving that protect and look after us, those can be your ancestors or close people who passed away. The wind is one of their ways to tell us that they are around. They were always taking care of me there. In those short moments, they were my wings that let me fly high but still be close to the ground. I listened to the chirping of grasshoppers and the croaking of frogs while my father told me his own stories or some interesting fragments from books that he had read. I liked these evenings. Those were my favorite days. The air was filled with the smell of cotton, greenery, and Dad's cologne. It was so calm. I wish I could have been able to feel the same one more time. The feeling of going down on my bicycle early in the morning with the wind greeting me, the feeling of falling on the wet from the dew grass and looking into the clear skies. It was so quiet and peaceful. The feeling of being alone, but not lonely, as I was surrounded by trees, grass, or different animals.

My neighborhood was able to give me something I couldn't get later anywhere else. That was the feeling of carelessness and freedom that you usually experience when you are surrounded only by strong winds and grass under your feet, the feeling of having wings that can take you anywhere you want to. The feeling of a deep connection to nature, not only plants and animals but human nature. I learned to value and be careful with human feelings and emotions. I learned to consider them as something powerful enough to change or create a new world inside the old one. When I moved to the city and went to school, a lot of things changed. Many people were scared of the area where I grew up due to low-income rates and slow urban development. I never understood that, because they were the same people with the same common everyday problems. They were always ready to help if you were in trouble. It didn't matter whether you needed financial, or moral support, or if you just had to unload the furniture from the truck. The people there were honest, told the truth, and kept promises. Yes, maybe their manner of speech was not so elegant, and their clothes were not so neat or expensive, but the hearts of these people were big. They were not hardened by years of unfair treatment outside or myriads of different things that could break them. Even broken they were still kind and sincere to everyone. They were brave, braver than anyone I knew. These people were so simple and open, they were not afraid to speak up about their true emotions, not afraid to cry but still be able to keep empathizing and striving to help others. And now I perfectly understand why my parents decided that it was best for me and my siblings to spend our childhood there. I grew up respecting other cultures and still trying to preserve my own. Something that my neighborhood taught me was to never lose contact with my true identity and still have enough courage to keep my heart open when it's most difficult. I will always remember my childhood that smelled like apples, hot milk with honey, freshly baked bread that my mom used to make and greenery, the smell of the steppes at the sunset. That was the smell of the summer I wish I could spend again.

A Monster's Desolation

21-008 Ahhyun Kwon

1st Place Poetry

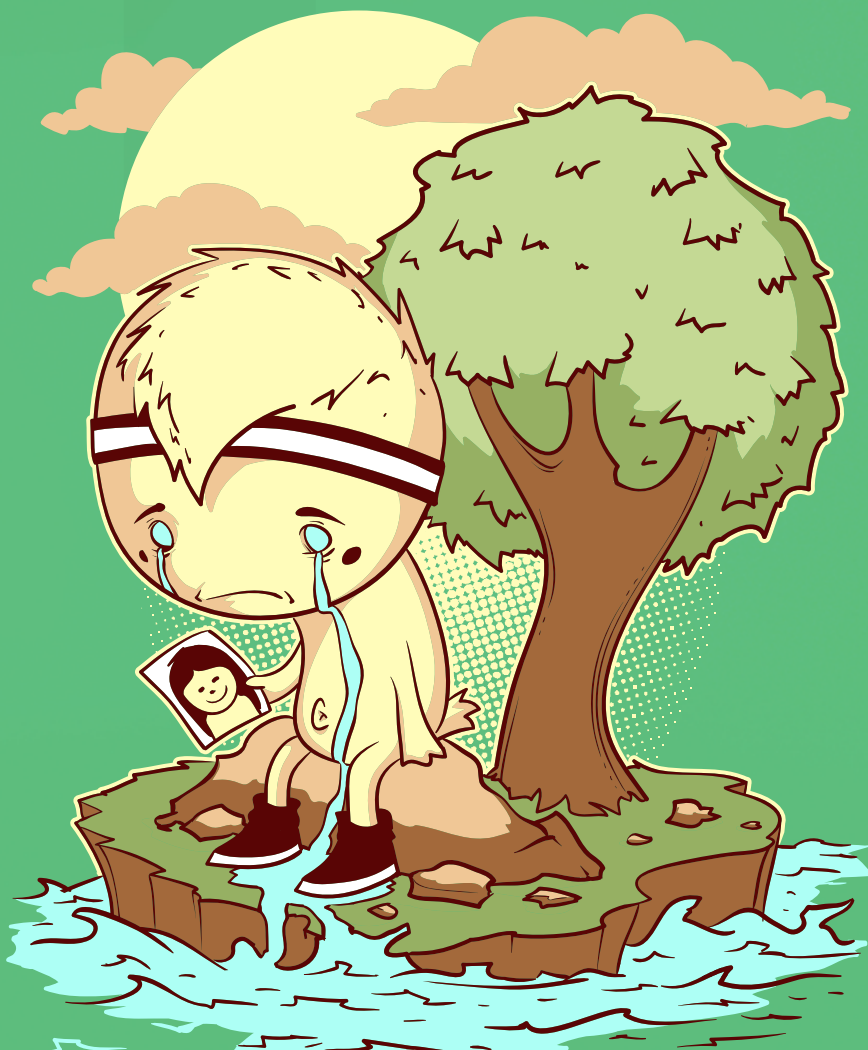
Over the mountains, under the falls,
In a dimly lit cave lies a pile of bones.
Foretold from birth that it was to be feared,
A monster retains its skeleton throne.
Worshiped by creatures, dreaded by men,
This is the way the beast has grown.

Oh, how easy life had been!
For all beings stepped out of its way.
The monster had nothing to cower from
As there was no choice but to be its prey.
Drunk with glory, the behemoth was,
Until a scene came across its sight one day.

Down the hills in the human village,
A fire was where people gathered around.
Dancing and singing words of joy,
The celebration continued till they heard a sound.
It was a grunt the monster had made
When it stood up to leave its watching ground.
Though the beast had never meant any harm,
With screams of terror, the party was drowned.

Shocked at how much horror it caused,
Near a pool of water, the monster came.
As it looked at its grotesque reflection,
The behemoth knew the humans weren't to blame.
Once having reveled in being awed,
It now became distressed at its atrocious fame.

Over the mountains, under the falls,
In a dimly lit cave lies a pile of bones.
Foretold from birth that I was to be feared,
I wish to resign from my skeleton throne.
Worshiped by creatures, dreaded by men,
I grieve my fate of being forever alone.



FIREARM PROBLEMS IN

HOW SHOULD THEY BE HANDLED?

21-030@KSA.HS.KR / JINHONG KIM

When it comes to your loved ones, it is hard to imagine them being shot today. Although we feel heartbroken by the word about the mass shooting, time after time, we don't have to worry about getting shot during our day-to-day life, as guns are prohibited in Korea. However, in the U.S., deaths by shooting are daily occurunces. After watching the news of the mass school shooting in Uvalde, Texas, last May and was shocked at not only how innocent children could be unduly killed but also by the fact that an eighteen-year-old close to my age could commit such a catastrophe. Meanwhile, the U.S. gun homicide rate is overwhelmingly high compared to other high-income countries and is one of the leading causes of premature death in youth. Although social issues involving firearms are not a whole new problem, gun violence is still one of the enormous burdens to the U.S. government as it has increased recently. Gun violence is increasing, probably because there are more guns for civilians in the country. As more guns are around, more people will happen to shoot them.

Taking this into consideration, you might think simply forbidding gun possession in law might solve the problem, but the reality is trickier than it seems. First, from the standpoint of a U.S. citizen, there are a bunch of reasons why someone might have to own a gun. One of the most obvious is if you're in the military or the police. The responsibility to defend your country or community often means carrying a weapon. Those people use guns for warfare, stopping criminals, or protection in the line of duty. Some people use guns to hunt, too. Hunting animals is very important in some cultures, whether for food or sport. Lastly, people might use firearms for personal protection. Most people think gun ownership allows law-abiding citizens to secure their lives.

As guns have melted deeply into the country's culture, it is nearly impossible to put them away in a day, even though hundreds are killed daily due to gun shootings. In a case like this, I believe we must also consider detours. We often perceive gun violence as a type of massacre involving multiple death at once, as they are more likely to get noticed in general. Still, most usual cases of using guns harm person by person on a daily basis, including forms of domestic homicide, community conflicts, etc. Thus, gun problems are a chronic illness of society, far from radical terrorism. Eradicating firearms must be a gradual process at a community level, as the primary cause is the long-held culture that people were rooted in. Also, people should recognize that most gun violence problems are preventable public health problems because an individual with unstable mental conditions is likely at risk of harming others and themselves. The government should increase funds to promote mental health and community resilience. Although it will be a long journey for people, if we could retreat a healthy society, one day every person won't be worried on getting shot during their day in life.

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