

#### Editorial

# The Argus

#### ESTABLISHED 1954

Published monthly except on school holidays by and for the students of Hankuk University of Foreign Studies, The Argus, the oldest campus English magazine in Korea, pursues the highest standard of campus journalism and academism.

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# To Reminisce the Past

Tremember my seven-year-old self wailing toward air when my grandfather passed away. He always loved me and cared for me even more than himself. I also remember being a thirteen-year-old teenage girl shaking hands with another grandfather for the last time. He loved to shake hands with people. Those two were the most tragic moments in my life so far. From then, I never wanted, even was scared of, anyone or moment that I love to be gone. I want to turn back the time to when I and my grandfather made yogurt and strawberry jam. It was also my grandfather who taught me how to make "*deodok*" (bonnet bellflower root) honey milk shake. I want to taste the moment again. It is strange but true that even I try the same thing now, it tastes and feels nothing like it did in the past. Maybe it was their voices, warmth, and touching, not yogurt or deodok, that created the atmosphere. There is no way to bring back such vivid moments. "If only the same could be done now." It may be the same sentence people, who have lost their loved ones, would keep in their mind.

Kim Kwang-seok, a loved Korean singer songwriter, who died young, was on the stage again with his voice in 2021, singing a song released after his death thanks to an AI technology. It was a technology called AI deep learning which created such voice possible, with the same tone, quavor, and feelings. The sentence, "If only the same could be done now," is no more just an imagination. Now, it seems possible to revive the ones that were long gone with such technology. It became curious in which measure it is possible and what else can be done with the technology. Park Kun-ha, a humorous, friendly, and talented reporter from the T&C Tower section, in this November issue, scrutinizes principles of the technology with several AI start-up CEOs and their developers.

The Argus, with reporter Park and the readers, not just want to admire how humans developed technology and adapted to the present. But we want to debate and discuss which ethical and legal problem it must face. One might be able to hear the barking of our deceased dogs and watch their fluffy hair swing as they run toward us. Maybe I can watch my grandfather smiling and hear him telling me to try his fresh yogurt. Even by thinking, it is the warmest pleasure to me, but do "they" want it? The technology was born to answer the human desire to hold on to the loving ones forever. And it is our job to use it properly, filling up its ethical and social weak points. As one has the right to know, he or she also has the right to forget. Would Kim Kwang-seok want to sing again for the crowd even after his death? Dead men tell no tales. Maybe he wanted to be remembered for decades or maybe he did not. What should we do if there is no one alive to get permission to recreate their voice, face, movements or anything? The Argus, in this November issue, asks you how to use the brilliant technology wisely.

By Nam Gyeong-eun Editor-in-Chief

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# CONTENTS



#### **Cover Story**

>> Are you missing someone? The noticeably emerging phenomenon is that development in image and speech synthesis technique made it possible to revive the deceased. It is such a relief that new technologies are providing opportunities to alleviate the suffering of yearning. In short, it became possible to approach those pieces of memory by making virtual human act right in front of one's eyes. Not only that, but young generations are also paying attention to those techniques. The Argus tries to dip the reader's feet in the new flow of technology and helps them to face the emergence of virtual humans.

#### 02 · Campus Report

Looking Back Before Moving Forward: HUFS and President Kim In-chul

#### 04 · News Desk

#### **Culture Section**

#### 07 · Culture Insight Street Vegan Fight

Street Vegan Fighter: Be a Clever Customer through Beans, Pineapples, and Cactus

- 13 · Parallel Code Rebirth of Villain, Cruella
- 16 · Rendez-vous Artist, Not So Fun to Be

#### **Theory & Critique Section**

#### 19 · Caduceus

Sports Stars Are Physicians

23 · Cover Story I'm on the Next Level

#### **Social Section**

29 · Law in Global Who Owns Antarctica?

#### **Campus Section**

- 33 · Round Talk Legal Savior in HUFS, LSCH
- 36 · Epilogue



**By Yang Yu-min** Staff Reporter of Social Section

n Nov. 29, all students attending HUFS must exercise their right to vote in the upcoming election for the president of HUFS. While it is important to look forward to the next four years of HUFS, it is also important to look back on the past eight years. The Argus meets with President Kim In-chul, who has led HUFS for the past eight years, and looks back on that memorable time.

#### The Argus: It is good to have you, President. Would you please introduce yourself to the readers of The Argus?

**Kim In-chul (Kim):** My name is Kim In-chul, and I am the 10th and 11th president of HUFS. I am also currently a professor from the Department of Public Administration, which I was admitted in at HUFS in 1976.

#### The Argus: There are three principles (Fair Governance, Easy and Simple Administrative System, and Sustainable Innovation) that you have stressed. Out of these three principles, which one did you consider the most important?

**Kim:** I have emphasized the principle of "Sustainable Innovation." In order to achieve the goal of becoming a "sustainable and stronger HUFS," I have been carrying out many pledges on various aspects during my tenure.

#### Sustainable Finance

By attracting foreign students and by expanding business and donation income, I tried to improve the financial structure that

had been only dependent on tuition. In particular, the influx of foreign students has helped not only in terms of school finances but also in terms of metamorphosizing HUFS into a global university. Despite the COVID-19 situation, the number of foreign students from various countries is steadily increasing. As a result, HUFS changed the educational paradigm by teaching Korean language and culture to foreign students, not limited to foreign language education for Koreans. In addition, there was a continuous increase in business income before COVID-19, and due to active fund raising, HUFS's ranking of fund raising increased to reach 9th place among universities in Korea.

#### Creative, Innovatory Curriculum and Modernization of Infrastructure

The Ingenium College of Convergence Studies (ICOCS) was launched to develop and innovate future-leading convergence education models. Through this, I made an effort to lower the boundaries between majors/departments by implementing a system where students actively customize and design their majors. In addition, I established the "Data Center" while promoting the Songdo Campus project, and this year, HUFS was selected for the "AI Learning Data Construction Support Project." This is a core project of the Digital New Deal "Data Dam," which is supervised by the Ministry of Science and ICT and National Information Society Agency.

#### • Fair Governance

In terms of governance, I made an effort to improve fairness of communication, participation and process. I have communicated with professors through various channels such as the Faculty Meeting. About students, I have held regularly the meeting "Conversation with the President," and take advantage of the School-Student Council to listen to students' concerns, complaints, and demands. I have also been communicating with the staff community. In the past, HUFS has painful memories such as strikes. However, through the continuous restoration of mutual trust, we were able to peacefully conclude wage and pass collective bargaining during my tenure. I am now proud that I have established a culture of coexistence between HUFS and staff.

#### The Argus: There are many pledges that have been fulfilled. Among these, which one is the most meaningful and, which one is the most regrettable?

**Kim:** The HUFS "sustainable library" in Seoul Campus is meaningful in that it contributed to the specialized development of infrastructure. Also, according to the "Act on The Promotion of Education of Critical Foreign Languages" enacted in 2018, the Ministry of Education and the National Institute of International Education selected HUFS as a specialized educational institution of critical foreign language. Powered by this achievement, I have contributed to expanding the base of critical foreign languages and building infrastructure for this.

On the other hand, the university evaluation is disappointing. In various university evaluations, HUFS has been stagnant between 8th to 13th place among universities in Korea and 150th to 400th place in the world for the past few years. To improve this problem, I think that the improvement of faculty's research performance and the expansion of student scholarships are needed. In addition, the financial capacity of HUFS has not been improved sufficiently. I politely ask everyone of HUFS to understand the problems caused by insufficient finance; I would like to request "financial expansion" to the next President.

# The Argus: What will you do for the rest of your tenure?

**Kim:** I will do my best until next February, the end of my tenure. First of all, I will make an effort to get the approval for the Songdo Campus. Next, I will start the remodeling of the library and museum in the Global Campus, reorganize the academic system of the Language Colleges, and improve the ICOCS. Lastly, I will pour my remaining energy in reorganizing the Seoul Campus Colleges (name change, etc.), in broadening the recruitment of freshmen, and in establishing an "International school" containing the unique values of HUFS. Even if these projects are not realized within my term in office, I will do my best with the heart of a patient farmer who sows seeds and hope the next president will harvest.

# The Argus: Do you have any final thoughts to share with the readers of The Argus?

**Kim:** I hope students feel proud of attending HUFS, which is the only humanities-centered convergence university in Korea. You currently have strong advantages against science and engineering-oriented university students. Moreover, I hope you will be a person who always embraces the weak with a positive and active mindset. Keep in mind that HUFS can realize your dreams and visions. While you have developed your powers, I want to be remembered as the president who was always there with you. I wish you all good luck.



▲ Executive Editor Prof. Kwon (1st from L), President Kim (2nd from L), Editorin-Chief Nam (3rd from L), Staff Reporter Park (4th from L) are having a conversation.

After an eight-year term, President Kim In-chul will retire next February. As President Kim said, HUFS has changed positively over the past eight years. Now, it is the time for looking forward to the next four years. On Nov. 29, the election for the 12th president of HUFS begins and a new president will be elected. The Argus would like to express the gratitude to President Kim In-chul, and hopes that the next president strives for the sustainable development of HUFS, continuing the endless glory of HUFS.

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## 12th President of HUFS Election Starts

On Nov. 29, the election for the 12th president of HUFS begins. In this election, there will be a direct-election system involving university members, giving professors, staff, and students the right to vote. The election is conducted through mobile voting and on-site voting. In previous elections, the direct election system of professors had been carried out, where only professors had the right to vote. However, as the direct election system of university members has been introduced, the staff of HUFS and students are also able to participate in this election.

The election process will be as follows. From Oct. 27 to 29, candidate registration is in progress; the first round of voting will be held on Nov. 29. At this time, if no candidate receives a majority of the votes, the second round of voting will be held on Dec. 1. Nevertheless, if no candidate receives a majority in the second round again, the final round of voting will be held on Dec. 3. The candidate's vote rate is calculated by reflecting 90 percent of the professors' vote, 5 percent of the staff of HUFS and 5 percent of the students. As a result of this process, the 1st and 2nd candidates are selected and then the board of directors will appoint one of these two candidates as the president of HUFS.



to exercise their right to vote by announcing the election schedule through its own Instagram account.

About this election, Ahn Jong-beom (Division of International Studies '21), who is a member of the election project of "To HUFS," the 55th GSC, emphasized the importance of voting. He said, "From this election, students have the right to vote for the president. Students' votes are important to change HUFS for the better. I hope all of the students vote." As he said, the future of HUFS depends on this election. For a better HUFS, students should exercise their right to vote.

By Yang Yu-min 202102045@hufs.ac.kr

### Second Career Search Credit System Starts

Considering "2021-2 Academic Operational Plan for universities' phased recovery to daily life" (recommendations from the Ministry of Education), regardless of the social distancing level, all undergraduate classes are to be delivered either face-toface or online from November 1st, 2021. Regardless of major class or liberal arts, "all" classes will be conducted as face-to-face classes if the number of students is less than 40. And if the number of students exceeds 40, online classes will be conducted. At this time, Class Capacity refers to the maximum (limited) number of students for each class indicated on the course schedule during the course registration period. The class delivery method is stated on the syllabus and the lecture schedule; and classes designated as online are to be delivered online until the end of this semester. Unlike the previous announcement, this announcement of the class method differs



▲ From November, students will be walking around the campus to take face-to-face classes.

in that face-to-face classes will be conducted regardless of the social distancing level. It may be difficult to return to the past perfectly, but it is expected that we will be able to see a campus full of students' passionate quest for learning as soon as possible, meeting and contacting each other in person, not on a monitor screen. Students will have to check the notice in advance and make sure to get all the necessary information about class attendance.

By Lim Se-jin limsj0225@hufs.ac.kr

## **HUFS Starts HUFSpeech Program Starts**

"HUFSpeech" program will begin on Nov. 1, 2021. The program starts from Nov. 1 and runs for about 40 days to Dec. 10. HUFS aims to improve students' foreign language communication skills through speech consulting and the contest.

HUFSpeech is a mixed program composed of the class for giving speeches and the contest. 25 to 30 enrolled students and students on leave of absence will participate in the program. Students can participate in any language educated by HUFS. The program, contest, and the winner's speech consulting will be held about the language that each student participated. However, the group consulting will be conducted in Korean since it deals with the basic and overall contents of speech. From Nov. 1 to 19, group consulting will be conducted about three to four times with a speech-specialized education company. Then a speech contest is expected to be held on Nov. 25, and the award will be given on the same day. The subject of the contest is a common theme and will be notified in advance. Winners of the contest will receive customized speech consulting twice per person from Nov. 29 to Dec. 10. This consulting will be conducted with professors at HUFS according to the language in which students participated. Through the contest, winning students will be awarded and get prize money: 500,000 won (\$417.86 in U.S.) for the first prize, 300,000 won (\$250.71 in U.S.) for the second prize, and 100,000 won (\$83.57 in U.S.) for the third prize.



posted an ad for the HUFSpeech participants on Oct. 7.

> By Jeong Ga-yeon rkdus0219@hufs.ac.kr

## **HUFS GTEP Working to Become Global Trade Experts**

The Global Trade Experts Incubating Program Team (GTEP) is organized by the Ministry of Trade, Industry and Energy and is conducted by the Korea International Trade Association. For about 15 months, participants should participate in field training, exhibitions, e-commerce, and online marketing training for more than 480 hours. In particular, the GTEP in HUFS is specialized in the four regions of Asia, North America, Europe, and Latin America, focusing on fostering talent with high expertise in trade theory, practical affairs, and knowledge of the four regions.

This year, the 15th GTEP team has been busy. They participated in the "Busan Living and Lifestyle Fair" in Bexco, which lasted for four days from Sept. 9 to 12, and conducted all processes from exhibition, promotion, and sales of a total of five products. The GTEP team also participated in the "Busan Pet Show 2021," which lasted for three days from Sept. 10 to 12 and achieved sales of more than five million won (\$4178 in U.S.), leading to a great outcome by achieving more than 250 percent of target sales.

In addition, through the e-commerce education, the 15th GTEP students are also preparing for an e-commerce competition for GTEP teams nationwide, which will be held in November. An anonymous HUFSan said, "The importance of global trade is growing. Since Korea is a country which economically relies on trade, fostering global trade experts in universities seems great."

By Shin Jun-seo wedae20@hufs.ac.kr

# **HUFS E-sports League Starts**

The final round of the HUFS E-sports League takes place on Nov. 4. Six of the global campus students including one candidate player will win the first place through winning three out five games and the winners earned 10,000,000 won (\$8,454.59 in U.S.) in price money. The event was mostly held online, but the finals were offline.

The event was only held on the Global Campus, because it was hosted by "ON" which is the 42nd Global Campus GSC. League of the Legends (LOL) was the game played, and there were 32 teams participating in the league. The tournament started with the round of 32 on Oct. 23rd, the rounds of 16 and 8 both on 24th and the quarterfinals on 30th. The application notice for both players and casters was released via the GSC's Instagram (@hufs\_on) on Saturday October 9th. Students who wanted to attend must have downloaded and submitted their application made by Google form. Famous casters such as Jeon Yong-jun caster who works actively in E-sports and CloudTemplar, also a famous caster working in Daily E-sports played such an important role for this league in HUFS.



 GSC notified an announcement of recruiting players and casters for the league through Instagram.

By Choi Ye-jin iamthebestyjc@hufs.ac.kr

### Last FLEX and DELE 2021

In Nov. 2021, the FLEX and DELE exams are held at HUFS. The FLEX test stands for "Foreign Language Examination" and is a certified language proficiency test jointly organized by HUFS and the Korea Chamber of Commerce and Industry (KCCI). It is conducted four times a year, and the validity period is for two years. These FLEX tests consist of English, Chinese, Japanese, French, German, Russian and Spanish and are organized by the Flex Center of HUFS. This year's last FLEX test is scheduled to take place on Nov. 21, 2021.

The DELE test, which stands for "Diplomas de Espa?ol como Lengua Extranjera, is an internationally recognized Spanish certificate test administered by Instituto Cervantes. DELE is a rating system, not a scoring system, and is classified into six stages according to common European evaluation criteria. DELE is organized by the Foreign Language Training and Testing Center (FLTTC) of HUFS. The test consists of four areas: reading, writing, listening, and speaking. This year's last DELE test is also scheduled to take place from Nov. 12 to 14, 2021.

By Park Kun-ha trulymonica1224@hufs.ac.kr

# Application for Double Majors Begins

Applications for double majors begins at the end of November. HUFS is implementing a double major system to give an opportunity for students to gain expertise in fields other than their main major. Application for double majors is for first-year students in principle and can be made on the school website's "total information system" before the end of the first-year course. Students who have completed the first-year course and earned 34 or more credits are selected first. The allocation ratio for each departments will be 150 percent of the entrance quota. However, there is an exception for the College of Education, which will be limited to 100 percent. In principle, double majors between campuses are also possible. However, there are departments limiting applications for double majors depending on which campus their main major is located. There could be some HUFSans who think their double major does not suit them after completing some classes in that major. They can then change their double major during the second semester's double major changing period.

> By Yoo Hwa-in hwain@hufs.ac.kr



Street Vegan Uggater Street Vegan Street St

**By Choi Ye-jin** Staff Reporter of Culture Section

Here are a very the readers of The Argus ever worn a coat made from cactus? It might be the first time hearing about this kind of clothes, because it is a vegan product. There are many reasons people decide to use "Vegan" products. The reasons might be because of the environment, of the concerns for health, and of those for the animal. Veganism is a lifestyle of not consuming animal resources. It has emerged as a new keyword for the twenty-first-century, since the MZ generation has been focusing on social problems such as environmental issues and animal rights. Eventually, Veganism has spread to all kinds of products such as food, cosmetics and fashion. The Argus will take a look at how Veganism all started, why it receives much attention and how it will develop in the future.

**Before Reading** Veganism: In 1994, one vegetarian society made this word while searching for a concept for not eating dairy products. They combined "vegetarian" and "beginning" which resulted in "Veganism."





#### 1. Vegan Challenge and Vegan Patty



Many people will think of something related to eating when they think of veganism. There are people doing vegan challenges, which is one phenomenon of vegan culture; and these people are called "vegan dieters." A vegan challenge refers to eating vegetable dishes only during a period the participants set. While doing this, dieters share their dishes over SNS including blogs and YouTube. They share the reviews of their vegan diet to

challenge related to vegan life.

induce people to join in veganism and to share vegan recipes. By looking at each other's meals, participants can be on a diet not only to lose weight, but also for pursuing a healthy lifestyle by eating vegetables and fruits. There are many paths of veganism according to one's dietary preferences.

Since, most of dieters cannot eat meats, there must be a replacement for protein. One of them is to make and eat vegan patties. The most representative vegan patty is the

quinoa patty, which is made of quinoa (cereals), carrots, milk, pimento (cherry pepper), onions and breadcrumbs. This is for people who decided to include milk in their diet (such as flexitarian, semi, pesco, lactOvo and lacto). There is also "vegan rice patty" for those (Vegan) who want to exclude dairy products totally.

The consumption of vegan patties has increased, so the food industries also have changed



The slogan shows customers the message, "Not Beef, But Veef."



▲ As the graph says, vegan cosmetics demand has been increasing since 2018 and new beauty brands have been opened too.

their producing patterns. Companies like Lotteria advertise Miracle Burgers by putting out the slogan "Not Beef, But Veef". They explain the product as a burger of a miracle that has no meat, but tastes like beef. From the consumer's point of view, making a vegan patty at home might be a little tedious and difficult, so trying products made from companies will be an easy way to eat a vegan patty.

#### 2. Vegan Cosmetics Applied to Your Face!

As the demand for vegan beauty products have increased, cosmetic companies have also started to invent vegan products. "AMUSE," one of the most popular make-up companies is expected to be the pioneer of the color makeup division and the "Skin Tune Vegan Cover Cushion" is their representative product. Koo Seul-ki, who works in the Marketing & Communication team of AMUSE said, "This cushion earned a vegan certification from Eve Vegan which is a vegan organization from France and is famous for its strict standards. Since the texture, pigment and incense are strictly judged and managed by this organization, it takes at least three times as long to produce as normal cosmetics." This product has gained a high degree of popularity among the beauty YouTubers and customers since it was nearly the first base make up cushion selling as a vegan product.

If AMUSE is famous for color make-up, Melixir is famous for their skin-care products. Melixir is the first cosmetic company to produce vegan products, and for those who know this brand might be familiar because of Vegan Lip Butter. For consumers who were accustomed to normal lip balm products, this item was nearly an eureka because of



the usage of healthy ingredients. It earned popularity by using vegetable materials including shea butter. The lip balm offered people the effect of protecting lips from harmful environment and amplifying its moisture power. Besides, making toner, creams and any other products made with only vegan ingredients, the brand became number one by creating a new skin-care brand and eventually giving consumers a chance to be ethical customers.

Both companies helped to create a new category in the cosmetics industry: vegan cosmetics. With the help of beauty YouTubers who began to mention more about vegan beauty, other brands have also started to release vegan cosmetics.

#### 3. Wearing Vegan, Vegan Fashion

A new goal in the fashion industry, where the period of trends is short, emerged. So-called vegan fashion has begun to be spotlighted. Vegan fashion means a clothing culture implying no animal cruelty beyond not using animal materials while making items. London Fashion Week, one of the four international fashion shows, made a declaration that they would stop using fur from the 2019 Spring / Summer season. Also, luxury brands such as Gucci, Prada and Miumiu declared that they were "Fur Free" and ceased using fur for luxury products. For instance, Gucci released sneakers made of vegan materials instead of leather. This pair of shoes is named "Demetra," the goddess of harvest, because it is made with an ingredient dubbed with the same name. The designers and the producers managed to find this material for two years through researches, to make a sustainable bio product made of plant materials.

> Not only in luxury brand items, but also in common items, like over-coats, hoodies and shoes, a move with the vegan trend is manifested.

> > The name of this shoe is "Demetra" made from plant ingredients by Gucci.

Dr. Martens, a famous leather shoe brand made vegan boots. As a result, there was about a 300 percent output increase due to the change of customers' interest. Instead of using leather, using Tencel\* fabric, artificial fur and synthetic leather was the selling point. Hugo Boss, a German men's fashion brand, also made shoes using a fabric called "Pinatex" made from pineapple leaves. This is advertised to lessen the use of dyeing materials and the chemicals used in the production process. In Korea,



These are the pictures of Cactus Leather Trucker Jacket (L) and Korean Leather Black Trucker (R).

Vegan Tiger, which is advertised as a premiere vegan brand, makes unique items like the Asparagus Print Shirt, Korean Leather Black Trucker and Cactus Leather Trucker Jacket as well as accessories like socks, hats and mufflers. Vegan Tiger also donates some of the income from its products for vegan festivals and campaigns, to induce customers' ethical purchases.

\* A moisture absorbent and breathable fabric made from using far less water to cultivate this plant compared to cotton.



#### 1. For Health

The biggest reason why people start veganism is health. Recently, due to the COVID-19, the global meat supply chain has been impacted and substitution for meat have become more popular. Also, the MZ generation is preparing to make veganism a new food culture after the pandemic. In short, many might replace normal meat and choose vegan patties for their health reasons due to their low calories, since they are made of organic ingredients. The point that vegan patties are low in calories is what is attractive. High calories turn into fat and this is shown by the movie "Supersize Me", a story of a man only eating hamburgers for 30 days. As a result, he gained 24.2508 pounds (11 kilograms) and his health also deteriorated. However, low-calorie food, such as



vegan hamburgers has less of a possibility to turn into fat. It also requires less resources to produce, thus it is more environmentally sustainable. This

health. sustainable. sustainable. is why both dieters and vegan dieters prefer vegan food.

What is the purpose of people buying vegan cosmetics? Because they are made of plant materials and eco-friendly elements, the possibility of chemicals being added is lessen. Scents which are artificially made, parabens, triclosan are usually added in cleansing foams and benzophenone in sun block are the most used chemical materials in cosmetics. These are fatal, especially for women, because they disturb female hormones and cause breast cancer. Also, they cause rashes and skin pigmentation. On the other hand, fragrancefree and color-free is a matter of fact in vegan cosmetics, which contain vegetable components like Argania spinosa oil and avocado to revitalize the skin and reduce skin disease.

#### 2. For Environment

Approaching environment problems by looking at the food industry, one would learn that hamburgers are a good case to examplify. It is not hard to find out that one hamburger pollutes the earth. According to Food and Agriculture Organization of the United Nations (FAO), raising livestock is the greatest cause of pollution. The amount of methane gas emitted from a cow is about 187.36 pounds (85 kilograms). One point three billion cows are raised per year, so 33,069,339,327.73 pounds (150 billion kilograms) is emitted to the air. Although this amount of methane is less than the amount of greenhouse gasses emitted, fifteen percent is not a small number. To solve these problems, although vegan meat has been developed; and meanwhile artificially made meat is also produced, people would not prefer it because its reliability is not yet proven. This is why the best solution to offset the harm caused by hamburger patties is to eat vegan patties!

In the meantime, beauty brands are also taking a lot of care to protect the environment. For example, AMUSE uses Forest Stewardship Council (FSC) certified packaging, especially for sustainable forest management. Koo said, "The package we use is closer to 're-use' not 'recycle.' Reuse means to use it again without changing its properties and recycle means to change the shape or original form and use it one more time. This is how we try to be a brand which protects the environment considering the package design and the tint container using iconic transparency packaging made from reusable ingredients." In



 AMUSE advertises the product by the certification of Eve Vegan on the homepage.

addition, she also mentioned that consumers should be smart and sensible on this point: checking all ingredients put into the product. "There are really lots of question written on the homepage that one could ask, such as how a product is certificated as vegan and whether it is possible to re-use the tint container. Therefore, we also strive to create products that consider nature and the safety of consumers. But we recommend that customers also know whether and which elements are vegan or not, because most of the components in cosmetics can damage the environment and contribute to the emission of carbon dioxide (CO2) in particular during the extraction and production processes which we do not use."

#### 3. For Animal Rights

Some people become vegans to protect animal rights. We can look at the cosmetics industry for an example. Think of small animals like rabbits, guinea pigs and rats being drenched with mascara or being injected with different ingredients. Even dogs are used in experiments, and this is not happy news for someone who loves their pet dog. Rabbits are mainly used for eye-related experiments only because their lashes are long and they blink much less than other animals. They are put into a small container box and their eyes are fixed so they can't move. Then, the testers apply the mascaras for a billion time only to test the curling efficacy of the product and how long it lasts. By this "Draize test," the rabbit's

eyes get reddened, and severely irritated until it is impossible for them to open their eyes. However,



▲ Rabbits are being prepared for mascara test.



▲ Animals are in the carrage for cosmetics test.

while vegan cosmetics are wholly banned from doing animal experiments and use non-animal ingredients, it might be one way to protect the lives of animals. So, to be certificated as a vegan cosmetic, the most important thing is that the product should not include animal experimentation, which means that the ingredients of the product must absolutely be made without animal-related materials.

Fashion may be the most obvious part of animal abuse, because of leather and fur. By this point, the demand for leather and fur items has decreased, while the demand for vegan items has risen. Eleven to 45 foxes, 30 rabbits and 55-200 minks -- these are the numbers of how many animals are used to make one fur coat. There were some issues related to leather clothing, because of the process of making it. Live animals are sent to plants to be skinned while being hung from the ceiling. To ensure animal rights, consumers and companies are both changing. Vegan Tiger, the brand mentioned earlier, said that its aim is to sell "cruelty-free" clothes, which is their slogan.

In addition, "veganomics" emerges as a new cause. Veganomics is a word merging by vegan and economics, which is often used among the MZ generation. Lim Seunghee, a professor at the Induk University Department of Broadcasting Beauty Stylist and a fashion stylist said, "Since the demand and supply of ethical consumption has increased for sustainable fashion, the fashion industry has begun to concentrate on fashion with ethical values. Looking through the current trend of consumption, one can say that the vegan fashion, a type of veganomics, has been positioning its public image from being 'luxury' to being ethically 'valuable'." For example, there is a transgenic sheep breed like Merino, which is modified to provide four to nine pounds (two to four kilograms) of fur per year. After knowing that fact, many people, thinking of the pain of the animal would have, felt it was not a good way to show off with these kinds of fur. That is the reason why the trend has changed to expand into vegan fashion.



#### 1. More and More Vegan Food Restaurants in Korea

South Korea has great potential to develop a vegan food culture. First, Korea has a lot of food that fit in this category. In the first place, there is a reason why foreign people love "Bibimbap," because it has huge amounts of healthy vegetables. Though some might not consider this vegan due to the sauce, which is not vegan, but it is okay. There is the sauce *gochujang* (red pepper paste) for vegans, too, so dishes like tteokbokki (stir-fried rice cakes with red pepper paste) are being veganized. Although there are few restaurants for vegan consumers, many salad stores



various vegan breads and cakes.

and vegan bakeries have started to appear. "The reason is that vegetarians are not the only ones who find vegan restaurants and vegan bakeries: among customers of our shop, there are also those who have allergies in dairy products, those who want to have healthy food, and those who prefer non-GMO (Genetically Modified Organism)," said Gu Seong-hui, who owns a vegan bakery called Slow Vegan in Imun-dong. Also, she expected that vegan breads and cakes, as well as all vegan foods, will be easily accessible.

#### 2. K-Vegan Beauty



It's a fact that Korean cosmetics are famous enough to be called "K-Beauty." Given this influence, it is expected in Korea that there will be a K-Vegan Beauty trend aiming at the revitalization of tourism in Korea as a landmark of cosmetics. However, more

active actions must be taken for this to become a reality. Above all, the vegan standards of the Korea agency of Vegan

Certification and Services (KVCS) are abstract and vague in contrast to those of Choose Cruelty Free (CCF), which are much more specific and elaborate. The KVCS is so vague that customers have to find elements used in the product one by one, and even that there are some products which do not provide information of the materials used. Therefore, consumers must manually download a specialized app called "Hwa-hae" or search the homepage. Therefore, Korea must have its own vegan certification center and certify product as vegan because we still have to offer the vegan mark to foreign systems (such as Eve Green) to be certificated. If this happens, customers may be given a chance to enjoy their shopping without worries and it will provide a healthy economic circulation for both companies and consumers. Plus, with this background like Dear Dahlia's Vegan Eye Palette and Lush's Vegan Foundation, it will be a chance for Korea to make color make-up cosmetics and go even further: there might

be a vegan scent representing K - V e g a n Beauty.

©Santal Sky

▲ SANTAL SKY is a NewYork vegan fragrance brand.

 Vegan Hoodies are available too.
 Dr. Marterns also sells

vegan shoes.

3. More Vegan Fashionista

Due to the increased demand for vegan fashion, this is also expected to become part of mainstream culture, because animal leather is being replaced by vegan ingredients, artificial leather and synthetic leathers. In the case of fur, it is substituted by artificial leather and fur due to its convenience to store and the advantage being easily designed with various

looks and colors. Also, it is even as warm as natural fur. This is how vegan fashion meets the customer's needs. With this, the disadvantage that vegan fashion items are quite expensive is offset. Besides, Professor Lim explained, "The limit of vegan fashion is the price, using imported materials made of vegetable ingredients. Naturally, if the demand for these

items rises, the prices will get lower."

One more point: vegan fashion items will be made alluring by sophisticated design. According to an E-Daily interview, Yang, the CEO of Vegan Tiger said that recently the number of people buying vegan items has increased only due to the nice design. She also mentioned that nonvegan customers make up 80 percent of their sales. In other words, it is necessary to make customers buy the product by presenting well-designed fashion items considering the dyeing process, elements used and the environment. If vegan fashion is familiar to us much

more than now in the future, there will be a question like this: "What?! Are you wearing clothes made from

animal fur?"

©Dr. Marterns-Airwair Korea

According to people who have tried to practice being vegan, they have said that it is easy to fail because it is quite hard to apply vegan principles in their lifestyle all at once. Many people might think becoming vegan is easy, considering it only involves fixing the diet, but the real reason for failing is because it is hard to catch up clothing that is not vegan. And this is the main reason for failure.

Also, a lot of money and effort is required to be a vegan. Since it is hard to practice veganism all at once, try to apply veganism in your life up to your preference and situation gradually. Literally, slowly being a vegan, can be the answer for solving some of these different problems. The Argus hopes the readers will be a healthy MZ generation accepting vegan according to one's values and pace.

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**By Yoo Hwa-in** Staff Reporter of Culture Section

#### Introduction of the Movies



#### **One Hundred and One Dalmatians**

One Hundred and One Dalmatians is the 17th feature animation of Walt Disney animation studio based on Dodie Smith's novel The Hundred and One Dalmatians. At the



▲ It is a scene where Cruella appears for the first time in the animation.

time of its release, the work was so successful that it topped the box office for nine weeks.

The movie begins with the perspective of Dalmatian Pongo, which lives with musician Roger. Pongo looks out the window to find a mate for Roger and sees Dalmatian Perdita and her owner Anita taking a walk by chance. Roger falls in love with both Anita and her Perdita. The two dalmatians give birth to 15 puppies. Meanwhile, Cruella, Anita's old friend who is obsessed with fur, wants to get those puppies, so she makes Jasper and Horace kidnap the puppies and confines them in her mansion. To find the puppies, Pongo and Perdita go on an adventure and finally arrive at Cruella's mansion with the help of other animals. They find 99 dalmatians including their puppies and decide to escape with all of them. After many twists and turns, they finally return home, and Roger and Anita accept 101 dalmatians.

#### Cruella

Cruella is a spin-off\* film of One Hundred and One Dalmatians and the second liveaction Disney film featuring a villain, not the main character of the existing animation since the Maleficent series. Unlike the animation, the background of the



 Cruella is talking about her plan to her old friend Anita.

film changed from the 50s to the late 70s when the film dealt with Cruella's life. It showed differences in the setting as well as the roles of the characters. In addition, new characters that did not exist in the animation also appeared.

Cruella's real name is Estella, and the movie begins with the story of Estella. Estella has a different personality from others. She is a child

he thing is, I was born brilliant. Born bad. And a little bit mad." By the time people thought it was boring to live only nicely, a new villain that they had never seen before appeared in the theater. *Cruella*, which was released in Korea on May 26, 2021, is a Disney live-action film based on *One Hundred and One Dalmatians* released in 1961. It recorded an audience of 1.98 million despite the prevalence of COVID-19. What made the movie so special? The Argus tried to find out why *Cruella* was loved by so many people by comparing it with *One Hundred and One Dalmatians*.

#### Parallel Code

dreaming of becoming a fashion designer. As she was unable to adapt to school life, she leaves for London with her mother Catherine. However, Catherine dies in an unexpected accident. Estella then meets Jasper and Horace while wandering on the street, and they become friends. Estella works as a cleaner at a department store, and one day, Baroness, who is a famous fashion designer, recognizes her talent in fashion and hires Cruella as a designer in her own company. Working as a designer. Estella finds that Baroness has the necklace Catherine gave her and realizes that she killed Catherine. Thereafter, Estella is reborn as Cruella and decides to take everything from Baroness. Cruella quickly gains fame and popularity by appearing in every fashion show of Baroness in her own costumes. Feeling wary about the sudden appearance of Cruella, Baroness investigates her and finds out that Estella is Cruella. Baroness raids Cruella's house and sets it on fire. Fortunately, Boris, Baroness's butler, saves Cruella. For her last revenge, Cruella heads to Baroness's party. At the party, Baroness finds Cruella and realizes she had not died, so she pushes Cruella off a cliff this time. However, Cruella, who already predicted this situation, makes everyone see what Baroness does and survives by opening a parachute. Eventually, Baroness is arrested, and Estella lives the rest of her life as Cruella.

\*Spin-off: A work that has been derived from original movies or dramas. They share the worldview of the original work, but the main character and story are completely different.

#### Comparison between the Two

#### Theme Fashion







a fashion store called "Let It Rock" with Malcolm Mclaren in 1971.

▲ Vivian Westwood opened ▲ Cruella's red dress is inspired by Alexander McQueen's Pre-Fall 2009

In the animation, Cruella is described as a rich woman who has an interest in in fashion. The live-action film brought this characteristic to London in the late 1970s and dramatized it as a story of fashion designer Cruella. United Kingdom in

1970s had a movement to pursue a radical alternative culture\* similar to anarchism\*, and this led to punk rock fever, a radical and aggressive music style of young people in the labor class. Vivian Westwood was the creator of punk rock fashion in this era and became the motif of Cruella in the movie.

Jenny Beavan, the costume director of Cruella, said, "Cruella referred a lot to the styles of Vivian Westwood and John Galliano, who worked independently at the time." This can be seen through Cruella's fashion in the movie, and her colorful clothes convey visual joy to the audience in addition to her bold attitude.

\*Alternative culture: A trend focused on the restoration of humanity destroyed by the late industrial society.

\*Anarchism: Ideas and movements that deny all institutionalized political organizations, powers, and social authority.

#### Character **Estella**

Kim Seo-hyun, a student of Kyung Hee University, said, "Cruella from the liveaction film was so different from Cruella from the animation that I wondered if they were the same character I know." As



▲ Estella is listening to Baroness in her first day of work.

such, the gap between the two is huge, and Estella is one of the elements that makes those differences. In the animation, the story of Estella was not revealed since Cruella was not the main character. However, Cruella shows the process of Estella becoming Cruella, making the audience understand why she became a villain and even cheered for her revenge.

#### **Jasper & Horace**

The roles of the surrounding characters of animation also changed in the liveaction movie.

Jasper and Horace were Cruella's subordinates in the animation. However. they appear as friends



▲ Horace(L) and Jasper(R) are listening to Cruella's plan.

in the live-action film supporting Cruella. Since most of what they do is under the orders of Cruella, one might presume that their relationship has not deviated from the vertical structure as they were in the animation, but that is not really the case. They

try to leave when they feel that Cruella has lost her identity as Estella, which is her true self. Their actions work as an opportunity for Cruella to realize that she is losing something really precious by focusing so much on revenge. In this way, as family-like individuals beyond just friends, they warn her not to become a real villain.

#### **Baroness**



▲ Baroness is looking at Cruella who appeared in her masked hall

In Cruella, a new villain character surpassing Cruella appears. It is Baroness, a successful fashion designer, who recognizes Cruella's talents and gives her an opportunity to enter the fashion

world. However, at the same time, she is also a cold-blooded person who does not hesitate to exploit others for her success. She is Cruella's biological mother but abandoned her and even killed Catherine, who raised Cruella on her behalf. This awakens Estella and makes her become Cruella. Baroness comes up against Cruella throughout the movie playing a role in eliciting her potential and maximizing the success of Cruella.

#### 🔵 A sign of the times

#### Cruella does not wear fur anymore.

Cruella in the animation is a psycho who lacks empathy and makes a coat with dalmatian fur. However, in the live-action film, Cruella raises a dog whose name is Buddy and wears a coat made of artificial fur. Then what made Cruella not wear fur anymore?

As people's perception of animals has improved, terms such as "vegan" and "cruelty free" began to emerge. There have been popular opinions that it is not morally right to unnecessarily

take animals' lives for humans. People for the Ethical Treatment of Animals (PETA), an animal rights organization, opposes fur production through various campaigns and posters. Reflecting the



▲ Cruella is holding her fashion show wearing a coat made of fake fur.

current trends, the fashion industry has been producing clothes using fake fur, not actual fur. Not only the fashion industry but also Cruella could not avoid this social atmosphere, and she was reborn as an animal-friendly character.

#### Success and revenge of the female character

There is another name that suddenly comes to mind when people hear the name Cruella. It is Cinderella. a classic character from Disney. Cinderella was abused by her stepmother but was saved by a prince who falls in love with her. This socalled Cinderella story was a cliché of the past Disney movies. However, as the times changed, independent female characters began to appear in Disney movies, and Cruella is a character pioneering her own life.



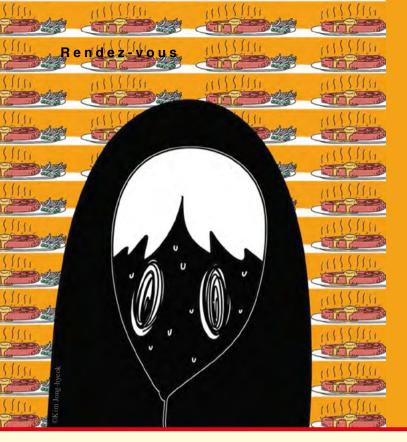
▲ Cruella is making people surprised with her performances in Baroness's fashion show.

In the animation, Jasper and Horace play most of the roles in the process of kidnapping dogs, while Cruella mainly orders them around. However, in the live-action film, Cruella is in the middle of everything. She schemes and puts her plans into practice. Even in the confrontation with Baroness, who is considered the best in the field of fashion, she does not give in and mesmerizes people by making her one and only runway. The revenge through her success goes beyond simply giving the audience a sense of pleasure and inspires them.

feel the happiness they felt through the animation once again through live-action movie Cruella.







# Artist, Not So Fun to Be

**By Kim Ye-ji** Staff Reporter of Culture Section

66 P hilosophy," which seems to be abstruse, often provides a map leading to a splendid life. However, people today do not have time to relax and speculate on philosophical theories, suffering from the given tasks in their lives. Then what if there are some easier ways to enjoy philosophy? Lovely illustrations catching eyes, beautiful lines of the characters, and sharing opinions through writing comments- these are things that can be realized by reading web comics. Encountering philosophical questions by reading webtoons makes it easier for readers to get into philosophy. Web cartoonist "Kim Jong-hyeok" plays a role acting as a link between philosophy and students who are not cognizant enough to look back upon their lives. The Argus is going to look into his motivations to become a cartoonist, the journey he has had so far, and his vision for the future. Let's enjoy philosophy reborn by his hands!



▲ Kim Jong-hyeok is a web cartoonist who is acting as a link between philosophy and young students.

#### Departure Station- Being a Cartoonist

#### Let's start with your self-introduction.

Hello! I'm a cartoonist using the stage name Joniak, and I draw cartoons, fairy tales, and some other awesome things. For now, I'm authoring a web comic titled *Twilight Zone* on Manhwakyung.\* It may be TMI\*, but I have a sweet tooth. My favorite is eating Jell-O.

#### What motivated you to become a cartoonist?

Originally, I majored in sculpture in university. In our department we handled metal, and one day I started to consider my future as a sculptor, having doubts like "Will I be able to be a metal worker?" and "Will I be happy having such job?" So I took time off from school and tried to find out what I really want for my life. I literally tried all kinds of things- from submitting literary works to exhibitions to extreme manual labor. While that went on, I realized that people really liked my cartoons when I was a student, and I started to create my own cartoons from then on. It was so much fun. It is also great to be a cartoonist as I can be paid by just drawing; don't you think so? I got to put a positive spin on being a cartoonist. While I studied at school, I posted my cartoons on the amateur cartoon platform at the same time. It was suggested that I make comic strips from Manhwakyung, so I decided to work as a cartoonist after graduating from school, but because of some complex circumstances I failed to manage it. After the failure, it took two more years to become a regular cartoonist. My debut work was created just then, and it is called *Zombie Planner*. This is a story about a man who tries to survive in an apocalypse full of zombies. Instead of being depressed, he was rather excited about the situation, as he had long been investigating zombies. It would make readers concentrate on how this geeky man would survive in chaos. Fortunately, I was able to make a debut with this work, and until now I've been working as a freelancer. It's so hard to survive as a freelancer, just like the man in my artwork!

#### On the Way- Twilight Zone

# You debuted with Zombie Planner, but I know that your most famous work is Twilight Zone which you posted on Manhwakyung since 2019. Could you please say something about this work?

An immortal man named Yujin appears in *Twilight Zone*. He observes a number of Yujins living in Parallel Universe\* with stuff shaped like a train. That's why its Korean title is *Yujin's Fantastic Train*. I first came up with the idea from the desire to create a cartoon not for just killing time, but for serious thinking. It might not suit the tastes of the public at large, but I thought I could enjoy making the work by myself, and also, I could target some readers who like serious topics. Since this work is an omnibus\* webtoon, I hope some of you who are fond of such genre will search for the work.

#### Among the episodes of Twilight Zone, what was the most rememberable and difficult episode to work on? Could you please talk about the episodes?

I remember the most about the episode It Is Not Fun to be an Artist. An artist just like me appears in this story. He dreams to be a film director but only wastes his time failing to present any significant works. One day he encounters the Devil at the Intersection, who is a devil granting people's wishes and taking away their spirits in exchange. He makes a wish to go back to the past, and the devil makes his wish come true. However, instead of taking his spirit, the devil says something pertinent. "I want you to make a sound. A sound that I've wanted to hear for a long time." After the devil disappeared, the man actually went back to the past and copied some movies that would be popular in the future. He had no doubt that he would be successful, but beyond his expectations, his movies failed again. When the man tries to kill himself, the devil returns and says something interesting. To know the story further, please search Twilight Zone on the Internet! I have a lot of affection for this episode because I couldn't help putting real emotion into the man's character since I'm a struggling artist just like him. This episode includes my real emotions and situations, and I think that's why it did great with the readers. The most difficult episode was also It Is Not Fun to be an Artist. I guess I identified with the man, and I tried my best to raise the degree of completion by changing the ending scene several times and carrying out modifications in the story.

#### In Twilight Zone, you dealt with some philosophical questions such as "What is eternity?" and "What is a real happiness?" What was the biggest challenge to manage that?



▲ This is part of the work *Twilight Zone*, which gives readers philosophical questions.



The image above is part of the episode Finding Happiness of Twilight Zone.

Basically, I have a lot on my mind while working, but I'm always especially obsessed with some worries- Would these topics reach to the readers? How could I transmit these complicated topics effectively? Isn't it too difficult and not fun? Not a moment

passes that I don't think about these questions when I work on my cartoons. I try my best all the time, but often some of my readers do not seem to understand the topics entirely. Whenever I see some comments saying "What is this all about? It is too difficult,", my worries grow bigger. It is because of my low ability as a cartoonist, so I always swear to myself I will get better.

### Final Station- Visions and Farewell

# Besides the web comics you craft, I know that you are creating some tales for children such as If I Meet a Zombie and Blooming Robot. What made you decide to make books for young kids?

At first, I didn't have any plan to make books for kids. I don't mean I didn't want to, but I just didn't have any chances to try it. Then one day, one of my friends suggested I work on creating illustration books for children, and the first children's book I worked on was *Haedri's Adventure to Human World*. Making stories and drawing for young children were so different from the work that I had done before. However, every time I see comments like, "My daughter is having so much

fun with the story," I feel rewarded enough. It is different from the feelings I got when I drew cartoons for adults.



▲ Blooming Robot is a fairy tale showing a robot who feels curious about humans.

# Finally, I would like to hear about your future performances and anything you want to say to readers of The Argus.

Someday I would like to try making a cooking comic book. As a person who is interested in mukbang\* videos, I hope I can be someone who satisfies people's desire for food. Also, my new work will be a comic cartoon, remaking traditional Korean fairy tales. I don't expect readers to get certain messages through my art. Like the saying "Since an artwork is presented to the world, it does not belong to the artist," I don't think my cartoons are "mine." It would be great for me just to enjoy my work, and the readers are at liberty to freely evaluate it. Lastly, stay healthy and good luck everyone! \*Manhwakyung: Manhwakyung is an online webtoon platform created by Baemin, a Korean delivery service company.

\*TMI: An abbreviation for Too Much Information, which means unnecessary information.

\*Parallel Universe: A parallel universe is a hypothetical self-contained plane of existence, co-existing with one's own. \*Omnibus: a movie, drama or a book which is composed of some separate short stories.

\*Mukbang: Mukbang is a Korean word meaning "eating show," where people show themselves eating food.



In the episode *Finding Happiness* of *Twilight Zone*, there is a line- "Is the happiness I'm feeling now real? Isn't it an illusion?" The Yujin in this episode constantly doubts and denies the happiness that has come to him. Eventually he regrets his past mistake of doubting his lover who had always loved him with nothing in return, and he feels depressed. If one continuously doubts and denies the happiness he feels, he will miss the smallest happiness and luck around him. The Argus hopes the readers will not be a person denying the present happiness like Yujin and suggests readers look back on their lives by appreciating the works of Joniak.

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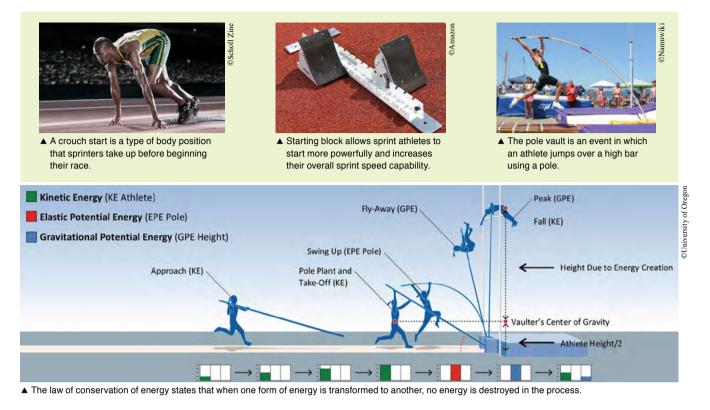
# SPORTS STARS ARE PHYSICIANS

**By Lim Se-jin** *Reporter of Theory & Critique Section* 

hysics" is often thought of 661 as a difficult subject only meant for scientists. For many people, physics is as far away as Andromeda, in a galaxy distant from their lives. But physics is closely related to the sports we enjoy in our daily lives. So, what is the connection between competitive physical sports and physics? In order for players to achieve better records, an understanding of physics is needed. Therefore, if people can understand the physics hidden in sports and make the most of this understanding, victory will be a predictable consequence, not a coincidence. The Argus digs into physics with readers in the interesting world of sports by introducing various principles of the physics hidden in sports.

SPORTS

#### Caduceus





#### Sprinting: The Flower of Science

All sports games make not only players participated in a match, but also spectators watched the game nervous. For example, a quick and powerful start is essential in a sprint race where victory or defeat is determined within 10 seconds, because the start determines the outcome.

In a sprint race, athletes crouch almost to the point where their noses touch the ground at the starting line while they wait for the referee to fire the starting gun. What does this posture, called crouching start, relate to in this event? Using the crouching start, athletes can gain strength for acceleration by having the appropriate position to balance in the set position. In addition, the crouching start posture can enable runners to push off the ground with more power because the force of reaction is maximized in the process of stretching and moving forward as soon as the gunshot is heard.

The starting blocks, which are used to maximize the effect of the crouching start, usually consist of two blocks mounted on either side of an adjustable frame. The principle of starting blocks can also be explained by Newton's third law of motion, "the law of action and reaction." This law states that when one object exerts a force on a second object, that second object exerts a force that is equal in magnitude and opposite in direction on the first object. Applying this to a sprint race, when a player pushes the starting block (action), the starting block also applies the same amount of force to the player (reaction). Thanks to this, the greater the force against the starting block is, the stronger the reaction force will be, and much more propelling speed can be achieved. It follows, then, that at this start of a sprint race, the law of action and reaction is used to reach top speed as quickly as possible.

#### Pole Vault: The Magic of the Pole Exclamation

One second, two seconds, three seconds: Humans fly in the sky for just three seconds. The pole vault, which helps a person become a bird by using a pole, is an athletic event in which the athlete jumps over a horizontal crossbar by sprinting along a runway and jamming a flexible long pole against a stop board at the center of the base of the uprights.

The principle of pole vaulting can be explained by the energy conversion process. Song Joo-ho, a professor at Chungbuk National University's Department of Physical Education and Sport Biomechanics, explained the energy conversion process of pole vaulting as follows. "during the run-up some of the kinetic energy\* generated through an approach run is converted to potential energy\* through the pole, and the rest is stored as elastic energy\* within the curved pole." In other

<sup>\*</sup>Kinetic energy: It is the energy that is produced when something moves.

<sup>\*</sup>Potential energy: It is the energy that is stored in an object due to its position relative to some zero position.

<sup>\*</sup>Elastic energy: This energy occurs when objects are impermanently compressed, stretched or generally deformed in any manner.

words, the chemical energy stored in the body is converted into kinetic energy through muscle movement while the athlete runs to the leaping point. And at the leap point, through the process of inserting one end of the pole into the box and raising to the body, some of the kinetic energy is stored as potential energy and the rest as elastic energy in the pole.

"and as soon as it reaches its peak, the curved pole stretches tightly, and the stored elastic energy turns into potential energy. Specifically, at the highest point, the kinetic energy becomes almost zero and is completely converted into potential energy." This means that if athletes reach the top, the curved pole straightens, the elastic energy stored in the pole is converted into potential energy against gravity and reaches a peak. The moment when the athlete's weight carries in the pole and bends it like a bow, it begins to return to its original state, and thanks to this power, the athlete can fly in the sky.

#### Ball Games

#### Soccer: Wind Determines Victory or Defeat

The charm of soccer, the display of showy foot skills, is a goal that passes through the goalpost. Therefore, players implement various skills to shoot into the corner of the goalpost, where the goalkeeper cannot reach. But many people do not know that science is hidden in these wonderful shots.

A free kick\*, the moment when the constantly moving soccer ball stops, is a golden opportunity to score. The best of kicking methods is called the "banana" kick (spin kick) because the ball's flight bends like a banana. A scientific principle, the "Magnus effect," is hidden in this kick. Lee Ki-kwang, a dean at Kookmin University's Department of Sports and Health Rehabilitation, defined the Magnus effect, saying, "the Magnus effect is where a rotating object bends because of an atmospheric pressure difference." Both sides of a rotating ball have different amounts of airflow. This is because the pressure is low on the side where the ball rotates in the direction of flight, while the air flow acts as a resistance on the other side, increasing the resistance. Suppose a ball rotates to the right. Based on the direction in which the ball flies, the right side will have the same air flow and rotation direction of the ball, resulting in less resistance and lower air pressure. On the contrary, the pressure of the left side of the ball will be high because it gets a lot of resistance. When there is a pressure difference between both sides of a rotating ball, a force is generated from a place with high pressure to a place with low pressure. With this principle, when a player kicks the outside of a rotating ball, the ball bends in a place with low resistance from a place with high resistance, and a wonderful banana kick is made.

#### Basketball: A Sport That Shakes the Basket

November is the season for indoor sports. One of the most popular sports around the world is basketball. Everyone may have had an annoying experience when the ball did not enter the rim\*, but with the principle of physics, everyone can be reborn as a basketball master.

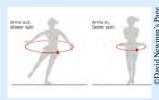
When shooting a basketball toward the rim, the success of the shot is determined by combining various factors. Among them, it is the launch speed and angle that affect the success rate when a shot is made at a certain distance. The launch speed normally tends to increase with the distance, but seven to eight meters per second is appropriate. This is because if the speed is too slow, it is difficult for the ball to fly far and it is likely to be blocked by defense; while if it is too fast, it is difficult to be accurate and the ball is more likely to bounce off when shot against a rim or backboard. In addition, theoretically, the launch angle of the shot can be made with the least effort at 45 degree; but the basket is high, so it is better to direct the ball at a slightly higher angle. Professor Lee explained, "to succeed in the shot, a player has to throw it at an angle greater than 50 degree. However, if the launch angle is raised to increase the success rate of the shot, the distance the ball flies will decrease. Therefore, the better the strength and skill to shoot the ball, the higher the probability of a successful shot by increasing the launch angle." With this launch angle, this shoot creates a better arc through the air; in other words, a higher arc, will potentially create a bigger target when the ball reaches the goal.



\*Free kick: A free kick in soccer is an unopposed kick taken by a player to restart play after an opposition player has committed a foul. \*Rim: The rim in basketball is a metal ring which the ball must pass through in order for a point to be scored.

#### Caduceus





▲ When a skater is spinning slowly with her arms and legs out wide and then as soon as she pulls her arms in, the speed of her spinning increases significantly.



▲ Kim Seon-yeong(L) and Kim Yeong-mi(R) sweep the ice after Kim Eun-jung(C) throws the stone during training at Gangneung Curling Center.



It is pebbled before each game with small droplets of water to make asperities, creating a texture similar to an orange peel.

#### Ice Sports

doing a great sit spin.

#### Figure Skating: Art on Ice

Unlike other ice sports, figure skating is scored through showy and beautiful performances. So, what scientific principles are hidden in figure skating, called "the art on ice"?

An elegant spin of figure skating is an example that shows the charm of the sport well. It is a motion that spins round and round in the same place and gradually rotates faster while maintaining various positions and counts the number of rotations from when the posture is fully established. When skaters spin, they rotate slowly with their arms open at first, and then the rotation speed becomes very fast as they move their arms inward. In this process, "the law of conservation of angular momentum" works. Kim Chan-ju, a professor at Ewha Womans University's Department of Physics explained the law of conservation of angular momentum by saying "a rotating object has angular momentum, a tendency to preserve its rotation. The law of conservation of angular momentum means that the momentum of a rotating object must be the same before and after."

The angular momentum is the value obtained by multiplying the mass, speed, and radius of rotation of an object in a rotary motion. Therefore, when the mass of the rotating object is constant, the rotational speed must be inversely proportional to the radius in order for the angular momentum to be kept constant. Let's substitute this for figure skating. If players fold their arms, the mass of the figure skater has not changed, but the radius of rotation decreases, so they must speed up to maintain the same angular momentum. Based on this principle, figure skaters control the rotational speed by adjusting their arms using the law of conservation of angular momentum.

### 👍 Curling: Chess on Ice

Curling is a sport in which players slide stones on a sheet of ice toward a target area which is segmented into four concentric circles. A great deal of strategy and teamwork go into choosing the ideal path and placement of a stone for each situation, and the skills of the curlers determine the degree to which the stone will achieve the desired result. This have curling be nicknamed as "chess on ice."

Let's look at sweeping, the most recognizable movement in curling. When one player pushes the curling stone, the other two players vigorously sweep the path the stone will travel on to reach the desired position. When the sweeper sweeps quickly, the surface of the ice melts, which creates a very thin, water curtain. The melted ice acts as a lubricant to reduce the force of friction and makes the stone slide more easily. Kim Tae-whan, a senior researcher at the Korea Institute of Sports Science (KISS)'s Department of Sports Science advised, "the thin water curtain made when sweeping can lower the coefficient of friction\* between the stone and the ice, increases the distance of movement of the stone or change the trajectory of it. Controlling the friction through sweeping well is the key to controlling the distance and trajectory of the stone." The players' diligent sweeping makes the stone go further.

Interest in physics is growing as the Nobel Prize on Physics 2021 was awarded jointly to Syukuro Manabe, Klaus Hasselmann and Giorgio Parisi for the physical modelling of Earth's climate and for the discovery of the interplay of disorder and fluctuations in physical systems from atomic to planetary scales.

Among them, if you look closely, sports especially are all influenced by the laws of physics. Therefore, after knowing the principles of physics hidden in sports, you will be able to enjoy sports more seriously and with greater excitement. In Nov, when late autumn turns into winter, why don't we try exercising for our health without shrinking in the chilly weather? There are so many exercises that can be done indoors. The Argus hopes that readers choose a sport that suits them to guard their health and exercise using physics.

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\*Coefficient of friction: The ration of the force required to move two sliding surfaces over each other, and the force holding them together.

# l'm on the Next Level

**By Park Kun-ha** Staff Reporter of Theory & Critique Section

#### **Before Reading**

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**Deepfake**: Deepfake is a word coined through combination of "AI deep learning" and "fake." It is a human image synthesis technology based on artificial intelligence. In other words, it is a technology in which AI analyzes existing images, voices, and videos to create virtual images, voices, and videos.



 Deepfake authentically synthesizes human face on the other figure.

hat if there were non-human K-pop group idol bands and voice actors? How would it feel if favorite celebrity guided the way through their voice in a navigation system? Surprisingly, all of these are already happening in the real world. Today, if there are several images such as webtoons, animations are created based on them. If there is a text, artificial intelligence (AI) can read it in various voices. Now, humans are in an era where AI K-pop bands with even music videos are appearing.

Several startups, such as Neosapience, NEOCOMIX, XINAPSE, and PULSE9, are researching AI video and voice synthesis technologies. These companies and other developers are seeing the future potential of AI art, video and voice synthesis technology and are rapidly plunging into the research. Not only these developers, but also well-established companies are rapidly investing in technology and making collaborations with AI. The Argus recognizes the infinite possibilities of AI in a society that is rapidly changing due to the fourth industrial revolution and presents the aspects and prospects of AI video and speech synthesis technology.



▲ Many startups, such as NEOCOMIX, XINAPSE, and PULSE9, are actively researching AI video and voice synthesis technology.

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#### **Cover Story**

#### AI

#### **Concept of Virtual Human Technology**

A virtual human is created by using artificial intelligence (AI) and graphic technology. It is a fake person that looks like a real person. Virtual humans have been invented through technological advances and are now gaining social fame. Currently, the most famous virtual influencer is "Lil Miquela," who has a fandom of nearly five million on Instagram, TikTok,

and YouTube. Lil Michela was selected as one of TIME magazine's "25 Most Influential People on the Internet" in 2018. Korean AI imaging technology startup PULSE9 is leading the expansion of AI technology through AI girl group band "Eternity." Now here is the question: what is the AI video and voice synthesis technology?



▲ Lil Miquela, a 19-year-old American virtual influencer, has 3.09 million Instagram followers.

#### 1. Al Techniques in Video Synthesis

Before AI video synthesis technology, only Computer Graphics (CG) was used. Since the advent of deepfakes, AI has been able to create realistic images with little effort by synthesizing an existing video with an existing image of one's facial parts; now with the advent of new virtual image synthesis technology, it is possible to create a completely new image by giving new movement to a person in a photo or video. This works by AI learning the human facial features of several people. In addition, by such principle, it can create completely new characters, called virtual humans, that do not exist in the real world. Jun Hye-yeon, Manager of Business Strategy & Development, PULSE9, said, "Our 'Deep Real AI' technology uses AI to create and synthesize new faces that do not exist



Na-yeon's mother was able to meet her daughter by reproducing her voice and figure through "Special VR Human Documentary, Meeting You."



▲ DAIN, who made her solo debut in August, is one of virtual AI K-pop girl group "Eternity" member formed by PULSE9.

in the world," explaining about the virtual image synthesis technology and Deep Real AI technology currently being used. Compared to the existing CG-dependent virtual characters, the current technology has less of a technical and economic burden in production and utilization. Therefore, it has high commercial value, and its use potential is limitless.

In fact, these image synthesis techniques are often used today. In the MBC ballot counting broadcast of the twentyfirst general election in Korea in 2020, comedians' and politicians' AI casters were transmitted on the broadcast in real time. Also, startup Neosapience made many viewers cry by reproducing the voice and the figure of Kim Na-yeon, who died at the age of seven, in 2020 MBC "Special VR Human Documentary, Meeting You" with AI. In addition, PULSE9's AI girl group band "Eternity" consists of 11 members and is actively working in the entertainment market while making music videos and shooting teasers. Manager Jun stressed the importance of upcoming actions of AI girl group band Eternity, saying, "DAIN, one of the Eternity members, made her solo debut in August and is continuing with an exciting box office hit, recording 1.4 million views."

#### 2. AI Techniques in Voice Synthesis

AI virtual voice synthesis technology is a voice version of a deepfake. Early examples of voice synthesis technology are Apple's Siri or Amazon's Alexa. These examples simply connect words and syllables, which makes for a crude and mechanical feeling. For a more authentic sound, developers had to make more sophisticated adjustments manually. However, as the quality of voice synthesis has improved with the introduction of deep learning, even subtle features of a specific person's voice can be reproduced almost perfectly. AI voice actors can even pause and breathe when they need to while speaking. Surprisingly, they also can reflect emotions in speech, changing its tone and pitch. In the past, real voice actors had to provide tremendous amount of sound data to be analyzed, recording their voices for 20 to 30 hours. However, the recently introduced technology through deep learning requires only one to two hours of audio files, after which AI algorithms start learning patterns on their own. When Textto-Speech (TTS) technology is applied by receiving the voice characteristics of a person in this way, various texts can flow out in sound with the voice of a certain person.

Choi Seo-a, director of the AI Convergence Division of XINAPSE, an AI imaging and voice synthesis technology startup, explained the benefits of virtual voice synthesis technology, saying, "Deep learning-based voice synthesis technology is being actively used in various realms that require various changes." XINAPSE is actively using AI voice synthesis technology for navigation and T-map. In this application, drivers can receive directions from the voice of a specific celebrity. This can be achieved by analyzing the voice characteristics of a specific entertainer using the voice synthesis technology of XINAPSE. Director Choi emphasized an advantage of voice synthesis technology, saying, "Considering the characteristics of navigation, it is impossible for a celebrity to enter the recording studio and re-record whenever a road is created or disappears."

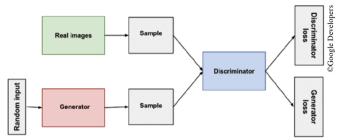


▲ Al voice synthesis technology is useful in putting celebrity's voice in navigation, such as T-map.



#### 1. Principles of AI Techniques in Imaging Synthesis

Virtual image synthesis technology can smoothly synthesize a virtual face through an AI algorithm called "Generative Adversarial Network (GAN)." GAN is a technology that naturally manipulates images by opposing the "discriminator" algorithm that determines the authenticity of an image and the "generator" algorithm that creates the image. Through such confrontation, AI minimizes the error between the original and manipulated video. Here is an easier explanation with an analogy. There are counterfeiters and police. Police crackdown on counterfeit money, so counterfeiters become more sophisticated in creating fake currency. Accordingly, the police will also detect it with more advanced investigating techniques. In the process of playing cat and mouse,



▲ This is function of Generative Adversarial Network (GAN).

counterfeit money becomes increasingly more sophisticated. Here, the police refers to the discriminator algorithm, and the counterfeiter refers to the generator algorithm. That is, when the generator algorithm elaborates the virtual face, the discriminator algorithm finds the error, and the generator algorithm compensates for it. However, Kwon Taek-joon, CEO of NEOCOMIX Inc., an AI imaging and voice technology startup, pointed out the limitations of GAN, saying, "GAN technology takes a long time to produce an output."

So far, it has shared the same technology as deepfakes. However, the recently developing virtual image synthesis technology has technical differences from deepfakes. Deepfakes are created using a method of synthesizing an existing image with another image or the face of a person filmed separately. However, in the case of PULSE9's technology currently being developed, it is different in that it can create a completely new video by learning existing images with AI. This is implemented with a deep learning algorithm.

The "deep learning" algorithm is a technology developed after 3D modeling and is a technology built based on an Artificial Neural Network (ANN) to enable a computer to learn by itself like a human using various data. Deep learning is just like the human brain discovering patterns in a pile of data and then distinguishing objects. If such deep learning technology is applied, the computer will be able to recognize, infer, and decide on its own, without the need for human beings to set detailed judgment standards. In order to apply deep learning to virtual image synthesis technology, AI continuously analyzes the movement of a person's facial muscles and automatically animates another face with a morphing technique\* according to the movement. Explaining about the AI deep learning



▲ The pictures show how morphing technique is processed.

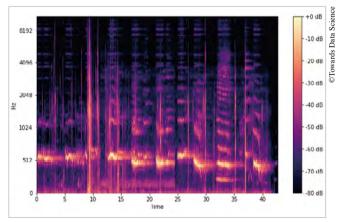
\*Morphing technique: A technique that transforms one form into a completely different image. A gradual representation of the process of change between two different images or three-dimensional models.

#### **Cover Story**

algorithm, manager Jun said, "In Eternity's 'I'm Real' music video, Deep Real 1.0 technology was used, and later in the YouTube interview video, Deep Real 2.0 technology was used. This time, the more upgraded version 3.0 was used to express an authentic look with more diverse expressions and angles than before. In this way, different deep learning algorithms for each company are also continuously modified and upgraded."

#### 2. Principles of AI Techniques in Voice Synthesis

In the early stage of voice synthesis technology, the necessary voice files were cut and pasted based on the files recorded by the real voice actors for each syllable. After that, before deep learning technology, developers had to precisely and accurately instruct AI voice actors to read text with exact pronunciation, intonation, and speed through programming. However, with the introduction of deep learning, the algorithm started to learn patterns by itself with a short amount of audio files. Nam Yong-wook, Senior Research Engineer of Speech Synthesis Team, XINAPSE, explained, "For deep learning, we need audio files of sufficiently diverse voices, that is, a base model with accumulated data." The base model, in other words, is a file holding a tremendous amount of data. AI first analyzes the characteristics of a newly input voice through deep learning based on the data accumulated through the base model. When the analysis of the characteristics of the newly input voice is completed, a voice file closest to the corresponding input voice is extracted and used from the base model. Director Choi emphasized the importance of the base model in the technology, saying, "Our company's technology has a solid base model, which is an outstanding strength that our company possesses."



▲ Mel spectrogram\* shows every specific detailed features of one's voice.

The deep learning algorithm basically learns and predicts the overall characteristics of the speaker's voice, such as accent, pitch, and tone. It also predicts other specific details, such as breathing and the resonance of a voice in the air. In addition, in order to sound like a real human voice, a tone depending on the emotion and context is also required. Dr. Nam explained, "The AI's Short Time Fourier Transform (STFT) algorithm learns all the features of speech shown in the mel spectrogram so that the same features of the voice can be implemented in its synthesized version." Mel spectrogram recognizes and shows not only low-frequency sounds of 500 to 1,000 hertz (Hz) that people can recognize, but also high frequencies of 10,000 to 20,000 Hz, resulting in much more precise speech synthesis.

#### AI

#### **Concerns and Provisions for New Technology**

#### 1. Ethical Debate on Revival of the Deceased

SBS New Year's Special Pilot "Battle of the Century: AI VS Human" was an entertainment program in which experts from the field of singing to stock investment competed against AI. A composition was created in which AI learned and reimplemented the voices of the deceased, such as the late Kim Kwang-seok and Freddie Mercury, by deep learning.

In addition, in Mnet's entertainment program "AI music project: Once More Time," which aired in December 2020, the voices of the late Turtleman (Lim Seong-hoon) and the late Kim Hyun-sik were revived with AI technology. Also, in the online stage of the Big Hit Labels concert on December 31, 2019, there was a collaborative performance between BTS and the late Shin Hae-cheol, using AI hologram technology. These are all "AI entertainment" that has revived the deceased with AI.

SBS stated that they obtained permission from the bereaved family of Kim Kwang-seok to reproduce his voice with AI and paid for his voice appearance in the broadcast. However, is it really ethical to bring someone's voice back



▲ "AI music project: Once More Time" revived the voices of the deceased singer, the Turtleman and the Kim Hyun-sik.



▲ BTS made collaborative performance with the late Shin Hae-cheol's hologram on Dec. 31, 2019.

\*Mel spectrogram: Representation of the short-term power spectrum of a sound



▲ SBS 2021 New Year's Special Pilot "Battle of the Century: AI VS Human" reproduced the voice of the late Kim Kwang-seok, famous Korean 80 90s singer, and made it to compete with other living singers.

to life through synthesizing and utilizing it without the real deceased's permission? American actor Robin Williams, who passed away in 2014, chose the right to be forgotten, stating in his will that his life-time figure could not be used in any realm until 2039, after watching the deceased stars be revived through holograms. The act of reviving the deceased by mobilizing technology is a double-edged sword: remembrance and financial benefits. Therefore, ethical questions are raised about the use of technology itself. To solve this problem, ethical consideration related to the damage of human dignity is necessary. In other words, a wide public debate and social consensus on the human rights of the deceased are essential.

#### 2. High Possibility of Being Abused for Crime

#### (1) AI Voice Phishing & Financial Fraud

In March 2019, the president of a British company, a client company of the insurance company "Euler Hermes Group SA," received a call. It was the voice of the CEO of its parent company. The head of the parent company was a German with a distinctive accent and pronunciation when speaking English.



▲ Speech synthesis technology used in financial fraud is becoming serious crime nowadays.

He ordered the president of the British company to send a Hungarian parts supplier 220,000 euros (290,000,000 won) within an hour. The president of the British company had no doubt about the chairman's voice and immediately transferred the funds. This case is the first voice phishing case using AI. According to a study by Gartner, a US market research firm, by 2023, speech synthesis technology utilized in financial fraud will account for 20 percent of all financial fraud.



▲ Image synthesis technology makes it hard to distinguish real human from fake. This results in financial fraud, targeting people who have child.

In the February 27th episode of SBS current affairs program "Unanswered Questions," a video synthesis financial fraud experiment was conducted. In the video, three experiment participants in their 20s appeared, and the production crew sent a composite video of the participants' faces to the hospital scene. Then they requested a photo of the parent's credit card. Surprisingly, two out of three participants' parents took a photo of their credit card and sent it to the crew without much doubt. As can be seen from the above cases, if financial fraud is carried out using the voices and faces of family members or close acquaintances through AI image synthesis technology, the general public can be easily deceived, and it is difficult to prevent that type of fraud.

#### (2) Fake Porn

Fake porn is deepfake porn created by synthesizing another person's face with pornography. The case of creating illegal pornography by synthesizing another person's face with an



The most commonly targeted victims of fake porn are well-known celebrities.



The third person who is never related with porn can also become the victim of fake porn.

actual video has already been raised as a big social problem through deepfakes. According to DeepTrace, a cybersecurity company in the Netherlands, 96 percent of the world's online deepfakes in 2019 were porn videos, and 25 percent of them featured the face of a Korean female celebrity.

Virtual image synthesis technology is, of course, also concerned about being abused for porn. As technology has

gradually advanced and since only a few photos are needed to be combined into a video, the risk of ordinary people becoming victims of fake porn has increased. In the beginning, the range of damage was limited to celebrities with a lot of data already available on the Internet. Now, videos can be created with just a few images so that the possible damage of fake pornography is expanding to the general public. Some even extort money from the victims by threatening to spread such videos if they refuse to pay.

#### 3. Countermeasures Against Abuse of Technology

To prevent the abuse of technology, most of the AI imaging and voice technology startups deal with technology trade only between companies. That is, by not utilizing the technology in an application, it is difficult for the public to access the technology. Director Choi explained how they reduce the risk of the abuse of technology, saying, "Our company deals only with Business-to-Business (B2B)\* transactions. In other words, the Business-to-Consumer (B2C)\* side targeting general citizens is excluded from the transaction to reduce the possibility of abuse as much as possible." Also, CEO Kwon said, "We, NEOCOMIX, do not develop and provide the technology we have developed in the form of an application that can be used by the general public. Therefore, it can be said that the potential for such abuse has been fundamentally blocked."

In addition, Dr. Nam suggested a technical form of countermeasure, saying, "To reduce the risk of abuse, at XINAPSE we are developing a technology to engrave watermarks away from audible frequencies." Through such a method, not only does copyright occur in the voice file generated by the virtual voice, but also it is possible to reduce the possibility of misuse by distinguishing the virtual voice file from the real voice.

Deep learning algorithms of AI, which are far more efficient and faster than human learning ability, are being used in various technological fields such as virtual human projects through several developers. Now, we can dream of an era in which AI appears as a clone in virtual reality, or in which a virtual human with a human appearance and voice has a conversation with a real human. However, the dark side of the new technology, such as the cultural lag and the potential for abuse in crime, cannot be ignored. While actively using new technologies can improve the quality of human life, negative aspects can also occur as a result of new technologies. If humans always keep an eye on the development of image and speech synthesis technology, pay attention to its usages, and do not overlook the ethical aspects of its use and the risk of abuse, future humans will be able to spend peaceful and pleasant days with virtual humans. Becoming best friends with new AI virtual humans may happen in the near future.

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\*Business-to-Business (B2B): Transactions or business conducted between one business and another, such as a wholesaler and retailer \*Business-to-Consumer (B2C): Transactions or business conducted between a business and general consumers

# Who Owns Antarctica?

**By Shin Jun-seo** Staff Reporter of Social Section

hat would happen if someone saw an emperor penguin in Antarctica and tried to take it home because it is so cute? If this person is a Korean citizen, it is impossible to take the penguin home. This is because Korea's "Act on Activities in The Antarctic Area and the Protection of the Antarctic

Environment" law prohibits capturing, collecting, or carrying out Antarctica's native plants except for research purposes. Visiting the South Pole without the government's permission is also impossible. Then, is it possible for people from other countries? It is impossible because Antarctica was defined as a nature protection district only for peace and science by the Antarctic Treaty which came into force in 1951 and "The Protocol on Environmental Protection to the Antarctic Treaty" which was adopted in 1991. So, it is not easy for ordinary citizens to visit Antarctica and even in the case of research, there are constraints against researchers. The Argus examines the treaties concluded over Antarctica, the only uninhabited and fifth largest continent, and the causes of their conclusion, and the posture we should take on Antarctica.



 Taking the penguin home is practically impossible.

#### **Before Reading**

Antarction: The area of Antarctica is 14,200,000 square kilometers, about 60 times the size of the Korean Peninsula, and it is a continent surrounded by the sea, where the wind is very strong, and the temperature varies greatly from season to season. Antarctica was first reported to mankind in 1819 when William Smith of England discovered Livingstone Island and the South Shetland Islands in Antarctica. International law considers the area south of 60 degrees South latitude as Antarctica since the Antarctic Treaty prescribes that area as Antarctica. Antarctica is a continent based on continental crust, but very thick ice weighs on the continent, so there is very little land that has risen above sea level.

#### **About the Antarctic Treaty**

The Antarctic Treaty prohibits military use of Antarctica's continents and seas and allows freedom of scientific research in Antarctica. In addition to freezing all claims of sovereignty, there are also articles prohibiting nuclear testing, radioactivity spills, and disposal of carcinogens. During the International Geophysical Year (IGY) from 1957 to 1958, 12 countries installed 67 Antarctic bases and dispatched 5,000 scientists to conduct international joint research on Antarctica. At this time, many scientific facts were revealed about the continent, including the thickness and volume of polar icecaps covering the landmass. These polar icecaps are 90 percent of the total amount of ice on Earth and 68 percent of fresh water. It was also learned that an enormous amount of resources is available, including over a 100-year supply of crude oil and natural gas. As a result, it was recognized the need for further research and awareness that Antarctica should not be owned by a specific country. So, the Scientific Committee on Antarctica Research (SCAR) was established in 1958. Information exchanges between countries took place, and solutions to political problems such as claims of sovereignty were devised for peaceful Antarctic research.

For this, the "Antarctic Treaty" was adopted in 1959. 47 countries have joined the treaty so far including the United States, Russia, and China. The actual authority to implement the treaty rests with 28 countries in the Antarctic Treaty Consultative Parties (ATCP) including the original signatories.\* The ATCP has joining conditions, such as conducting local research activities in Antarctica through the establishment of a research station. The ATCP can exercise voting rights at the Antarctic Treaty



The ATCP can exercise voting rights at the Antarctic Treaty Consultative Meeting.

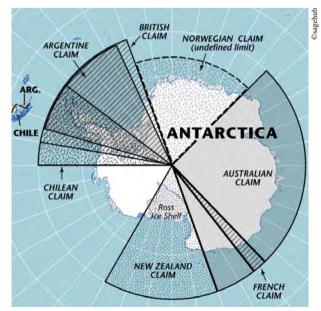
\*Original signatories : 12 countries active in Antarctica during the International Geophysical Year (IGY) of 1957–58

Consultative Meeting on matters related to peaceful use and scientific research in Antarctica. South Korea began researching Antarctica in 1978 and became the 33rd country to join the Antarctic Treaty in 1986. In February 1988, the Korea Antarctic Research Program, the 18th scientific base in Antarctica, completed construction on King George Island and in 1989, South Korea was qualified as a member of the ATCP.

#### The Reason for the Conclusion - To Stop the Dispute

Antarctica almost became a land of fierce territorial disputes in the past, which contributed to the signing of the Antarctic Treaty. In 1908, The United Kingdom first claimed territorial rights in Antarctica. From then on, a total of seven countries including New Zealand, France, Norway, Australia, Chile, and Argentina, claimed that Antarctica was their territory by their own logic and reasoning. In 1923, British Conservative Party Minister Leo Amery announced plans to colonize Antarctica. Norway claimed territorial rights reasoning that they are the country that succeeded in exploring Antarctica by Amundsen, who conquered the geographic South Pole.\* In 1924, France entered the Antarctic territorial dispute citing its exploration of the South Pole by its explorers.

These countries argued that Antarctica was their territory, based on such reasons as geographic proximity and successful discovery or exploration of Antarctica in



▲ Many countries had claimed territorial rights in Antarctica.

\*The geographic South Pole - The southernmost point on the surface of Earth, it lies on the opposite side of Earth from the North Pole.

the past. Professor Kim Bong-cheol of the Division of International Studies at HUFS explained the territorial dispute in Antarctica saying, "The Arctic region above 66 degrees latitude contains territory of many countries including Russia, Canada and Europe and traditionally has been inhabited by many people. But no one has lived in or owns the land of Antarctica, so the territorial dispute was more intense."

#### The Bases for Claims of Sovereignty in Antarctica -To Secure Resources

It is hard to deny that the cause of the territorial dispute over Antarctica was to secure resources to resolve the energy and raw material shortage that the world has experienced. According to international joint research in Antarctica, it has been confirmed that Antarctica has virtually endless mineral resources such as iron, copper, and nickel, and biological resources such as krill. Crude oil and natural gas that humans can use for more than 100 years is also buried in Antarctica. Through a study of Continental drift theory, scientists estimated that long ago, Antarctica was a continent attached to the southern end of Africa, the southern end of South America, and the southern end of Australia, which are regions rich in resources. Research conducted during the IGY period suggested there are likely huge amounts of oil buried in the Antarctic Weddle Sea and the Ross Sea, and coal layers in the mountain ranges.

According to an interview of Dr. Kim Dong-seop of the Shell Technology Center which was conducted by the Science Times, "The amount of oil buried in Antarctica is expected to supply more than 100 years of use. If the energy crisis continues, the issue of how to allocate the oil will naturally arise." Professor Kim also said, "Territorial disputes can arise because of economic factors," stressing that economic interests can be the cause of the sovereignty dispute in Antarctica.

#### The Madrid Protocol - The Shield of the Antarctic Environment

The Protocol on Environmental Protection to the Antarctic Treaty (Madrid Protocol) was adopted at the ATCP meeting in Madrid, Spain in 1998 to fill gaps in the Antarctic Treaty, which did not take into consideration the Antarctic environment, which is the last undeveloped area left to mankind; and is, of course, a huge treasure



▲ The Madrid Protocol was adopted at the ATCP meeting in Madrid, Spain in 1998.

trove of natural resources and a preserve of pristine natural environment. However, after the Antarctic Treaty, scientific research for resource development in Antarctica was conducted by several countries; and the importance of protecting the Antarctic environment was recognized internationally with polar glaciers melting in the 1980s and sea levels rising faster than before.

Accordingly, the Madrid Protocol was signed to protect the Antarctic environment from all human activities in Antarctica. According to this protocol, which took effect in 1998, sufficient information must be gathered, planned, and modified in advance and an environmental effects evaluation must be conducted when planning to operate in Antarctica. There is also an article that prohibits resource development for 50 years after the entry into force of the protocol. The Madrid Protocol regulates all forms of human activities in Antarctica according to universal standards, such as deporting sled dogs, which used to be symbols of polar exploration, out of Antarctica due to their high risk of carrying foreign viruses to the region.

This is an example of how the Madrid Protocol complements the Antarctic Treaty, which focus on easing sovereignty disputes and preventing military use.

#### The International Atmosphere After the Madrid Protocol

The Madrid Protocol can be amended 50 years after its entry into force. Therefore, some countries believe that it might be revised to allow the development of resources after 2048 and are preparing for this. One indication of this is that in 2013 activists from the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) insisted on leaving Antarctica as the largest resource conservation site on Earth; but some countries, including China, Russia, and Ukraine, refused to do so.

Environmental protection and resource development in Antarctica are incompatible. This is because Antarctic ecosystems are easily destroyed, even by small external stimulation. Antarctica's creatures have limited reproductivity compared to creatures in other regions due to the harsh natural environment, including the extreme cold that goes down to -70 degrees Celsius (-94 degrees Fahrenheit). In addition, the natural circulation of substances is very slow because Antarctica has less annual precipitation than the Sahara Desert due to the extreme cold. Therefore, in Antarctica, once the natural environment is destroyed, it would take a lot of time to restore its original state.

Shin Hyung-chul, assistant director of the Korea Polar Research Institute, said, "Before the Madrid Protocol, there was the Convention on the Regulation of Antarctic Mineral Resources Activities (CRAMRA). The CRAMRA treaty was designed to make development of mineral resources in Antarctica very difficult, if environmental preservation is not guaranteed almost perfectly; but CRAMRA was denounced, and the Madrid protocol was established," emphasizing the incompatibility of resource development and the environmental preservation of Antarctica

#### The Posture We Should Take

As new problems such as climate change, global warming and increasing ozone holes emerged, Antarctica has become important as an early warning device for mankind about global environmental changes in the 21st century. However, polar research in Antarctica has become something all advanced countries carry out. It is also regarded as a symbol of national power and evidence of a middle-power\* country.

Assistant Director Shin said, "Currently, no country can claim Antarctica as their territory or develop resources, but it is hard to deny that behind the competition to run Antarctic bases, there is an intention to hold onto future possibilities beyond scientific research."

Professor Kim also pointed out, "Other countries often criticize certain countries' 'research activities' for their 'other' intentions" adding, "Since the duration of the Madrid Protocol is set, movements preparing something in advance to prepare for the situation after the protocol are sometimes seen."

The future "possibility" that the Madrid Protocol might be revised in 2048 towards the direction of allowing the development of resources in Antarctica is not high at this time. However, showing little interest in Antarctica, just thinking that it will never be developed, is also not a desirable stance. It is important to pay attention to scientific activities in Antarctica, which can safeguard the future of the Earth and prepare to prevent conflicts even if Antarctic resources are used in the future.

Professor Kim said, "The right way of dealing with the Antarctic Treaty or Antarctica requires harmony among countries. But, above all, the attention and effort of civil society are also needed. Because currently, they have a lot of influence," he said, emphasizing the importance of interest and effort in Antarctica by ordinary citizens.

\*Middle power - A state that is not a great power nor a superpower, but still has large or moderate influence and international recognition.



Paying attention to the polar regions will help us guess how humanity will coexist with Earth.

Most people in the world live under the flag of their country. And countries establish borders and declare the land or sea within them as the territory. But is it right to refer to the earth's land and sea as human possessions? Isn't the Earth a companion who has allowed humans to live on it, rather than to possess it?

The polar regions are the only places that have not been polluted by human hands. Therefore, protecting and paying attention to the polar regions will help us guess how humanity will coexist with Earth in the future. The Argus suggests that generations that will lead the future must pay attention to Antarctica as a starting point for coexisting with the Earth.

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# **Legal Savior** at HUFS, LSCH

**By Jeong Ga-yeon** Staff Reporter of Social Section

> ▲ The statue is the goddess of justice "Justitia" in Roman mythology, located in Roemerberg in Frankfrut, Germany.

oss, please give me my outstanding salary!" Most undergraduates who have become adults now have a part-time job with the hope that they can make money by themselves, but what if an employer delays payment time and again on one pretext or another? Undergraduates may need a legal consult when this distressing situation is aggravated to a legal battle. However, the legal consultation that ranges from between 50,000 won (\$ 41.79 in U.S.) to more than 300,000 won (\$ 250.71 in U.S.) is a big financial burden for students.

Fortunately, there is a legal savior at HUFS. This savior offers free legal services to past and present HUFS students, students on a leave of absence, and even nearby residents. LSCH, located in room



for free to HUFSan staff and members of the college, including legal consultation, litigation support services, and various other services. Corresponding to the amendment and implementation of the labor standards act on November 19th, LSCH was created to provide legal consultation on various labor law issues related to the young workers. The Argus hopes that all HUFSans in need will seek legal services through LSCH freely.

▲ Lawyer Park Min-gyu(1st from L), chief of the center Park Jae-yoon(2nd from L), Lawyer Yang Won-seok(3rd from L), Chae Soo-sam(4th from L).

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## Legal clinic at HUFS?

#### Please introduce LSCH.

**Chae Soo-sam (Chae):** Legal Services Center for the Global Community at HUFS (LSCH) was established in November 1995 as an auxiliary institution of the legal institution in the college of law. After that, LSCH was promoted to an auxiliary institution of the college in October 1999 and conducted the Clinic Program for law students. In 2020, the Judicial Affairs Innovation Assistance Office was installed, and two residing lawyers in charge conduct legislation consultations and give on-campus legal advice.

The scope of the consultation target was set to a wide range to offer legal services for many. Not only can HUFS members such as enrolled students, drop-outs, and graduates apply for consultation, but also Dongdaemun-gu residents and the other Seoul citizens can request a consultation. The Center has two lawyers, including lawyers who graduated from HUFS Law School, and 23 external advisors.



These are members who run LSCH. Chae Soo-sam(1st from L), chief of the center Park Jae-yoon(2nd from L), Lawyer Yang Won-seok(3rd from L), Lawyer Park Min-gyu(4th from L).

#### The name of the agency is Legal Services Center for the Global Community at HUFS. Why is the word "Global" included?

**Chae:** Various types of legal problems may arise due to the characteristics of HUFS, where not only Koreans but also foreign students coexist. Reflecting this characteristic, the name has been changed from Legal Services Center for the Community at HUFS to "Legal Services Center for the Global Community at HUFS" to provide a wide range of legal services to foreign students. As the word global is included, it is available to all students including foreign students.

In addition to Korean services, counseling in other languages is available for foreign students, as sometimes counseling through the language that the foreign students want is needed. In this case, after confirming with the student whether foreign language counseling is desired, the center will seek an interpreter. The consultation is conducted as the interpreter interprets and delivers the message of the lawyer's consultation.

# What are the main legal consultation issues, and to what extent is the service provided to HUFSans?

**Chae:** The center offers legal consultation on various issues. Korean students usually inquire about the return of the lease deposit related to their lease contract. Unlike Korean students, as most of the foreign students are students studying abroad, they usually have inquired for consultation about visas, passports, and so on.

The scope of legal assistance provided to students does not extend to defense in court with a barrister but ends with legal consultation. LSCH additionally determines if the case has any public interest or if knowledge and advice can be conveyed through consultation and case solving. Also, lawsuit support can be conducted regarding the characteristics of consultants such as belonging to vulnerable social groups. However, LSCH is not in charge of defense tasks, unlike external law institutes.

#### How does legal consultation take place?

Chae: When consultation applicants accept a requisition, the center checks the various factors of the applicant's case based on the center guidelines and decides whether to proceed with the consultation. In the process of deciding whether to proceed with the consultation, the staff of the center determines whether the case and its public interest are clear and whether the applicant's position is valid. However, no matter how public the case is, there is no chance for corporate level legal advice or for legal consultation when others might possibly be exploited. After checking the factors of the applicant's case and determining the progression, additional related data is requested from the applicant for consultation check and data analysis. The director of the center and the lawyer review the case together. Then consultation is allocated and conducted in consideration of the field in charge of the case, the workload of the lawyers, and the academic calendar. Consultation is not always conducted by experts in specific areas, but we do assign appropriate specialized lawyers to consult according to the subject of the consultation. However, since the center has limited manpower and budget, we ask that applicants please refrain from requesting consultations repeatedly for the same type of case.

# Are there any points to keep in mind when HUFSans are using a consultation service?

**Chae:** Counseling should prioritize the fact-checking of the case, whether face-to-face or non-face-to-face. Plus, it is necessary to determine in detail the students' questions about their legal problem and what field the problem is in. If the consultation is conducted in a state where these details are not finalized, the students' satisfaction level will be considerably lower, and there might be a limitation to the legal assistance provided for students. For these problems, if the students prepare detailed questions about the case before consultation, it will be a great help in setting the counseling direction for the center, and it will also prompt a meaningful counseling session for the students.



# Are there any changes to the legal consultation due to the spread of COVID-19?

Chae: Face-to-face classes have not opened due to COVID-19 since last year. Students need to visit the college and set a specific time to apply and get counseling since the time spent at school is less than before. As a result, students often make a call to inquire about changing the counseling schedule. If the student requests to change the consultation schedule, the consultation will be delayed further because the center adjusts the schedule of lawyers and other students. This makes it difficult for the lawyers and the center to provide quality legal services. Consequently, as an alternative to offline consultations, LSCH has devised an online consultation system, whereby students can comfortably receive a consultation, and it is currently being tested. LSCH has not decided yet whether to switch back to offline consultations if "With COVID-19" gets implemented. It will be decided by the results of students' consultation satisfaction survey conducted during the test operation.

#### On account of COVID-19, the consultation method has changed to online. Are there differences between online and offline consultation? Also, are there any points to be improved?

**Chae:** There is no big difference between face-to-face and non-face-to-face consultation. However, there is one thing that LSCH requires of students. In LSCH, lawyers always prepare for and conduct consultations by using a desktop computer. Unlike lawyers, some students sometimes participate in counseling using their smartphones since the online meeting platform can be accessed through various media. When participating in the consultation via smartphone, more noise may occur, and clear communication can be disrupted, unlike desktop participation. Therefore, before consultation, the center advises the students to check their audio settings and the internet environment. Additionally, the service center can request to change the consultation method depending on the situation.



# Are there any last words for The Argus readers and HUFSans who might visit LSCH in the future?

**Chae:** A student who received legal consultation from LSCH sent a letter to the center. Even though I was not a big help, the student sent me a letter in gratitude, and I felt rewarded. Also, I resolved to help more HUFSan staff, members of the school, and nearby residents in the future. This resolution became an engine inside of my heart and is still working to this day. I hope I can help people who are in a legal quandary with this powerful engine in my heart for a long time to come. Thus, I hope that HUFSans will not carry the burden alone in worrying about legal problems. I hope that all legal problems will be resolved well through the legal consultation of LSCH

regardless of whether applicants are current students, students on leave of absence, or alumni. Review possible legal actions with the lawyers in the center and have an opportunity to resolve the case by applying for counseling with LSCH.



▲ LSCH is located in room 201 of the Faculty Office Building I on Seoul Campus.

"Pacta sunt servanda" means "agreements must be kept" in Latin. Ali Abdul, one of the main characters of the South Korean survival series Squid Game, was not guaranteed with this phrase. In the series, he had worked hard at the factory and tried to support his family. But the factory owner who hired Ali did not pay his wages, saying he had no money to pay Ali, even though the boss did have the money. Ali was unable to hold back his anger and started a quarrel with the boss, asking for money. Ali could not ask anyone for help. Are you in a situation where you have not been paid for your legitimate labor like him? If so, do not rush to the boss like Ali. Calm down and visit LSCH. Anyone can receive a warm helping hand and a legal consultation they offer.

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# What are You Up to?

#### Yang Yu-min

"Some people spend precious time in their lives engrossed in wads of paper filled with just letters, while others go crazy watching childish movies and even collect toys. None of these are understandable. However, we call the sum total of all these incomprehensible things 'life.' So, be honest and pour your love wherever you want. It may not make your life rational, but it can make your life happy." This is a line from the webtoon <Boogie Movie>, and it is also my favorite phrase. Whether you spend three nights immersed in Netflix or spend a lot of money on your favorite idol goods, I think everything is fine. Even if you cry at night thinking of the dark future, and frown at the poor grades, I hope you do not let go of what you're passionate about. Focus on what makes you happy.

#### Jeong Ga-yeon

I totally fell in love with fragrance these days, and especially with the scent of rose. I was attracted to the rose's grass scent with a sweet, clear feeling, and I wanted to feel it every moment. That made me study perfume. I searched for various brands and tried them, but it was regrettable that no perfume recreates the "scent of rose" that I want. I sometimes think, "Can I make my own rose perfume by myself?" So now I am looking for a perfume workshop these days. After the midterm exam period, I hope I can make a rose perfume with the clear, sweet scent that I want. Expressing myself with the scent that I made, isn't it cool? By using this, I will beome wonderful woman with a rose scent someday.

#### Yoo Hwa-in

I've always liked observing and analyzing people. It is very interesting for me to keep an eye on one's habits and actions, figuring out what kind of person he or she is. And for the first time, I did the same to a movie character, Cruella. The whole process of getting to know her was so fresh and enjoyable that I was totally mesmerized by her. She made the best of a bad situation and even became stronger after that. That inspired me a lot and I could not help writing an article about her.

#### Shin Jun-seo

October is when the NBA season starts. As a basketball fan, the NBA season is something I look forward to. If you are tired of boring everyday life, stepping into the world of basketball will be one of the best ways to seek fun. I hope your winter will be warm with the power of basketball.













#### Kim Ye-ji

What is your favorite fragrance? Floral, fruity, woody, or watery? Recently, I'm obsessed with finding my favorite scent. Floral scents are most used for women, but they are not my favorite. I also tried some citrus perfumes, but they weren't as satisfactory as I expected. In trial and error, I finally realized that my favorites are sweet scents, such as cotton candies and desserts! After finding my own fragrance, I could express myself with a scent. Having my own color and preferences often motivates us to establish our self-awareness. I hope the readers of The Argus would also find their own scents, colors and eventually their unique features.

#### Choi Ye-jin

These days, I am in love with seeing action films because of their treats: thrilling, tense and speedy actions. As an ENFP personality type, I am a very passionate girl who wants to conquer the world by making people enjoy their life. One way to make them happy is to make them watch a movie. In my case, since I like watching action movies, I have a dream of more people seeing these kinds of films, especially ones made with my hands. For now, my goal is to work in Marvel Studio, and yes, I do have a big dream. Although the job I would like to get may change as time passes, it won't matter because my goal to give people pleasure and energy will not change. We are the world!

#### Lim Se-jin

Do you like bread? If you do, what kind of bread do you like the most? I love bread so much that I eat bread rather than rice. In fact, these days my interest is home baking. The delectable smell of freshly baked bread made me relax. The bread I'm best at baking is an earl grey madeleine. And my favorite bread is a butter pretzel. If you taste it, you will fall in love with it. I guarantee it! If I have a chance, I want to share my bread with you!

#### Park Kun-ha

I really have no specific genre I particularly like both in music and drama, but I love them. These days, I try to watch every episode of tvN romantic comedy drama "Hometown Chacha-cha." I also love to watch Netflix original dramas, such as "Kingdom," "D.P.," or "Squid Game." While watching those dramas, I focus on actors' acting skills and potentiality that the storyline possesses. The dramas mentioned above are all the ones that have superb actors and probability. Additionally, my most favorite actor is "Park Jung-min," whose acting skill is beyond comparison. Currently, the film "the Miracle" is shown in theaters, and his amazing acting ability stands out. This upcoming winter, why don't you stay warm in your house and watch the dramas and films that I recommend?







