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The Argus

Since 1954

**The First Big Step
toward a Civilized Life**



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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Editorial

The Human Footprint pt.1: Agriculture

If you ever read about Greco-Roman mythology, you will know that most of the gods are grumpy and bad-tempered. Meanwhile, Demeter, the goddess of fertility is a very rare figure with gentleness and authority at the same time. The myth does not cover her much, maybe she is too kind for her hot-tempered fellows. However, her role is really important as she presides over grains and the fertility of the earth, which is deeply related to the cycle of life and death.

When her daughter, Persephone, was abducted, Demeter put everything else aside and searched for her daughter in vain. Her sorrow and anger burnt down all the crops on earth, and lands soon became barren. Upon Demeter's curse, great drought and consequently famine arrived. Only after Zeus, king of the gods, came to soothe her anger, all mortals managed to avoid extinction.

Demeter has silently watched and supported the growth of mankind from the ancient Greek era to contemporary society. Indeed, agriculture, her greatest gift to the human race, is the foundation of the civilized world we see today. It still is a key industry which cannot be replaced by anything. However, Demeter's anxiety to Korean agriculture is getting deeper these days.

We see less green than ever before. The total farm land area has been declining due to the urbanization and industrialization. People indiscriminately import cheap foreign farm products, weakening the competitiveness of Korean produce. Most of all, young people are not interested in farming. And that is the biggest problem as they are the leaders of future.

Whether we want it or not, future is always before us. We will soon have to take action to solve the problems which the present human race is facing. Avoiding them is no different from handing over a time bomb to our children. So then, what can we do?

The only things that can brighten up the future are the courage to fight against what we fear and the passion to learn about what we are not familiar with. The Argus hopes readers have time to ruminate about the value of agriculture, realizing that it is not just a distasteful drudgery, but the source of today's richness and glory. God bless all farm workers through these tough days. ☺

나금채

By Na Geum-chae
Editor-in-Chief



CONTENTS



Cover Story

>> This September, The Argus delves into the past, present, and future of agriculture. Unlike the single cover stories designated in previous issues, each section has a cover story sharing the common theme of agriculture. The Culture Section, through art, investigates a key aspect of agrarian society: gleaning. The T&C Section covers the pros and cons of potatoes, a crucial crop to the establishment of modern-day civilization. The G&N Section deals with the impact the insect industry might have in our future – a peak at the future of agriculture. The Argus presents this with hope that our readers recognize the gravity AGRICULTURE holds in our lives.

02 • 24/7@HUFS

HUFS x HUFS: Meet Your Alumni Mentor

Global & National Section

04 • Social Desk

Human's New Best Friend: Insects

09 • Diachrony

Hand in Hand: Sanitary Pad and Women's Emancipation

Theory & Critique Section

14 • T&C Desk

How the Humble Spud Rescued the World

19 • Akademia

Real Smart Farm, a Real Solution for Future

Culture Section

22 • Culture Desk

Another Two Eyes Watching Gleaning

26 • In-depth on Culture

Basketball; What Makes it Lose Popularity

30 • Culture Insight

Disney Live-action Revivals

35 • Eye of The Argus

Not a Victim, But a Victor

Epilogue



©The Argus / Park Chang-Hwan

By Park Chang-hwan

Associate Editor of Theory & Critique Section

In Korea, the relationship between the alumni and students of the same school is a precious one. The alumni act as guides to the yet-fledgling students of society, an undertaking that highlights perhaps the best of Korean culture—the elder, sharing their wisdom with and fostering the younger.

On our very own campus, the HUFS Alumni Association (HAA) has been developing a systemized approach to this culture. For two years running, HAA has successfully hosted the HUFS x HUFS Summer Camp, a 2-day long workshop where HUFS alumni mentor HUFS students. The workshop, held at the Global Campus, is a part of the HUFS x HUFS Alumni Mentoring Program. The Argus closely covered the event, following the mentors and mentees as they shared their passions and nurtured camaraderie.

The HUFS x HUFS program pairs mentors with a number of students. Throughout the year, students meet up with their designated mentor to learn potential ways they could plan the future and wisdom regarding life. However, what made this workshop special was the chance to meet other mentors and mentees.

July 4th

12:30~14:00 To the Global Campus

Shuttle buses, full of eager students, took off from the front of the Main Building of the Seoul Campus at 12:30 p.m. An hour-long ride brought the participants to the dormitories of the

Global Campus where students received dormitory key cards for their overnight stay.

The Argus approached students who were awaiting the opening event.

Choi So-ra ('18, Division of French Language)

"I have great expectations for this workshop! We have a chance to meet other mentees and share what we think. Moreover, I am particularly excited about getting to meet mentors other than mine!"

Kang Hae-lin ('16, Department of EICC)

"I am particularly excited about the Open Avengers TED-lecture-themed presentation. I have hopes it will provide me with great tips on presentation-giving. The chance to meet different mentors will also surely grant me more information on starting a career."

15:00~16:15

Themed Lectures "Open Avengers TED"

For the first main event, students were able to choose between two alumni lecturers: Mentor JK Park, who gave a lecture titled, "Your Fate-changing Presentation," and Mentor



▲ Mentor JK Park gives a "life-changing" lecture on presentation.



▲ Mentor Young K. gives a discussion lecture on career building.

©The Argus / Kwak Hyun-jeong

Young K. whose lecture titled, “Touching Hearts Through Discussion,” gave students a chance to expand their future horizons. The former provided students with critical tips on presenting oneself, not just in presentations, but in one’s career. The latter was a conversational lecture where alumni Young K. comfortably spoke to students and gave anecdotal advice.

16:30 Conversation with Mentors Abroad

The mentees gathered in the auditorium of the Centennial Complex. Alumni mentors currently based outside of Korea took their time to video-chat with the mentees, giving advice on everything from establishing oneself in a foreign environment to business practices and affairs abroad.

Shortly thereafter, the mentees were given a presentation on internships abroad. The HAA is currently providing internship opportunities through the alumni network.

20:00 Open Mentoring Tour

At the Outdoor Theater, the mentees came together to welcome the mentors who had finally arrived after their busy day schedules to connect with the mentees. The mentors’ names and careers were introduced one by one as they stepped into the spotlight. Taking note of the mentors’ careers, the mentees could choose to spend time with up to two mentors of their choice, with each segment in rotation.

For the second part of this event, participants were to share their newly begotten relationships by lighting candles together in the quiet of night, but this was stopped short by unexpected rainfall. Everyone was ushered into a lounge at HUFS Dorm, where they enjoyed a late-night snack and one another’s company. The mentors and mentees talked and laughed far into the night.

July 5th

10:00

“Wooridongnae Peter Pan”

Refreshed from sleep, the alumni and students participated in broadcasting station MBC’s program, “Wooridongnae Peter Pan.” Through this program,



▲ From all the way in Czech Republic, Mentor Jeon Seong-deok video chats with the mentees.

©The Argus / Park Chang-Hwan



▲ Mentors and mentees sat in small groups, merrily discussing life in and beyond university.

©The Argus / Park Chang-Hwan



▲ In a segment of the “Wooridongnae Peter Pan” TV program, folks come together to donate items for the job creation of developmentally disabled people.

©Miral Welfare Foundation

mentors and mentees donated unused, but useable items under their possessions which are to be sold through the Goodwill store. The participants showed and explained to each other what they had to donate. There was warmth and laughter all around.

11:00

Mentor-Mentee Talk Concert & Presentation Ceremony

As the program came to a close, the mentors and mentees engaged in a feedback session. The relationships between the mentors and mentees were noticeably warmer. The HAA awarded scholarships to selected students and all students were given participation certificates. Afterwards, students and alumni were shuttled back to the Seoul Campus.

During the workshop, The Argus had the chance to speak to HUFS Alumni Association President Min Dong-seok. He had something to say to us HUFSans.

Min Dong-seok (‘73, Department of Russian)

“To the readers of The Argus, whose dreams go beyond the borders of Korea, I earnestly hope that you will yourselves pave the path to a life of success. The HAA will be there to give guidance and direction, so take on the world with confidence.

“The objective of the HAA is to create a more systemized program that will better accommodate the fostering of alumni-enrollee relationships. We are in the early years of creating a manual for this program, and it is with great hopes that we lay its foundations.”



▲ President Min Dong-seok of the HAA smiles brightly for the camera.

©The Argus / Kwak Hyun-jeong

To date, 155 alumni mentors and 520 student mentees have become participants of HUFS X HUFS. HAA expects this number to grow as they approach their third year. Moreover, it will open its office on the 3rd floor of the Global Hall, which will serve as the headquarters for planning and overseeing future mentoring programs to further strengthen alumni-enrollee relationships. Borrowing the words of President Min, “With hope, the participating mentees may one day become mentors themselves—a circulation that will be the positive force that will help HUFS take another leap forward.”

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Human's New Best Friend: Insects

By Jung Min-yeong and Yoo Chan-heum
Staff Reporters of Global & National Section

Characters in the movie <Snowpiercer>, released in 2013, eat protein blocks. The main ingredient of the protein block is, surprisingly, cockroaches. Just like they ate cockroaches as food in the movie, we will be able to discover some foods made with insects in the near future. Indeed, insects are already appearing in various forms of industry in different aspects of our lives. Also, the South Korea government is speeding up this change by designating Sept. 7 as “Insect day.” The Argus is going to present the insect industry of today, analyze why it is developing, and discuss its limitations.



©Moho film& Opus pictures

▲ In the movie <Snowpiercers>, the protein block is made with cockroaches.



1. Insects as a food resource

- Phenomenon: Various dishes using edible insects

The most familiar edible insect to Koreans is the silkworm “beondegi(pupa).” Koreans make pupa soup or stir-fried pupa, and enjoy them as snacks or side dishes for drinks. Hence, we can find tinned pupa in markets quite easily.

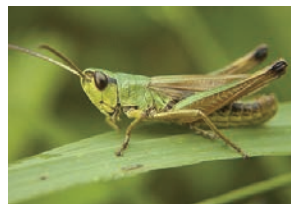
Recently, in the Korean edible insect market, there are increasingly more dishes using insect powder that reduce customers’ repulsion compared to dishes using whole insects. Among various edible insects, mealworms are frequently produced and sold as powder in markets. There is cicada larva powder and cricket powder, too. Insect powder use is diverse used in tea bags and even pill.

The ways to make food using insect powder, as opposed to eating the powder directly, have also developed. In the city of Cheongju, North Chungcheong Province, there is a restaurant that develops and sells “Sundae Gukbap (Korean sausage



©Edible Bug

▲ “The Edible Bug” sells cookies and energy bar with edible insects.



©Petr JanCik

▲ Grasshopper is gaining its popularity once again as edible insect.



©Pixabay

▲ Silk worm pupa is a steadyseller of edible insects.

and rice soup)” using mealworm powder. Also, there is an online market, “Edible Bug,” which sells insect cookie and insect energy bars. Ryu Boa, a leader of the “Edible Bug,” commerce team, said, “We are working to combine edible insects with familiar foods such as cookies and milk tea and to show customers that insects also can be foods. We are using various methods to approach customers in a friendly manner by publishing information about edible insects on blogs or Instagram.”

- Reason: Nutritional value and superior efficiency

The most well-known reason that insects can be food for the future is because of insects’ nutritional value. According to the Rural Development Administration (RDA) National Academy of Agricultural Sciences’ (NAAS) research, the protein in 100 grams of insects is 2.5 times to 3 times higher than that in the same amount of meat. Furthermore, the amount of unsaturated fatty acids in 100 grams of insects is 1.5 times to 4 times higher than that in same amount of meat. The chitin in insect epidermis contains vitamins and minerals such as fiber, calcium and iron.

In the edible insect industry, not only the nutritional aspects of insects, but also the efficiency that farmers who are or will be raising insects as livestock cannot be ignored. Cows, one of the typical livestock, can be used for food after about 30 months, whereas insects can be used for food after three weeks to three months. Insects also show a difference with other livestock in reproductive rates and growth duration. Cows’ gestation period is 270~290 days and give birth to only one calf at a time, however insects hatch out in one week, become imagoes in 110~145 days, and lay 300~400 eggs at a time.

Moreover, insects have another strong point other than fecundity and efficiency. According to Korea Edible Insect Laboratory(KEIL), to produce 100 grams of meat, cows cost 38 times more land, 23 times more water, and 12 times more fodder than edible crickets. Thus, the cost-effectiveness of the edible insect industry is far better than that of dairy farming. Insects get a lot of attention as a way to reduce the farmers’ burden, because they show efficient differences in terms of growth period and cost compared to conventional livestock such as cattle.

- Limitation: Psychological Distance

Despite the benefits of edible insects and insect market expansion, people still tend to be reluctant to use insect as



▲ Silk worm not only gives people silk but also food



▲ Mealworm is a rising star of edible insects industry.



▲ Huin-jeom-bak-i-ggot-mu-ji worm is also famous example of friendly renaming.

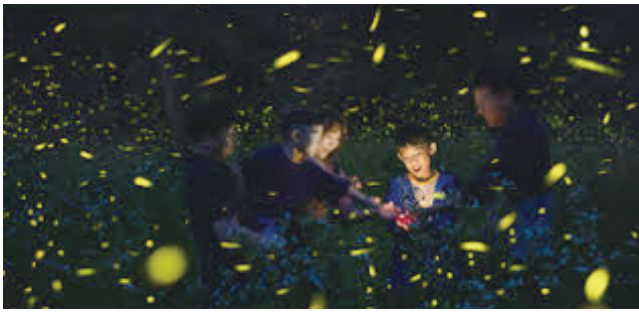


▲ Still, people think eating insects is disgusting.

a food. According to a report written by Jeffrey Lockwood, a University of Wyoming professor of Natural Sciences and Humanities, published on 2012, human beings have learned to be afraid of insects, because insects threatened human beings’ safety in history. In ancient times, human used insects’ sting as weapons, and in the middle ages, insects used to carry infectious diseases such as malaria and the plague. Doctor Lockwood argued that because of this relationship between humans and insects, people have learned to detest and try to avoid insects.

Research conducted by Korea Rural Economic Institute (KREI) Agricultural Outlook Center also shows people’s psychic distance of insects. According to the research, 21.8 percent of people said the first impression of insects is “harmful and detestable.” Likewise, psychological repulsion becomes a barrier to the high potential of insects as food.

To overcome this problem, the RDA recently gave edible insects more friendly names. For example they renamed “darkling ground beetle” to “gosoae.” They also try to develop recipes removing the original shape of insects by using insect powders. However, a lot of people still refuse to see or eat edible insects on the idea of eating “insects,” so it is unclear how much their efforts affect the public to change their mind. And this is an obvious weakness of insects in the edible industry.



©MUJU FIREFLY FESTIVAL

▲ People can see a lot of fireflies in Muju Firefly Festival.



©HAMPYEONG BUTTERFLY FESTIVAL

▲ There is a butterfly shaped field in Hampyeong Butterfly Festival course.



2. Insects as a local representative

- Phenomenon: Local festivals using insects

In the county of Muju, North Jeolla Province, Muju Firefly Festival is held for nine days between late August and early September because, *lychnuris rufa* (late-firefly) usually start to move around actively. The county of Muju not only benefited from the firefly festival itself but also succeeded in building a positive image of the region. In 2017, 250 thousand tourists visited the firefly festival, and the county of Muju got 1.46 billion won (US\$ 1.2 million) through selling agricultural products, region specialties, and foods. Furthermore, they earned 270 million won (US\$ 220,768) from programs about fireflies and nature. The county of Muju pronounced that they gained about 52 billion won (US\$ 42,5 million) by holding the firefly festival in 2014.

In the county of Hampyeong, South Jeolla Province, a butterfly festival is held for 10 days between late April and early May, aimed at holidays in early May. The butterfly festival enhances the county of Hampyeong's status, and the International Festival and Events Association (IFEA) named the county of Hampyeong as a worldwide festival city on 2012. The county has become one of the most famous festival sites in Korea, and farmers also benefit by producing "Hampyeong

butterfly rice."

The county of Hampyeong gained 955 million won (US\$ 780,866) from the festival tickets on 2019, and also got 1 billion won (US\$ 817,327) from various shops and booth rentals, including 40 million won (US\$ 328,904) through selling agricultural products and region specialties. According to county's announcement, they brought in about 30 billion won (US\$ 24.6 million) by holding the firefly festival in 2015, so they might get similar economic impacts by renting accommodations income and so on in 2019 too.

- Reason: Regional marketing

The county of Muju's Firefly Festival is a good example of using a regional specialty. People could find fireflies very often in past. However, the number of fireflies decreased because clean areas which are their habitats have been decreasing. Thus, the Korean government designated the county of Muju as a natural monument in 1982 and started to protect fireflies. The county of Muju holds a festival to highlight the clean image of the region, using the characteristic that fireflies are environmental indicators that measure the cleanness of the natural environment. Muju Firefly Festival gives Koreans a positive impression of the natural environment of the county of Muju since there is no other place where they can see so many fireflies. It also lets people know how beautiful the region is and creates added value by branding local agricultural products like "Muju firefly rice."

The Hampyeong Butterfly Festival also used such regional marketing. The county of Hampyeong experienced a structural change because young people left the city and rural areas aged due to industrialization before the Butterfly Festival. Plus, the competitiveness of Hampyeong farm products was undermined by the opening of agricultural imports. In order to overcome the hopeless situation, the county of Hampyeong planned to hold the Rape Flower Festival since it blooms a lot in the county of Hampyeong. However, it failed to gain a competitiveness over the existing Rape Flower Festival areas. Therefore, the county of Hampyeong held a butterfly festival by airlifting in butterflies from other regions. They chose an insect that can emphasize clean environment like the county of Muju's fireflies and that could provide children some experience and a lesson in a friendly way. Due to the success of the Butterfly Festival, the county of Hampyeong has been making more than 1 billion won (US\$ 827,883) each year by launching the "Butterfly Korean Beef" product that utilize the image of butterflies. Butterflies have literally caused a "butterfly effect."

- Limitation: Lives used only for business

Insect-based local festivals, such as the Hampyeong Butterfly Festival, are some of the successful local festival cases, but the dark side of it is not that beautiful. Unless it is like the Muju Firefly Festival, which is protected by the state as a natural monument, most local insect festivals do not utilize insects living in their own local ecosystem. For example, since there was no butterfly ecosystem in the county of Hampyeong, they chose to purchase butterflies in bulk from other regions for the festival and then hatched them artificially. In response to this, Kim San-ha, secretary-general of the Biodiversity Foundation said, “Late April to early May, when the Hampyeong Butterfly Festival takes place, is too cold a season to release butterflies outside. However, the eggs were artificially hatched to fit the festival period, and those butterflies usually can not live their life out and die early. This is not respecting the nature of the local ecosystem and insects’ nature at all.”

There are also questions about the direction of the insect festival. Using experience for children as a slogan, the festival’s main feature is letting people catch or touch insects. The process of catching and touching insects can cause injuries like a broken or insect’s death, which can backfire and can give the impression to children of the acceptability of disregarding life. Kim San-ha, secretary-general of the foundation, said, “If the experience with insects is educational, it should not harm the insect, and it should focus on observing and exploring insects non-intrusively in their natural state. Focusing on catching insects is not education at all. It is like saying it is educational to go to slaughterhouses and butcher cows and pigs. No one wants to go to the slaughterhouse to educate their children. It is the same with insects. Living creatures are being consumed just for people’s entertainment. Is that not disregard for life?”



3. Insect as a helper of eco-friendly agriculture

- Phenomenon: Eco-friendly farming with insects

Insects also play a role in growing eco-friendly crops. The pollen vectors help the flower’s stamen bind on the pistil’s head to bear fruit, and the natural insects prevent harmful insects from rampaging in farmlands.

Honeybees are the most representative pollen vectors, and the Food and Agriculture Organization (FAO) of the United Nations says 71 percent of the world’s top 100 crops’ pollination depends on honeybees. Honeybees are used in the pollination of fruit trees such as apples and pears as well as in fruits cultivated in facilities such as strawberries and melons.

Bumblebees are the second most frequently seen pollen vectors in South Korea after honeybees. It is easy for bumblebees to pollinate solanaceae crops such as eggplants because they do not have honey for honeybees to pollinate. According to “The current status and forecast of pollen vector for pollen vector technology diffusion,” announced by the RDA in 2017, the usage rate of pollen vectors in South Korea is 25.8 percent.

The natural enemy of insects acts as a substitute for pesticides in eco-friendly agriculture, removing pests under the food chain of nature. A farm located in the county of Chilgok, North Gyeongsang Province, uses the natural enemies of mites, phytoseiulus persimilis and aphid bees, the natural enemies of aphids, to prevent mites and aphids from degrading their strawberry quality. The North Gyeongsang Province Agricultural Research & Extension Services is carrying out a pilot project for the natural enemy insects with the county of Gunwi, North Gyeongsang Province, and Palm 119, a company of natural enemy insects in 2019. As such, efforts by the government and farmers to produce eco-friendly crops using natural enemy insects continue.

- Reason: Method for both environment and quality

The fertilization rate can be improved in crops, the manpower can be reduced, and the quality of crops can be improved by utilizing pollen vectors. According to the “Effect of Bumblebees in Economic Crops” published by the RDA in 2011, 51.8 percent of apples are produced when farmers pollinate apple trees through the Meo-li-bbul-ga-wi-beols (osmia cornifrons), which is twice as high at 27 percent when



©kobic



©Myriam Zilles

▲ Meo-li-bbul-ga-wi-beol(L) and bumblebee(R) are pollinating a flower as a pollen vector.



©Agrigento



©Pxhere

▲ Aphidoletes worm(L) and ladybug(R) are eating mite as a natural enemy insect.

compared to a person artificially moving pollen and pollinating them. Yoon Hyung-joo, an insect industry researcher at the RDA, said, “Although it depends on the crop, using pollen vectors generally saves 70 to 90 percent of the labor force compared to artificial pollination. Due to price problems in artificial pollination, Chinese pollen is used a lot, but bees have a greater price stability than the price stability of pollen. Therefore, using pollen vectors rather than artificial pollination is a more stable and affordable way to pollinate with a lower budget.” She also said, “Furthermore, there is a difference in quality. Using pollen vector fertilization, the chances of bearing high commodity value crops increase. For strawberries, 99.9 percent of them are fertilized by bees because that results in fewer deformed fruits in their shapes and colors.”

The Korean government’s strict regulation of eco-friendly farm products and the strengthened detection of pesticides has also affected eco-friendly farming using insects. Since 2010, green certification of new low-pesticides agricultural products has been suspended. And low-pesticides agricultural products, which were previously recognized as eco-friendly before 2016, are no longer eco-friendly. In addition, the Pesticide Permissible Substance List Management System (PLS) was expanded to all agricultural products in 2019 and began to impose strict restrictions on the pesticides used in farm products and the pesticides remaining in crops. “Using natural enemy insects, we can reduce the use of pesticides to protect the environment and ecosystem. Moreover we can easily eliminate harmful insects that are resistant to pesticides,” said Lee Woo-kyung, an action officer at the Agricultural Technology Institute in North Gyeongsang Province, explaining the reason for the pilot project.

- Limitation: Effective but one-off farming

Even though there are studies showing that using pollen vectors and natural enemy insects are great for eco-friendly farming, some farmers still have difficulties using them. According to a survey on the usage of pollen vectors conducted by the RDA in 2016, the use rate of 11 vegetable crops was 59.4 percent, while the usage rate of 15 fruit trees was 9.0 percent. Researcher Yoon Hyung-joo said, “Vegetable crops are usually grown in vinyl greenhouses, and the fertilization period is long, from three to four months, making it easier to use pollen vectors. On the other hand, with fruit trees, the fertilization

period is usually 10 to 14 days, so it is difficult to use pollen vectors because the fertilization period is short.” With natural enemy insects, it is the same, the natural enemies of aphids—ladybugs and aphidoletes—are insects with wings. They are temporarily useful when they are used on farmlands as they eat aphids, but they are difficult to retrieve after they have eaten all the aphids, so they can be used only once.

Also, many farms are suffering from the lack of a smooth supply of breeding and from insufficient knowledge on how to use natural insects. Yoon said, “It is very important to use right insects for the right crop when using pollen vectors. Also, you should be familiar with how many insects to use for a given area. If you don’t know these two things well, it’s hard to be efficient.” According to the KREI Department of Agricultural Outlook Center’s fruit sample farm households survey, one-quarter of the farms using natural enemy insects said they did not know which insects were suitable for insect pests, and they lacked information on how to use and manage them. Reflecting this limitation, the area using natural enemy insects for natural crops decreased to 425 hectares in 2017, one-sixth the size from 2010, and the market size also decreased from 20 billion won (US\$ 16.6 million) to 5 billion won (US\$ 4.1 million). In order to actively utilize natural enemy insects, it is vital to develop and standardize the technology for breeding and preserving natural insects and to supply the technology for dealing with and producing natural insects.

The insect industry has risen as a hot topic, drawing the attention of the government, farmers and the public. Also, it is an industry that is expected to have positive effects in diverse ways. There are still difficulties with commercializing insects, having proper insect festivals that respect life and changing the negative views of insects by the public. But, the insect industry is expected to have a positive impact on our society if we overcome the limitations by improving awareness and systems. Who knows? Maybe our descendants’ best friends will be insects, not dogs. 🐾

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Hand in Hand: Sanitary Pad and Women's Emancipation

By Oh Ju-yeong

Associate Editor of Global & National Section

Even if the hot summer has passed, the heat is currently underway in September now. In this season of high temperature and humidity, women's discomfort index will be especially high because they inevitably use feminine hygiene products like sanitary pads for their menstrual cycles.

For a long time, society has considered menstruation as an experience about which caution is needed. Most women have discretely taken a sanitary pad out of a bag because of a fear that someone was going to see them do so. However, as women's rights have improved, views of menstruation and sanitary pads are also changing. The Argus will look deep into how views of menstruation or sanitary pad change, from the past, when sanitary pads were in negative territory, to recent times when they have gotten hot attention following the change in women's rights, backgrounds for that progress, and also future prospects.

Before the 1880s: Women who used cloth as sanitary pads risked their discomfort



©National Folk Museum of Korea



©National Folk Museum of Korea

- ① Most women used cloth sanitary pads at that time.
- ② Joseon dynasty women wore a traditional underwear which was called "Darisokgot" to prevent the flow of blood over "Gaejim."

1. The situations of that time

- **Early use of sanitary pads:** Most women used cloth sanitary pads, even replacing sanitary pads with glue. But those cloths could not absorb enough of the menstrual blood, so it leaked out.
- **The first appearance of sanitary pads in Western history:** According to the encyclopedia of Byzantine "The Suda," Hypatia who was a philosopher born in Alexandria, Egypt possibly in 370 C.E. threw a sanitary cloth at men who persistently asked for her hand in marriage.
- **The appearance of sanitary pads in Korean history:** Women used cotton cloth called "Gaejim."

2. Background: The societies dominated by ideas that suppressed women's human rights

The reason for the lack of a proper sanitary pad in the past was the tendency to consider women to be something negative was prevalent in many societies, which made menstruation perceived as being impure. Before Western society modernized, the low social status of women was related to early Christianity. In the writings of the church fathers at that time, phrases that suppressed women could be found. For example, according to the writing of Tertullianus, a prolific early Christian author from Carthage, it could be identified that all women were negatively referred to as "the way to demons."

The Joseon Dynasty, which lasted from 1392 C.E. to 1897 C.E., was also a society dominated by Confucianism under which women were suppressed. For example, the women were forced to hide their faces with clothes when going out in public. In the "Gyuhapchongseo," the lifestyle guidebook for Joseon, it is confirmed that women had to secretly wash and hang out their sanitary pad, "Gaejim" at night and bring it in before sunrise, because they did not want anyone to see it. As such, in a society where women's faces and voices were not even allowed to be revealed, our ancestors felt ashamed of menstruating and were busy hiding it.

1880s~1920s: The invention of disposable sanitary pads received acclaim from women



©National Museum of American History



©The Evening World

- ① It was a disposable sanitary pad in 1880s.
- ② Kimberly-Clark Corporation advertised "Kotex" in 1920.

1. The situation of that time

- **The Beginning of the Commercialization of the disposable sanitary pad:** Benjamin Franklin, who was a famous American polymath born in 1785, invented a disposable pad to stanch bleeding during a war. Starting with this case, commercial manufacturers borrowed this idea, and the first disposable pad called the "Southball pad" was available for purchase as early as 1888 in England.
- **The first successfully marketed sanitary pads:** During World War I, Kimberly-Clark Corporation repackaged one of its wartime products-cellucotton, which was a new bandage used as a surgical dressing for wounded soldiers. An unintended consequence of the bandages was that battlefield nurses used them as sanitary pads during their periods. The Kimberly-Clark Corporation began product development based upon their response. Subsequently, the corporation marketed the sanitary pad, "Kotex."

2. Background: First-wave feminism

After the launch of the disposable sanitary pad, women had the opportunity to use more comfortable and safer sanitary products than ever before. This event was affected by First-wave feminism, which was a period of feminist activity that occurred during the late 18th century and early 20th century throughout the Western world. The goal of this wave was to open up a channel from inequality to equality for women, leading to a guarantee of the franchise for women. With this movement, England finally granted stronger rights to women in 1918, the United States in 1920, and under a global movement, Korea granted more rights to women in 1948.

Thus, as women were given suffrage by the movement, the number of women entering society increased, making women pay more attention to disposable sanitary pads. It had been burdensome to deal with the period blood on the cotton because the women had to stay out of public view for a long time. So, disposable sanitary pads, which could be used once and thrown away, brought innovation to women's lives.

In the book "Periods Gone Public: Taking a stand for Menstrual Equality" written by Jennifer Weiss-wolf, a female activist and the vice president for development at the Brennan Center, stated, "We have to focus on the 1920s when the release of Kotex coincided with getting the vote. Not only did the suffrage allow the women to speak out on an equal basis, but supplies were required to help them participate in social life as having the opportunity to get work and education. One of them is a disposable sanitary pad."

1970s~1990s

Continuing development of sanitary pads made the women lives more convenient



① Yuhan Kimberly, Korea's leading sanitary product manufacturer, launched an adhesive pad which was named 'New Freedom' in 1975.

② Wings were added to the sanitary pad.

1. The situation of that time

- **The appearance of adhesive sanitary pads:** Traditionally, women would fix the sanitary pad with a string or belt worn beneath undergarments. But, the launch of the adhesive sanitary pad made it so that the belted or string pad was no longer available. The adhesive pad was made to include an adhesive underside that stuck to the underwear securing its position.
- **The appearance of a sanitary pad for preventing the blood from leaking:** In the 1980s, pads were made of cotton wool mixed with special polymer crystals designed to absorb liquid like blood. Additionally, a sanitary pad with wings was developed. These wings prevented the pad from sliding back, thus leading to greater comfort and stability.

2. Background: Starting for women to stand alone in society

Since capitalist growth and technology advanced after industrialization, the sanitary pad was technically more advanced. However, the development background of sanitary pads could not be talked about without mentioning the women who tried to stand alone as they entered society.

Dr Roh Ji-eun, a chief manager of the Korea Foundation for Women in Women's Studies, said, "The process of commercializing the sanitary pad was affected by the trend of increasing women's education, women's participation upon entering the labor market, and the demand for self-determination of their own body."

During that time, the rates of women who entered into society through the labor market and in education fields increased sharply around the world. Since the 1970s, Korea also achieved rapid economic growth under the government, which required that women should enter the labor market. Also, the rates of women's education and levels increased following the flow, which meant that women increased their entry into society.

Dr. Roh further remarked, "Sanitary pad manufacturers had caught the flow and emphasized performances that improved outdoor activity and convenience. So, it spurred women to increase consumption of these sanitary pads."

The spread of sexual self-determination about women's bodies also indirectly affected the development of sanitary pads.

In the process of rapid growth, female workers faced situations where androcentrism was dominant and this old custom controlled the women, which forced them to be placed in a relatively poor situation compared to men.

Dr. Roh observed that “The women’s movement, which has been active since the 1990s, resisted the ‘otherized’ body of women which was treated with only instrumental value and reclaimed sexual self-determination. So, the consciousness became such that women tried to reconsider menstruation and the sanitary pad in a women-centered way spread and gradually indirectly affected the release of sanitary pads that are suitable for women’s convenience.”

2000s~Now:

The women speak out for women’s right to safety and confidence

1. The situation of that time

- **Moves to reduce the cost of sanitary pad:** In 2002, the Korean Womenlink, one Korean women’s organization, pointed out the high price of sanitary pads due to a value-added tax (VAT). The government accepted the criticism and implemented a revised VAT duty-free policy on sanitary pads in 2004. However, women still have argued against the continuous rise of the sanitary pad.
- **Move to require safe sanitary pads:** In 2017, Korean Women’s Environmental Network (KWEN), another Korean women’s organization, denounced that fact that harmful substances and carcinogens were detected in sanitary pads of the Lillian, a Korean sanitary pad brands. Women and KWEN argued for the introduction of ingredient labeling which refers to ingredients contained in sanitary pads, and the government introduced the system in October, 2018.
- **Inducing change in perceptions of sanitary pads:** Unlike previous sanitary pad’s ads that emphasized purity and cleanness, Natracare, a cosmetics company, released other images of advertisement directly using the word “menstruation” instead of “the day,” a slang phrase for menstruation.

2. Background: Raising attention toward feminism

These days, it seems that a hot topic in our society is feminism, which allowed women to raise their voice to improve women’s rights.

The paper <Survey results and analyzing of characteristic component about feminism>, using big data analysis and written by the Department of Packaging, Yonsei University, contained an analyzed number of articles about feminism in the domestic social news from 2016 to 2018. The number has increased, starting with about 180,000 in January 2016, to more than 1.2 million articles in February 2018. This means the feminism has been steadily paid attention to; in other words, women’s rights have emerged as an important social issue in society.

Professor Lee Sook-hwa said, “These situations show a reality that a sense of sovereignty toward the bodies of women is strongly presented. Until now, the nation and society have controlled the perception of the woman’s body and otherized it. For example, menstruation education has focused on that of a ‘good wife and wise mother’ which was the ideal women’s figure for a while because menstruation was related to fertility. But now, women have freely reveal femininity which was formerly suppressed by society. I think it will be an important turning point in women’s rights and free action.”



▲ The women calling for a cut in the price of sanitary pads demonstrated in Jongno, Seoul in 2016, considering the average number of sanitary pads used during one period being 31, with the corresponding market price of 9,764 won(US\$ 8.06), which is too expensive a price.



▲ “Rael”, a nature sanitary pad’s company, showed ads featuring red menstrual blood, not blue on the occasion of the menstrual day, May 28, 2019.

• Aftertime:

Outlooks for sanitary pads and consciousness about menstruation



- ❶ The Seoul Metropolitan Government installed emergency sanitary pad dispensers.
- ❷ The map informs of locations of emergency sanitary pad dispensers in Seoul.

1. Supplying free sanitary pads: Expansion of movements which put out a perception that “Sanitary pads are public goods” into practice.

Unlike in the past when sanitary pads were only treated as selective welfare supplies, several organizations like the Seoul Metropolitan Government and the Gangwon Province Office of Education are actively supplying sanitary pads for free. The goal of this business is to spread the recognition that sanitary pads should be recognized as public goods.

The Seoul Metropolitan Government launched a pilot project for the installation of emergency sanitary pad dispensers in 10 public restrooms in October 2018. Citizens were in favor of this idea, and there was no problem of abuse that was feared.

An officer in charge of this policy idea in the Women and Family Policy Affairs Office, Seoul commented on it, saying, “After the pilot project, many public offices, local government, and organizations inquired about the project. Therefore, now the number of organizations where emergency sanitary pads are offered has been drastically expanded from 11 in the past to its current 172. It is expected that the project will be expanded to about 200 public institution this year as it is currently recruiting additional agencies that plan to do this project.”

Gangwon Province Office of Education is providing sanitary pads for free to all schools in its province. It is the first Education Office to implement such a policy since July.


Starting from the Gangwon Province Office of Education, some of the Education Offices, for example, Seoul, Gwangju, and Daegu, will plan to enact an ordinance to supply sanitary pads for free in school.

Through this universal welfare, it is likely to further spread the perception that sanitary pads are a necessity for women, and that menstruation is no longer a disgrace or a has to be an embarrassment for women to hide. It will also increase the convenience for women, which will ultimately further contribute to the development of women's rights.

2. Stances needed for acceptance in society

Professor Lee said, “First, the government and businesses will have to find a fundamentally adequate sanitary pad cost. Menstruation is not a woman's option, so universal welfare toward sanitary pads should be further activated. Also, the public accepts an attitude that the body should not be controlled or suppressed by others or society. Sanitary pad ads have emphasized ‘purity’ and ‘fresh’ for a long time. It means society has ignored the discomfort of the actual menstrual pain because society has otherized women. In line with the growing trend of self-consciousness toward women's bodies, this perception will have to be reflected not only in advertising but also in all of society.”

In light of this welfare, Dr. Roh said, “In consideration of women's rights, menstruation may be linked to the right to be free from gender discrimination and violence, the right for women to be central decision-makers and the right to easily access to safe information. Therefore, women's labor rights and health rights should be readjusted, focusing on safe and healthy menstruation. And society should develop and provide women-friendly sanitary pads, and conduct menstruation education which respects the period experience and gender equality.”

The history of menstruation and the sanitary pad has been around since the existence of women. Only in contemporary times has society begun to take interest in the sanitary pad, and there is still a constant stream of controversy. What does this mean? Perhaps the aftermath of a patriarchal society maintained from the past pushed the sanitary pad into the dark. Then, which direction will the sanitary pad move towards in the future? With the extension of women's rights, the sanitary pad will increasingly emerge as a subject of thought. The Argus expects that the sanitary pad, as the bodyguards of women, will be respected, understood and fully established for their existence. 

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How the Humble Spud Rescued the World

By Kwak Hyun-jeong

Associate Editor of Theory & Critique Section

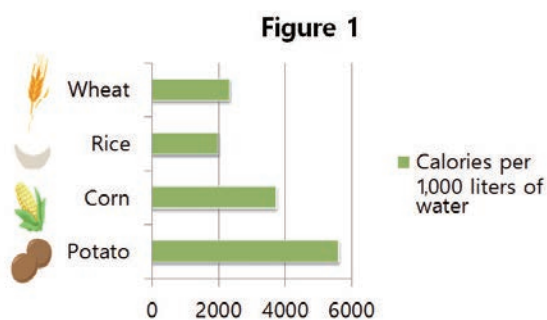


©Wikipedia Commons

▲ The Potato Eaters (1885), Van Gogh

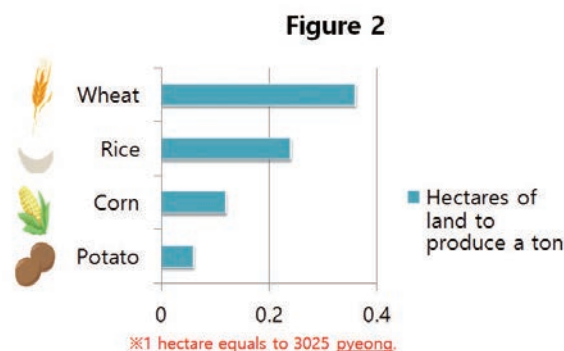
Once the cooked potatoes are served on the platter, the peasants huddle around a weak lantern to enjoy their meager meal. The portrayal of Van Gogh's *Potato Eaters*, connoting the promises of hunger-relief through manual labor: the cultivation of the humble spud. Like so, humanity always has interests in food security

and promoting sustainable agriculture has been considered as a necessity. Of all the plants that mankind has turned into crops, the potato ranks fourth with its worldwide importance behind wheat, corn, and rice. However, this miracle tuber also had trouble finding a foothold, as European civilians of the 18th century remained inhospitable toward this peculiar new plant from South America. The justifications to refuse this root crop included the following: potatoes were a member of the nightshade family; potatoes were believed to be contributor of leprosy and immorality; potatoes were staples of uncivilized and conquered races. As the sinister has past, evolution of potatoes needs to be checked, having progressed to this point of time. Retracing this vegetable's legacy, *The Argus* plans to clarify whether this crop really was the Devil's apple or the Angel's.



©Food and Agriculture Organization (FAO)

▲ In 2008, FAO has proposed that for each 1,000 liters of water applied to potato crops, 5,600 calories are produced. Relatively, the rate of corn, rice, and wheat were 1.5, 2.8, and 2.4 percent fewer, respectively.



▲ Potato only requires 0.06 hectares of land, which is about 1/140 size of Hufs Seoul Campus to produce a ton, while corn, rice, and wheat each need 0.12, 0.24 and 0.35 hectares of land.

©Helen Riley's Potato consumption in the UK - why is 'meat and two veg' no longer the traditional British meal? (2010)

Happy Potato

1. Hedge against famine

During the scientific expedition to Patagonia aboard *HMS Beagle*, British naturalist Charles Darwin writes in his log, "It is remarkable that the same plant could be found on the sterile mountains of Central Chile, where a drop of rain does not fall for more than six months, and within the damp forests of the southern islands." Darwin speculated on the endemism of potatoes, and discovered that this fine specimen grows in abundance under an unquestionably erratic climate. Such being was proved through the comparison of water and energy requirements, along with land size certain crop requires.

Figure 1 and 2 above implies that in terms of production per 1,000 liters of water and hectares of land required to produce a ton, potato crops stand out among four major crops. That is to say, with only the potatoes produced in 1,000 pyeong, 1/24 of Hufs Seoul Campus, you can feed 10 adults for a year.

Also mentioned in his paper "The Potato's Contribution to Population and Urbanization: Evidence from a Historical Experiment" (2011), Nathan Nunn, the Professor of Economics at Harvard University declares, "According to my most conservative estimates, the introduction of the potato accounts for approximately one-quarter of the growth in Old World population and urbanization between 1700s and 1900s. Using anthropometric measurements of French soldiers born in the seventeenth and eighteenth centuries, I also found that potatoes increased adult height. For villages that were completely suitable for potato cultivation, the introduction of the potato increased average adult heights by about half an inch."

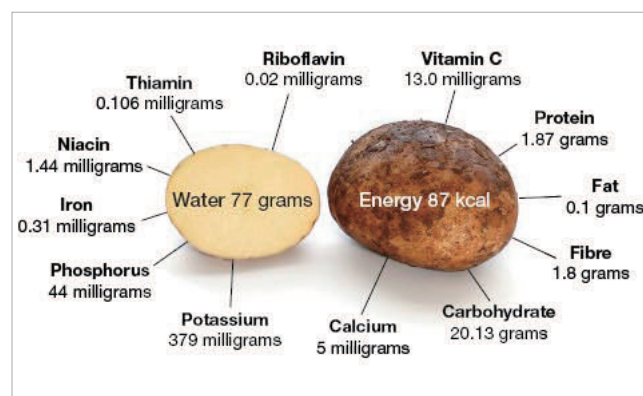
The diffusion of potatoes especially had a tremendous impact in Europe, as the potatoes' usage as military provisions permitted a handful of Northern European nations to have the

whip hand over rival countries. Germany, in particular, was in shortage of area to grow wheat but the blessings of potatoes indulged Germans to make a well-off living just by farming in strictly confined small garden plots. During the Potato War, the name given by the Prussians to the War of the Bavarian Succession in 1778-79, and World War I and II, the soldiers extracted sugar, baked bread and fermented potatoes into a fuel to optimize its use. Plus, as they were easy to grow, so simple it was to prepare: dig, heat—by just throwing them into a pot or fire without any elaborate processes!

2. Nutritious Delicacy

From a nutritious standpoint, the potato is superior to other crops in that it contains the three most important macromolecules for life: carbohydrates, protein, and nucleic acid. Frequent warfare of the past inevitably unmasked these values by forcing both soldiers and the poor colonials into a diet that consisted almost exclusively of a sole article.

In the case of a corn-dependent diet, it was infamous for



©FAO

▲ Potatoes supply a good mix of nutrients.

developing early symptoms of ailment named pellagra, a chronic niacin deficiency that brings on four progressively catastrophic “D”s: diarrhea, dermatitis, dementia, and death. However, the monoculture experiment of potatoes in Ireland worked as the best package of nutrition to feed the growing population. Lim Yeong-seok, the Professor of Bio-health technology in Kangwon National University stated, “Under British rule, the chance to redeem Irish from misery rested at the potatoes. Its characteristics as a watery root crop—to dig them out one by one—had the marauding soldiers leave them out when they burnt all the other staple crops colonials were dependent to.” Luckily, the potatoes were an excellent source of Vitamin C, containing 36 milligrams in each 100 milligrams and this is three times higher than that of an apple. In other words, consuming two potatoes delivers 100 milligrams of vitamins, the recommended daily intake for a grown man.

In the 1770s, Dr. Richard Budd, physician-apothecary at a London orphanage school observed that when children ate potatoes, scurvy normally disappeared. Scarcity of potatoes resulted in the opposite. Since many people could not afford fresh fruit, and urban poor had no accessibility to orchards or farms, the potatoes may have provided them cheap Vitamin C. In addition, this nutritious tuber even contains 485 milligrams of potassium per 100 grams, which is 16 times that of rice. This helps counter the effects of sodium, and may help lower your blood pressure. In short, Cecil Adams’s article “The Amazing Potato Diet” in 2008 concludes, with an exception of molybdenum, eating eight pounds of potatoes—approximately 24 potatoes a day and drinking one gallon of milk daily would provide all of the essential nutrients for an average size young man.

3. Human life support in the future

Abrupt climate change and shortage of farmland is not only imminent but is already here. Earthians see a future in potatoes, namely our labor-savior, the earth bean, as ensuring food for the threat of constant starvation. In 2014, the UN Institute for

Water, Environment and Health proposed that every day for more than 20 years, an average of 2,000 hectares of irrigated land in arid and semi-arid areas across 75 countries has been degraded by salt. Currently, an area the size of France, about 62 million hectares is affected. This is calculated to be 20 percent of the world’s irrigated lands, up from 45 million hectares in the early 1990s. To make the land cultivatable, since 2015, a small farm placed off Netherland’s northern coast run by one research institute named Texel has been breeding potatoes in salt-spoiled soils. These salt tolerant potatoes will potentially transform the lives of thousands of farmers and 250 million people who are under-nourished living around salt-afflicted soil. Taking it a step further, in 2016, NASA announced that they are planning to develop Red Planet spuds for deep-space cultivation. Their new experiment with the International Potato Center is to test 65 of the 4,500 varieties of Peruvian potatoes in a small plot of land. This is to imitate a version of the Martian climate to find the minimum conditions for potatoes to survive. The preliminary results are positive, and the imagination of 2015 blockbuster movie *The Martian*, depicting NASA astronaut Mark Watney’s survival through improvising a potato farm on Martian ground, is about to be materialized in real life.

Not only in food supplies, but as an environmentally-friendly alternative to the use of disposable plastic, “Potato Plastic” is on rise, winning 2018 James Dyson Award. The inventor Swedish design student Pontus Tornqvist, announces that this vegetable plastic is a biodegradable material that consists only of potato starch and water, the naturally-occurring substances. While the conservative last 450 years, in only two months, it will decompose to nutrients for the soil when it ends up in the nature. The process is a kind of thermoplastic, starting from heating until the liquid thickens then being placed it into a mold to harden into shape. If these goods turn out into large quantity production in the near future, three million tons of plastic forks, knives, and straws that are used in cafes and fast-food chains will soon be replaced with potatoes.



▲ The scene from the sci-fi film *The Martian* - to start on potato farming of the scene, may actually turn out to be real.



▲ This is a fork made of Potato Plastic.

Gloomy Potato

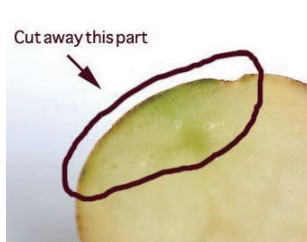
1. The objection from Homo economicus

Staple though it is today, the lowly potato has always been a substitute for cereal crop, confronted with plenty of constraints in its utilization. Potatoes may have been a savor of men in wartime but mainly, sugar was made by sugar-cane, bread by flour, and the alcohol by corn starch. Omer Moav, the author of “The Emergence of Hierarchies and States: Productivity vs. Appropriability”(2018) elaborates, “Cereal grains can be

stored, and due to their seasonality, have to be stored in order to provide year-round nutrition. The relative ease of confiscating stored cereals, their high energy density and their durability, enhances their appropriability and therefore explains the formation of hierarchical institutions and states. Precisely the opposite, other important staple crops, mainly roots and tubers like potatoes, are typically perishable, non-seasonal—70 to 120 days enough to reach maturity, have high water content and low energy density, and thus are less appropriable.”

Park In-myung, the professor of Oriental food and culinary arts in Youngsan University also adds, “As a potato is 80 percent water—a large portion compared to rice and wheat at about 10 to 13 percent and 20 to 25 percent each—it is vulnerable in storage. High water content supports the growth of bacteria, yeast, and mold, and results in an exponential increase in decomposition rates. What is more, the moisture reduces milling efficiency, and even breaks up the machine. Plus, the milled quantity of the potato starch is relatively low.”

Furthermore, according to Michael Pollan, the author of *The Botany of Desire*, potatoes exempted the potato-eater from the discipline of the economy, by excluding one from the civilized process of bread making. He says, “Political economists like Adam Smith and David Ricardo regarded the market as a sensitive mechanism for adjusting the size of the population to the demand for labor, and the price of bread was that mechanism’s regulator. When the price of wheat rose, people had to curb both of their animal appetites and so produced fewer babies. The problem with ‘the potato system’ is that, under it, the Homo economicus who adjusts his behavior to the algebra of need is replaced by a far less rational actor—Homo appetitus. ... Since the Irishman grew and ate his own potatoes, and since they could not easily be stored or traded, they never became commodities and were therefore, like him, subject to no authority but nature’s own.”



©Quora

▲ The green color in potatoes means they contain high levels of a very toxic agent called solanine.



©Terazine

▲ Acrylamide, a poisonous chemical substance, is formed when starchy foods, such as potatoes and bread, are cooked at high temperatures (above 120°C).

2. Notorious Devil's Apple

Nightshade species like potatoes contain solanine, a glycoalkaloid poison that has pesticidal properties, and it is one of the plant’s natural defenses from being eaten. Tubers naturally produce this poison in their leaves, stems, and shoots. When tubers are exposed to sunlight, they even turn in green and increase glycoalkaloid production. Per 100 grams of potato, the average content of solanine is estimated to be 2 to 13 milligrams, too little to cause any toxic effects. The toxic dose of a grown adult is from 20 to 30 milligrams of solanine and fatal dose is from 400 to 500 milligrams. In other words, till you stuff 10 kilograms of raw potatoes into your mouth, it is alright. The poisoned victims usually recover fully from the main symptoms like vomiting and diarrhea within 2 to 24 hours, but may result in fatalities when the victim is undernourished or does not receive suitable treatment. As so, in early Europe, the potatoes were met with initial suspicion, being named as “The Devil’s Apples.”

Solanine is even heat-stable, and not water soluble. Cooking in hot water does not help that much as it decomposes at over 285°C. In a closer inspection of this high temperature processing, reducing sugars, such as glucose and fructose, react with free amino acids in a series of non-enzymatic reactions given the umbrella name of the Maillard reaction. The reaction results in plethora of products many of which impart color, aroma and flavor. However, it also gives rise to some undesirable contaminants, including acrylamide. This acrylamide forms when the amino acid that participates in the reaction is asparagine. Margin of exposure to acrylamide has been shown to be carcinogenic and to have neurological and reproductive effects in rodent toxicology studies. Dr. Park adds that, “Since the starch in potatoes is rapidly digested, its glycemic index (GI), a measure of how much a particular food increases your blood sugar level, is high 80s or low 90s—almost as high as that of glucose alone, which is 100. Potatoes have a high GI rate as their carbohydrates are quickly broken down into sugar, causing blood sugar and insulin levels to rise rapidly. This, in turn, increases fat storage and the risk of obesity and diabetes—at least in theory.”

3. Genetically Modified Food

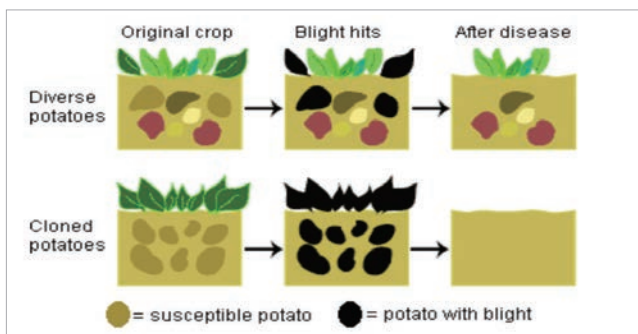
While monoculture has its place for profitability, it also has potential to cause irreversible damage to the ecological system. The once dominant Lumper variety is an example, Ireland’s favorite potato before the Great Famine. In the early 1800s, it held a disproportionate share of Irish potato crop, and the lack of genetic variability turned potatoes into inedible slime: the blight. Famine ensued, as three quarters of an Irishman’s caloric intake came from the Lumper, and within three years



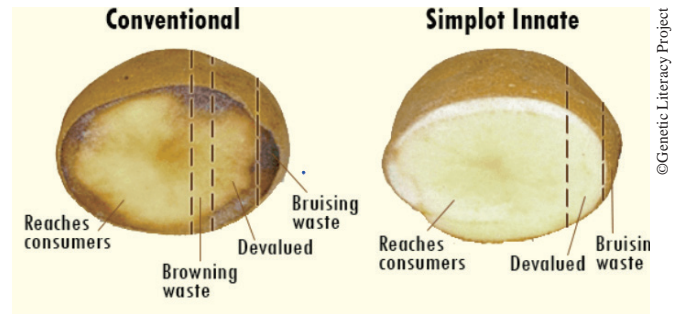
▲ The Great Famine, or the Great Hunger, was a period of mass starvation and disease in Ireland from 1845 to 1849.

one eighth Ireland people died of starvation. Dr. Lim explains, “The mass production of Lumpers was propagated for vegetative reproduction. Sexual propagation of potato can also be accomplished by planting its true seed, a useful process in crop improvements, but a high variability exists between this seed and it does not ensure a uniform, market-ready crop.”

Nowadays, potatoes are even commercially controlled by being genetically engineered with three new traits: disease resistance for farmers, no tuber discoloration for processors, and reduced food-carcinogenicity for consumers. In accordance to that, potatoes’ most conserved traits have been silenced and the interconnected gene functions cause a ripple effect. Dr. Pollan says, “According to the theory, which is based on classical Darwinism, the Bt crops add so much Bt toxin to the environment on such a continuous basis that the target pests will evolve resistance to it; the only real question is how long this will take to happen. Before now, resistance hasn’t been a worry, because conventional Bt sprays break down quickly in sunlight and farmers spray only when confronted with a serious infestation. Resistance is essentially a form of coevolution that occurs when a given population is threatened with extinction. That pressure quickly selects for whatever chance mutation will allow the species to change and survive. Through natural selection, then, one species’ attempt at total control can



▲ The compared show the effect of a blight on diverse and cloned crops.



▲ Simplot Innate potatoes are genetically modified using only potato genes to resist wasteful potato bruising and browning without affecting taste or nutrition.

engender its own nemesis.” In addition, silencing the “melanin gene” PPO, causes potatoes not to express bruise, and also weakens potatoes from pathogens, eventually requiring more pesticide. They still get damaged much like how humans bleed when cut, but the browning reaction—basically a scab—does not happen.

Plus, beware of french-fries from McDonald’s, where instead of acrylamide you will ingest pesticides from genetically modified organism (GMO) potatoes. Recall how they are cooked immediately from raw ones while other best-known GMO crops such as corns and soy are brought as processed products into the market. Recently, Simplot, one of the largest potato processor in the world addressed concerns by gaining regulatory approval of GMO potatoes from Korea’s Ministry of Food and Drug Safety. Be warned that as these novel life forms are released to the real life market, there is no call-back from the lab.

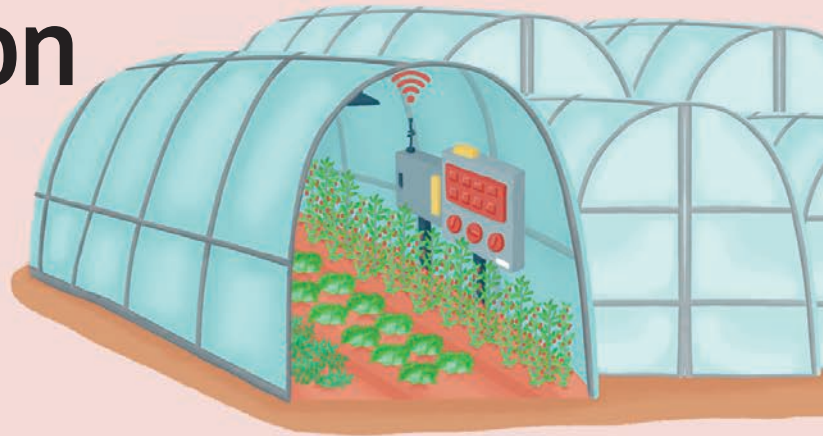
A renowned English archivist Henry Hobhouse writes in his book *Seeds of Change* that the five plants—quinine that alleviated the debilitating effects of malaria, cotton that fueled the American Civil War, sugarcane that was inaugurated as a lucrative crop from West India, tea that impacted Europeans’ beverage culture, and the potatoes that afforded mankind an inexpensive and near-effortless food crop to sustain the poor—played as powerful historical, political catalysts. Monotonous agriculture of potatoes, especially, unwittingly brought about the agro-industrial complex and bred commoners strongly, but also caused an awful famine and blight. The Argus hopes our readers to realize that the dramatic ramification of potato crops has depended and more importantly will depend on how we human species appropriately use them.

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Real Smart Farm, a Real Solution for Future

By Mun Ji-hyun

Staff Reporter of Theory & Critique Section



Constant development of agricultural technology led to a new phase of farming called “Smart Farming,” which can solve impending issues such as youth unemployment and food shortages. South Korea, as a leader in the Information and Communication Technology (ICT) industry, is advancing in smart farming, a combination of family and ICT. The Argus met with Prof. Lee Jung-hoon, who widened the horizon of Smart Farming to hear valuable stories of his research.

Research Paper: Monitoring of Water Transportation in Plant Stem with Microneedle Sap Flow Sensor*

Introduction

The paper details an experiment in which a microneedle sensor – a thin and long Micro Electro Mechanical Sensor (MEMS**) – is inserted into plant saps of weak stems or roots like tomatoes. Drilling thicker measuring instruments of the Heat Dissipation Method (HDM) wound plants that have weak stems and roots. To mitigate this, researchers developed safer microneedles which could identify the plants’ internal temperature and transpiration.

Microneedle sensors were inserted into 16 tomato roots under identical conditions. The sensor consists of a sensing probe, which measures both temperature and sap flow, two auxiliary needles, and contact pads that display the measured information. Sensors were tuned to equalize the amount and time of sunshine during the day when plants were most active in photosynthesis and transpiration. Consequently, the microneedle sensor was able to measure accurately with an error range of 10 percent between the fluid flow and sensor signal compared with other sensors that have an error range of over 20 percent.

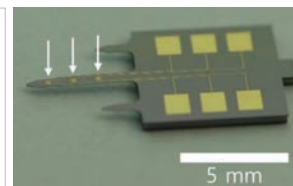
* The experimental research was conducted by Lee Jung-hoon and four others. It was published in the July 2018 issue of Journal of Micromechanical Systems.

** MEMS: It is a size of one millionth of a meter – about half the thickness of hair sized – sensors, made with semiconductor technology. It processes data through sensors, stores data, and sends a response signal and data to other devices.

What is Smart Farming?

Smart Farming is a new type of farming which grafts greenhouses or barns onto ICT. This allows farmers to maintain optimal growing conditions of plants and animals remotely and automatically. Smart farms can be divided into three types according to their purposes: smart greenhouses, smart orchards, and smart barns. They are equipped with the functions of managing, monitoring and controlling growing conditions. Smart Farming is emerging as an alternative to contending with population growth and food shortages. [Education, Promotion & Information Service in Food, Agriculture]

©2018, IEEE



▲ The research paper demonstrates the structure of microneedles and its field application in tomatoes

Interview with Professor Lee Jung-hoon, the head developer of Real Smart Farm

**The Argus: Please introduce yourself.**

Lee Jung-hoon (Lee): Hello, I am Lee Jung-hoon, a professor of Mechanical & Aerospace Science, teaching bio-nano micro systems* at Seoul National University (SNU). In 2017, our lab established a venture named Telofarm, and currently we have been developing Real Smart Farm.

The Argus: What differentiates Real Smart Farms from existing smart farms?

Lee: Smart Farming is a farming method incorporating ICT into existing farms. A smart farm controls an environmental system, similar to controlling the temperature and humidity in patients' rooms. Real Smart Farm is more like giving a specific medical diagnosis to patients; Real Smart Farms can manage plants more closely by using microneedle sensors.

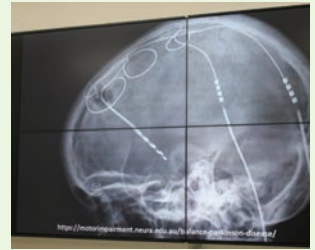
Real Smart Farm is a hydroponic plantation that uses MEMS rather than just an environmental control system. Once it is embedded into a plant, it measures the flow rate in a vessel and the movement of the nutrient solution**, determines the

transpiration rate, and controls the amount of nutrient intake, which manages plants more precisely. Therefore, Real Smart Farming increases the variety of plants produced and saves human resources through automation.

The Argus: Could you explain briefly about MEMS and its applications?

Lee: Micro Electro Mechanical Systems (MEMS) uses a small sensor built using semiconductor technology, and it is sensitive to any minute stimuli or change.

A smart phone is an example of using MEMS. The motion sensor on the switch screen is made of MEMS. When the sensor senses the phone tilting, it sends a signal to change the screen. Also, just as MEMS is used in very small and sensitive beings like plants; it could be used to treat Parkinson's disease, a type of neurotic disorder. Deep Brain Stimulation (DBS) involves a medical device that is made of MEMS in a thin needle shape. By implanting DBS into a patient's brain, it detects brain frequency changes and gives brain constant electrical shocks.



▲ A small needle like DBS can be implanted into a brain and cure neurotic disorder like Parkinson's disease.

The Argus: What motivated you to combine MEMS with agriculture? And what products are available for cultivation using MEMS?

Lee: As shown in the paper, we wanted to find a new solution to grow a greater variety of plants regardless of conditions. Thus, we applied microneedle sensors to farming, and the experiment showed that it increased the amount of production and compensated for the problems – excessive supply of nutrition solution and energy waste – that Smart Farming have.

Almost every crop is available for cultivation using MEMS, even high value products such as palm oil. Likewise, Real Smart Farming could be used to manage extensive farming or farming that requires very delicate care.

The Argus: Was there any trial or error during the research of Real Smart Farm?

Lee: Of course, like all startups would agree, the scale



▲ MEMS can be embedded into individual crops and measure plants' conditions closely as if giving a specific diagnosis to patients.

* Nano micro systems: Nano micro systems refer to technology which makes a machine very small and creates many new things.

** Nutrient solution: a mixture of nutrients and water needed for plants. Similar cultivations are hydroponics and soilless cultivation.

up process from lab to commercial level was challenging. Our team first believed that the fruitful lab results of national projects and researches would lead to successful commercialization. However, when we first installed the sensor for commercialization, the sensor lasted less than one week, so it was difficult to check the exact situation of the plants. To resolve the problem, we tried to find a less stimulative sensor to put in less sensitive parts of plants. Consequently, the sensor lifespan is nearly infinite. Having put in a lot of effort, after over five years, Real Smart Farm is now utilized in a variety of fields.

The Argus: What is the current state and what are the goals of Real Smart Farming?

Lee: Real Smart Farming is not only used in protected agriculture but in forests, orchards, and field environments. For instance, Real Smart Farming was selected as a test bed venture by the Seoul Metropolitan Government's initiative innovation encouragement policy in May, and microneedle sensors have been installed in Cheonggyecheon Garosugil, and other places in Seoul. Installed sensors notify health conditions in real time through the device, allowing for convenient management of plants. Sensors will be equipped throughout the city in the near future. Likewise, MEMS is applicable even to landscaping. Therefore, similar to how Real Smart Farming naturally assimilates into a city, we hope to bring Real Smart Farming closer to areas with more people. Hence, my goal is to make farming easy through MEMS and to further commercialize it so that more people can grow crops not only in rural areas but also in urban areas.

The Argus: What will future agriculture be like?

Lee: I think agriculture, with the development of ICT, will shift from centralized farming to distributive farming where everyone can do it anywhere. People will use Real Smart Farming to farm their own gardens and generate data of their know-how to sell or share with others.

The current practice of agriculture is based on producing



©Apex Window Works

▲ Already, distributive farming such as city farming takes places in excess spaces like rooftops.

local specialties in centralized farming settings and requires sending products far away, making food costs expensive. One example is a densely populated area with no farming in the slums of downtown New Delhi, India where residents have to buy food from far away, making food costs high. Similar problems are rising globally, but with Real Smart Farming, producing cost effective foods in urban areas becomes possible by using excess spaces in cities as farming areas.

The Argus: Could you share some final thoughts for The Argus readers and for youth interested in agriculture?

Lee: We are in the midst of a shift toward distributive farming, and new agricultural technology is speeding up the process. When distributive farming is fully established, we all can be farmers growing crops in gardens and trading datum with neighbors. Thus, I would like to emphasize that the youth will have the key role inhabiting the upcoming era, and thus, we need their attention and active participation.

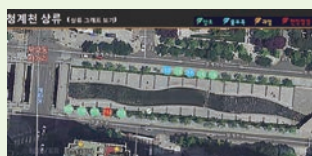
Real Smart Farming could be the solution to solve youth unemployment and food shortage issues all across the globe. Like Prof. Lee Jung-hoon said, Real Smart Farming could publicize agricultural methods through data transferring and allow the youth to become farmers by profession and cultivate their own food. Therefore, The Argus hopes this article gives readers food for thought on the new phase of agriculture. 🌱

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▲ Professor Lee shows the location where microneedles are implanted in Seoul.



©TELOFARM

▲ Microneedles embedded in plants in the upper stream of Cheonggyecheon detect and identify plants' conditions by "good," "need water," "fruits," "on-site inspection needed."

Another Two Eyes Watching Gleaning

By Kim Min-ji

Associate Editor of Culture Section

There is a famous painting on a wrapper for sesame crackers named “Harvest.” If you look at the TV commercial for the cracker, a man and a woman are enjoying the famous painting while eating the cracker in an art gallery. As they eat, three women suddenly pop out of the painting and pick up the sesame seeds that fall on the floor.

In the mid-19th century, two French painters painted women who gleaned crop remnants in the countryside. Jean-François Millet’s <Les glaneuses (The Gleaners)> and Jules Breton’s <Le Rappel des glaneuses (Calling in the Gleaners)> are commonly about “gleaning,” but the ways in which they are expressed were very different. By comparing these two works, The Argus looks into the two different views of the French agrarian society at the time.

©Wikipedia Commons, Cacophony



Jean François Millet (1814-1875)

Jean-François Millet, a 19th-century French painter, is known as the “peasant painter” for his many paintings about hard-working farmers. He was born the son of a Normandie farmer and grew up observing the lives of farmers from an early age. Based on his childhood experiences, he painted images of farming people. His representative works include <Les glaneuses (The Gleaners)>, <L’Angélus (The Angelus)>, and <Le semeur (The Sower)>.

©Wikipedia, Lukas-Art in Flanders VZW



Jules Adolphe Aimé Louis Breton (1827-1906)

Jules Adolphe Aimé Louis Breton, a 19th-century French painter, developed his work on the themes of rural landscapes and peasant life in his hometown of Courrières. He originally painted landscapes in Paris, but he returned to his hometown due to health problems. Born as the son of a landowner, he depicted the lives of farmers based on the countryside he saw as a child. His representative works include <Le Rappel des glaneuses (Calling in the Gleaners)>, <Le Chant de l’alouette (The Song of the Lark)>, and <À travers champs (The End of the Working Day)>.

The privilege of the poorest, Gleaning

Gleaning is the act of collecting leftover crops from farmers’ fields after they have been commercially harvested or on fields where it is not economically profitable to harvest (Wikipedia). Gleaning was considered the only privilege that the poorest rural people could enjoy in France in the 19th century. It was a statutory right for the poor farmers to pick up wheat ears that had fallen into the fields after harvest, and the landlords could not stop it. Earning the ears shows the reality of the day. At that time, the tenants were poor enough to have to eat the grain that had fallen in other people’s fields because they



▲ Ruth in Boaz's Field by Julius Schnorr von Carolsfeld (1828)

did not have their own fields. The amount of grain left over was unreasonably insufficient in comparison to the number of hungry people. Therefore, the poor peasants could not afford to straighten their backs to collect even one more grain than others. 24 hours of gleaning, and all that resulted was just a loaf of wheat.

Gleaning also appears in the Old Testament, <Book of Ruth>. Ruth, a stranger, sought food to serve her mother-in-law alone, and reached the field of Boaz. The landlord, Boaz, who knew about Ruth's situation, allows her to glean ears from her fields. From the Old Testament's verse, "When you reap the harvest of your land, you shall not reap your field right up to its edge, nor shall you gather the gleanings after your harvest. You shall leave them for the poor and for the sojourner." It can be seen that the fallen ears belong to the poor, the elderly, and those without family.

Les glaneuses: women picking up fallen ears



▲ Les glaneuses (1857), Paris, Orsay Museum



▲ Three women's face and hands are rough from working hard.



▲ The woman's ragged clothes are muddy and tanned by the sun.

The painting by Jean-François Millet in 1857 depicts the scenery of Chailly, France. In the solemn atmosphere of the sunset, the three women are silently doing their own work. At first glance, they may be seen as being idyllic and at peace. But the women, in muddy clothes, have their hands tanned and appear rugged from the hard work; they were peasants who had to pick up the grain that had fallen because they had nothing to eat. Two of the women pick up the ears, not raising their heads as if they were going to go off into the ground. The woman on the far left is putting her arms behind her back, apparently because of a backache. The woman standing on her right seems to rest as she unfolds her sore waist for a while, but with her eyes, she continues to look at the ground to find the ears.

In a closer look at the women's backs, the background illustrates the realities of rural areas where desperate poverty and overflowing affluence coexist. On the right side, the rider on the horse who seems like a landowner is pointing at something.



▲ In the background, farmers are harvesting at the command of the landowner.



▲ The grains are stacked in piles on one side of the field.

Following his fingertips, farmers gather together. They are busy finishing the harvest in the middle of the field. The collected grains are piled high up along the hill, and a few people carry some of them in their carriages.

This stark contrast is made between the tiredness of gleaning and the joy of harvest by visually and distinctively distinguishing between the women in the painting's foreground and the farmers in the background. "Millet is fiercely accusing the gap of truth between the rich and poor by dividing the poorest, who feed on a handful of grains, and the upper classes who are showing off their wealth," said Lee Myung-ok, director of the Savina Museum of Art.

Le Rappel des glaneuses: women with both hands full of ears



▲ Le Rappel des glaneuses (1859), Paris, Orsay Museum

The painting, produced by Jules Breton in 1859, recreates the day-to-day life of the peasants in Courrières. In this picture, the women leave the field after picking up the ears. On the upper left, there is a crescent moon with a wide field extending underneath it. Around the young women dressed in rags, children and old women are walking with full armloads of ears. Some are picking up ears continuously as they move. On the corner, a man dressed in refined clothes with knife looks at them. He may be the landowner's land keeper.

<Le Rappel des glaneuses> is the same theme as <Les glaneuses>, but comes to the public with a different feeling. Breton's painting faithfully follows the fashion of 19th century art. In the 19th century, paintings depicting rural life became very popular. Most of these were instructive paintings that glorified farmers or praised the virtues of labor. Poor people in paintings that were popular at the time did not lose their dignity despite the harshness of the environment. In <Le Rappel des glaneuses>, the women who gather ears and return home as the moon rises show a dignified



▲ Women are getting out of the field with their hands full of ears.

©Wikipedia Commons, Huguard DuNord, The Bridgeman Art Library



▲ There are women who continue to pick up the ears despite the landkeeper's order to stop picking up the ears.

step as if coming out of the picture without a trace of hard work.

Of course, there is a lot of criticism for romanticizing rural farmers' lives too ideally. The bourgeoisie of the city thought of the countryside as being filled with rich fields and sincere farmers, a view that was completely different from reality. These rural communities they had hoped for were expressed in Jules Breton's <Le Rappel des glaneuses>. The magnificent rural landscape, where trees are gathered and the golden sunset of the afternoon follows, reminds us of the rich countryside. The women's hands full of ears illustrate the richness and vitality of the earth instead of a life of distress. "Jules Breton borrows the form of the Royal Academy of Fine Arts pursuing the beauty of art. He does not evoke true reality through this, but rather concisely expresses a partial view of reality and gives the work a sense of daydreaming," stated professor Choi Byun-jin of HUFS.

Mixed reactions to both works

France was at a time of great confusion when Millet's <Les glaneuses> and Jules Breton's <Le Rappel des glaneuses> were submitted to the Paris Salon, the most prestigious art exhibition in France. It was a period of bloodthirsty events that began in the late 1700s with the Great Revolution, the Napoleon War, the restoration of the monarchy, and the rule of the Paris Commune. In 1848, farmers were also given suffrage and thus, Napoleon III, who vowed to create a country for farmers, was elected emperor. But as emperor, he failed to keep his promise to farmers and focused on industrialization. The countryside became increasingly impoverished as the rural population flowed into the city. In the countryside at that time, owners with large capital began to hire low-paying workers to manage large-scale cultivation. As a result, farmers became poorer and poorer and eventually lost their lands.

The public, who saw the two works under these circumstances, showed conflicting reactions. Both works were on display at the Paris Salon, a leisure space for the city's elite. The audience, the bourgeoisie, gave Breton's <Le Rappel des glaneuses> a favorable review, and Millet's <Les glaneuses> harsh criticism. Breton's painting, which hides social inequalities and shows only a rich bunch of ears, was a success in Salon. In fact, in 1859, Empress Eugenie purchased the painting. Several years later, in 1862, Emperor Napoleon donated the painting to the Luxembourg Museum of Art, an art museum for artists who created works favored by the royal family.

On the other hand, Millet's <Les glaneuses> was accused of being a dangerous painting that exaggerated the gap between the rich and poor and secretly supported socialist ideas. Director Lee Myung-ok explained, "The French government at the time was experiencing a period of extreme political turmoil in the aftermath of the French Revolution of 1848. During the political upheaval, the mere portrayal of the daily lives of the poor was threatening. Particularly, the painting that revealed the difference between rich and poor could be interpreted as a political protest expressing discontent with government policies." She added that "Millet's paintings, which seemed to expose the miserable reality of farmers, could be a trigger to attempt to overthrow the regime in connection with social discontent groups."

"It ain't what it looks like." The two works remind the public of this passage. In 19th century France, the bourgeoisie of the city thought of Breton's countryside. However, the reality was Millet's farming village. In those days of poverty and hunger, farmers who had to endure the winter had to wander around in other people's paddy fields and pick up ears all day.

Now, due to mechanization, the ears do not fall off even after the fall harvest. Only the grains fall and become food for birds. Now is the time to think about what kind of profit our society has for the weak. Even if our ears are falling off, would it still be our reality today that we would not let the poor pick them up? 📧

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Basketball; What Makes it Lose Popularity



By Kim Ji-hyeon
Staff reporter of Culture Section

“Korean Basketball is losing popularity right now,” said Ha Seung-jin, who had played for the Korean national basketball team and the National Basketball Association(NBA). He took videos about problems with Korean basketball and uploaded it on YouTube. Some broadcasting station reported about his video and through the interview, current basketball players also agreed with his statements. Coming up in September, there is a worldwide basketball competition, FIBA World Cup. The Argus will take a look at the dangerous state of Korean basketball and consider how to improve it.



▲ Ha Seung-jin took a video about the problems of basketball.

Background Information of Korean Basketball History

- 1948 ... Participated in London Olympic game, ranked eighth place
- 1969 ... Bangkok FIBA Asian Cup Champion
- 1970 ... Ranked 11th in Yugoslavia FIBA World Cup game, Won gold in the Bangkok Asian Games
- 1983 ... Nonggu Daejanchi started; Heo Jae, Yoo Jae-hak showed great performance
- 1997 ... Professional league started, Foreign players joined the leagues
- 2002 ... Won gold medal in the Busan Asian Games
- 2008 ... Succeeded to mobilize one million spectators
- 2013 ... Match fixing happened in pro games
- 2014 ... Won gold medal in the Incheon Asian Games
- 2018 ... Low view rate of games(0.2 percent); Failed to mobilize one million spectators

Phenomenon Lack of domestic superstars and franchise players

A superstar is someone who performs remarkably for a team and a franchise player is someone who has been playing for a team for a long time. They are essential for a professional team. Franchise players receive huge support from their fans since they contribute to the team for a long time. Fans wear those players' jerseys and visit the stadium to meet them.

“Nonggu Daejanchi” which was hosted by the Korean Basketball Association became famous, and it led to the start of the professional basketball league. At first it was popular because there were players who were already famous since university players including Lee Sang-min, Seo Jang-hoon and Heo Jae played for it. Fans lost interest since those players decided to retire in the mid-2000s.

Cause Depending on foreign players excessively

One of the biggest problems of Korean basketball is that most teams depend on foreign players excessively. Lee Jung-hyun was the only domestic player who made it into the top 15 in terms of scoring in 2018-2019 season. Like this, teams depend on foreign players continuously, so domestic players are losing competition.

Fans can also notice this when they watch time outs through TV, each teams' strategies are going mainly for foreign players. Domestic players just focus on passing the ball to foreign players. Son Dae-bum, the editor of the basketball magazine "Jumpball" said "Teams pay expenses for foreign players so they expect a lot from their performance. In this situation, domestic players only focus on helping them." He added that, "If it is a close game, domestic players mostly focus on passing the ball to foreign players and they do not really mind it. They do not think that this is a strange situation. I just wish that Korean players have a greater sense of ownership."

2018-2019 season scoring table

Rank	Player	PPG
1	James Mays	26.81
2	Eugene Phelps	26.22
3	Brandon Brown	25.35
4	Marcus Foster	25.22
5	Rah Gun-a	24.66
6	Aaron Haynes	24.29
7	Marcus Landry	21.93
8	Reyshawn Terry	20.67
9	Darryl Monroe	19.38
10	Giddy Potts	18.85
11	Josh Gray	17.60
12	Leon Williams	17.35
13	Lee Jung-hyun	17.22
14	Shannon Shorter	17.17
15	Justin Edwards	14.67

*Rah Gun-a acquired Korean citizenship through special naturalization.

*PPG: Points Per Game

Solution Host major international basketball events to induce a revival

Hosting international competitions has some advantages. The team has more opportunities to compete in international competition, and it builds infrastructure that conforms to international rules in the preparation process. Players do not have to get used to the stadiums and environments since they



▲ Korea constructed 10 stadiums for World Cup games including the Seoul World Cup stadium.

are familiar with them. Fans give a lot of support to players, so with these things they have a higher probability of showing better performances.

Korea hosted the 2002 World Cup game and they achieved their first victory in their history against Poland. They became the first country to advance to the semi-finals as an Asian country. Korea constructed 10 stadiums including the Seoul World Cup stadium for the World Cup games. This created facilities for international soccer competitions, which made soccer more popular in Korea.

Son Dae-bum said, "Korea hosted the 2014 Asian Games and the basketball team got gold. It was a great chance to increase the popularity of basketball. However, we did not do anything at all. It is important to show great performances in international competitions, but ensuring all promotional efforts is also very significant. We have to make a new superstar and advertise basketball through TV programs."

Phenomenon Decreasing prospects

In the past, prospects showed great potential and performances as amateur players and became key players as professional players. Kim Sun-hyung and Oh Se-keun earned 52 consecutive victories for Chung-Ang University. Kim Jong-kyu, Doo kyung-min and Kim Min-goo are players who showed great performance for Kyung Hee University. They are the examples of great prospects. After Oh Se-keun made his debut in the professional league, he led his team to the championship of the Korean Basketball Leagues in the 2011-2012 season and Kim Sun-hyung ranked sixth in scoring among domestic players. The players from the Kyung Hee University made their debut together and all of them scored more than 10 points per game.

Recently, players selected from the rookie draft have not shown remarkable results for their teams compared with previous players. There have not been any rookie players who

In-depth on Culture

scored more than an average of 10 points in the 2018-2019 season. And for the last three seasons, only two players scored more than an average of 10 points. Lee Jong-hyun and Heo Hoon succeeded to score average of 10 points in the 2016-2017 and 2017-2018 season season but Lee Jong-hyun only joined 20 games because of an injury.

PPG of rookie players for each season

Season	Player	PPG
2011-2012	Oh Se-keun	15.0
	Kim Sun-hyung	14.9
2013-2014	Kim Min-goo	13.4
	Kim Jong-kyu	10.7
	Doo Kyung-min	10.1
2016-2017	Lee Jong-hyun	10.5
2017-2018	Heo Hoon	10.6
2018-2019	None	

*In 2018-2019 season there were not any rookie players who scored made 10 PPG.

Cause Poor results in international competition

So far, the Korean national basketball team has not had success in national competitions like the Olympic games or the FIBA World Cup games. They got eighth place in the 1948 London Olympic games and that is still the best record in Korean basketball history. The Korean team has not won a single game in the Olympic games since the 1988 Seoul Olympic games. In the World Cup games, the 11th that they achieved in 1970 is still Korea's best result. Korea also participated in the 2014 FIBA World Cup, but they finished without any victories.

The Korean national soccer and baseball teams have shown competitiveness in international competitions, and many sports prospects have decided to play baseball or soccer. The "2002 World Cup kids," meaning children who decided to play soccer after Korea's achievement in the 2002 World Cup. And "Beijing kids," children who started to play baseball after Korean national baseball team got gold in the Beijing Olympic games are the examples of showing connections between the increase of prospects and the results of international competitions. On the other hand, there is not a "golden generation" for the national basketball team to show its competitiveness in international competitions.

Solution Long term policy of fostering prospects

There are no programs that increase Korean basketball

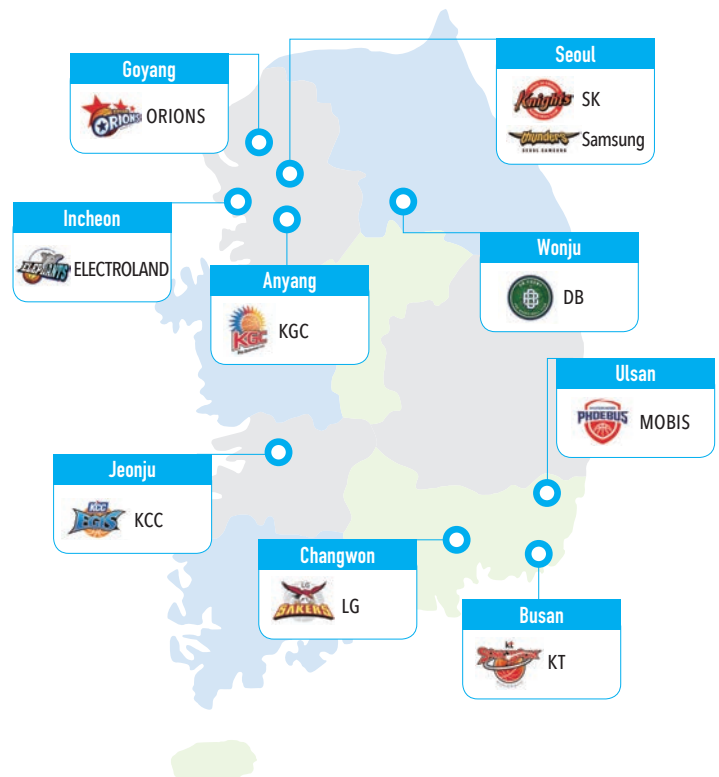
prospects' growth in the overseas, but if there were, prospects would be more likely to experience the good systems of overseas. Take for example the United States; Son Dae-bum explained this, "Countries such as Germany, China and Slovenia send their young basketball players to the U.S. for training. Korean basketball also needs to follow suit, yet it does not. The U.S. is advanced in basketball so training in the U.S. can bring out players' potential."

Korea Football Association implemented the "Overseas youth study project for outstanding players" and now it is running a youth training program called the "Golden Age Program," Korea is doing its best to foster prospects. Korean soccer superstar Son Heung-min grew up through the overseas project and other players such as Ji Dong-won and Nam Tae-hee were also trained through it and played for the Korean national soccer team.

Son Dae-bum stressed the need of success stories for overseas prospect policies. "There are not any players who made successful careers in overseas, so parents of prospects often look negatively on sending their children abroad. Therefore, I hope Lee Hyun-jung who entered Davidson College with scholarship, the alma mater of NBA super star Stephen Curry, does well. If there are some cases of success, there will be more projects, and parents will not see it negatively."

Phenomenon Failure of local marketing

In professional basketball, the perception of "our team, our



player” is often relatively limited compared with other sports because of the failure of local marketing. Even if the team’s hometown is in the province, their training facilities and accommodations are in the metropolitan area, so they visit their hometown only one or two days before the match day. Moreover, they go back to the metropolitan area after the game ends.

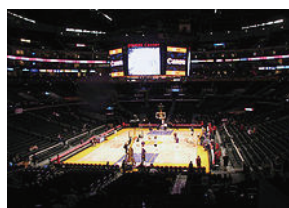
On the other hand, local marketing in baseball went well, so people can easily recognize which team represents their hometown. For example, if people hear Busan, they imagine Lotte Giants, and if people hear Gwangju, they imagine KIA Tigers. Jeong Su-min, a student of Ewha Womans University said, “Baseball teams succeeded in local marketing; however, basketball teams failed to do it. I support LG Sakers which is a basketball team in Korea, their home stadium is in the city of Changwon; however, their accommodation and other facilities are in the city of Icheon.”

Cause Concentration of metropolitan areas

Six of the 10 professional basketball teams have accommodations and training facilities in Seoul and metropolitan areas such as the city of Yongin and the city of Suwon so they are busy going back there right after the game ends. Five teams have their home stadium in metropolitan areas and Seoul. Son Dae-bum commented, “The parent company’s headquarters are concentrated in the metropolitan areas, locating the teams in metropolitan areas make it easier to manage the team. Due to some reasons such as transportation, player’s livelihoods and children’s education problems, basketball teams prefer metropolitan areas.”

Korean professional baseball teams are considered a good example of local marketing. Players live near the teams’ home stadium during the season and only move on to other provinces when they have away matches.

Solution Securing living area in the hometowns and setting second hometowns



©Fred Rockwood

▲ NBA teams succeeded in local close marketing.

Korean basketball teams need to refer to the case of the NBA. In the NBA, players live in the hometown of their team, and teams have training facilities and rehabilitation facilities in their hometown. They make a lot of efforts to be a part of the hometown. Players participate in events in the hometown, and

each team holds basketball camps for youth players. Writer of “Today’s NBA” Yeom Yong-keun commented about it, “The NBA hosts a social contribution program called NBA CARES. Through this, they contribute to the local community and participate in various kinds of activities such as volunteer work and donation.”

New York Knicks player Allonzo Trier said, “All NBA players live in the hometown of their team during the season. I also joined a basketball camp for youth players in New York and it was really helpful to both me and fans.”


Son Dae-bum said, “The NBA hosts some preseason games in provinces like Anaheim which do not have a basketball team.” Neutral ground will be a solution to promote basketball to fans in various regions. With this, they can set a second hometown so that they can reach various fans in other provinces.

They can find an example in Korean baseball leagues. Several teams have a second hometown. The city of Pohang is the second hometown of the Samsung Lions, Ulsan is the second hometown of the Lotte Giants and the city of Cheongju is the second hometown of the Hanwha Eagles. Accordingly, they can reach out to fans in various areas. Like Korean baseball teams, Korean basketball teams should host a second hometown so that they can reach out to fans nationwide.



©Kim Ji-hyeon/The Argus

▲ Korea basketball is losing popularity and there are several empty seats in the stadium.

The FIBA Basketball World Cup game will be a new opportunity for the development of Korean basketball. Competitiveness in international competitions will provide a proper chance to garner interest in domestic leagues from fans. In the 1990s, Korean basketball was in a golden age with superstars; however, right now, it is in a slump. It had been called one of the four major sports in Korea along with baseball, soccer and volleyball however, they are not in a good situation now. It set a turning point by winning gold medal at the 2014 Asian games, but they failed to solve the problem. Many problems have been brought up, they need to solve them quickly. 

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DISNEY LIVE-ACTION REVIVALS



By Choi Yun-jeong
Staff Reporter of Culture Section

Everyone is probably familiar with the Disney film introduction with flames drawing a half circle over the shining white castle with fireworks exploding as familiar melodies play. Disney animated films gave us childhood dreams and fantasies, and each film remained as a movie that had enormous brand value on its own. This success has extended into newer and more exciting format for Disney films. On Aug. 1, Disney's live-action movie <Aladdin> attracted more than 12 million viewers and <Lion King> is currently out in theaters. Disney has also announced that they will release various live-action movies, including <Mulan> and <The Little Mermaid>. The Argus analyzed and looked into the elements of Disney animated films that have followed the course of societal changes.

What is Disney?

The Walt Disney Company, commonly known as Disney, is an American diversified multinational mass media and entertainment conglomerate headquartered at the Walt Disney Studios complex in Burbank, California. Disney was originally founded on Oct. 16, 1923 by brothers Walt and Roy O. Disney. The company established itself as a leader in the American animation industry before diversifying into live-action film production, television, and theme parks.

What is Live-action?

Live-action is a concept that contrasts with the artificial movement of animation, which is played by a real actor. Walt Disney first used the live-action in animation. Usually, Disney's remake of the original animation is called a "live-action" movie.

Disney's New Movements

Establishment of autonomous female characters

Watching the live-action Disney films, one can realize that the original heroine type, who was passive and vulnerable, has turned into a character with a strong identity. Typical examples are <Aladdin> and <Beauty and the Beast>. Jasmine, who was dependent on her father Sultan and Aladdin in the original, goes against her father's words, "You can't be a sultan because you're a woman." Then, she eventually becomes the first female sultan in the live-action movie. Jeong Min-ah, a movie critic, said, "The biggest feature of the live-action movie <Aladdin> is the enhanced female narrative. In fact, a female sultan does not exist, but the Aladdin-centric epic was transformed into a Jasmine-centric one by mobilizing the imagination." <Beauty and the Beast> also builds a self-directed female character. In the live-action movie, Belle appears much more active than in the original release. For example, unlike the animation in which she just watched a fight between the villain Gaston and the Beast, Belle jumps into direct confrontation.



▲ A Disney live-action movie, <Aladdin>, has recently gained popularity.

Conscious multiracial casting

The first topical part of Disney live-action movie is probably that of casting. Who reproduces the characters in the animation and how much the external synchronization matches will lead to speculation even before the premiere. The casting of <Aladdin> began in 2017. As a result, Mena Massoud won for Aladdin and Naomi Scott won for Jasmine after competing with 2000-to-1 odds. Mena Massoud is from Egypt, and Naomi Scott is Indian. Marwan Kenzari, who played Jafar, is a Dutch actor of Tunisian descent. Nasim Pedrad, who played Dahlia, the princess's maid and best friend, is an American actor from



▲ The four main actors of the live-action movie <Aladdin> have high synchro rates with the original characters.

Iran. Moreover, Chinese actor Liu Yifei has been cast to play the main character of the <Mulan>, due for release in 2020, making headlines. Liu Yifei was cast through a competitive rate of 1,000:1. These cases highlight that the latest Disney productions carry an extremely talented cast made up of very different races and backgrounds.

Changed story lines through the spin-off format

Disney used a spin-off format to bring a whole new storyline in the process of making a live-action movie. A spin-off is the format of creating a new story by taking characters or settings from existing movies, dramas and games. Disney has especially used spin-offs, which shed light on the original villain characters. <Maleficent>, the upcoming movie <Maleficent 2> and <Cruella> changed the story flow using a spin-off in which the original villain appears as the main character. The main character of <Maleficent> is Maleficent, the villain in the animation <Sleeping Beauty>. Then <Cruella>, which is scheduled to be released in 2020, based on the 1961 release <101 Dalmatians> will feature the original villain Cruella as the main character. Hwang Se-jin, a student of Sookmyung Woman's University (SMWU) '18, said, "I highly praise

<Maleficent> for breaking the frame of the idea that a villain cannot be the main character. After watching this movie, it became a habit to imagine when and why a villain character became a villain. I hope Disney continually produces movies that leads to a shift in thinking like this.”



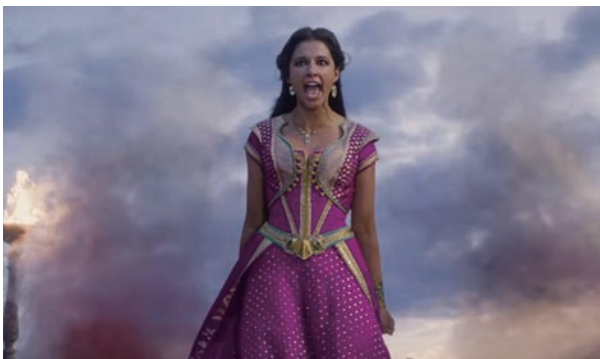
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▲ <Maleficent: Mistress of Evil> will be out in cinemas on Oct. 18.

What Made Disney Change?

The proliferation of feminism

Animation is like a double-sided mirror. It reflects the values that hold up fantasy and desire on one side and reality on the other. These days, any Disney movie is considered in step with the trend of the proliferation of feminism, turning former female characters into independent ones. Women who entered into a social career had to stand up against the discrimination of the past and present, and feminism is recognized as a diverse social issue that cannot be ignored any longer. Jeong Min-ah, a movie critic, said, “Disney’s recent introduction of



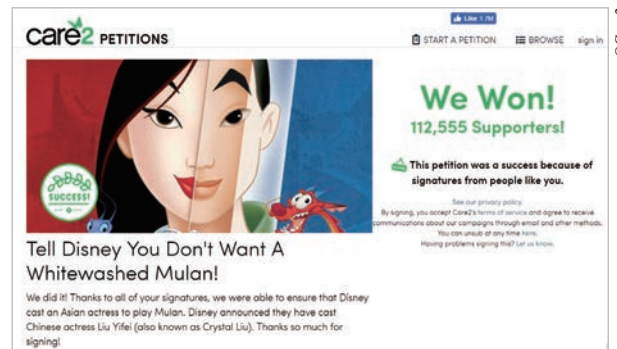
©Disney

▲ Jasmine is singing new <Aladdin> song, “Speechless,” which means Jasmine won’t go speechless against Jafa in movie.

active female characters is a clever strategy that reflects the demands of society as it changes. I believe that Disney is doing its job as a responsible member of the media establishment well in expressing a world of ‘strong female images’ that has not been realized in reality.” Lee Sun-ok, a professor who teaches Women Complex on Cultural Text in SMWU, said, “The recent change in the female character shown by Disney seems positive in that it actively embraces criticism of femininity in a patriarchal society.”

Sense of controversy over white washing

Disney has long been mired in controversy over white washing. As the controversy continues and criticism mounts, Disney consciously casts actors of various races in its live-action movies. The definition of “white washing” originally meaning “covering something or cleaning it up,” has changed. However, in the modern cultural context, it means the Hollywood community’s practice of casting white people in non-white character roles. In the 2010 Disney movie <Prince of Persia: The Sands of Time>, white actor Jake Gyllenhaal played Prince Dastan of Persia. It became controversial, Disney casting an American actor



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▲ People demand change to the casting of the live-action film, Mulan, through a petition campaign named “Tell Disney You Don't Want A Whitewashed Mulan!”



©Disney

▲ Disney released a poster of Disney live-action movie, <Mulan>.

for the character of the Persian prince, a prince of ancient Iranian region. Criticism intensified under the fact that Disney put tanning lotion on Gyllenhaal's body while filming because his white skin did not fit the character's roots. In September, 2016, it was revealed that a white actor named Jennifer Lawrence was nominated for the main role in the Disney live-action movie <Mulan>. As a result of this casting, a petition stating, "I don't want a white-washed Mulan" topped 112,000 signatures, and social networking sites spread the hashtag "#MakeMulanRight." Also, in September, 2017, Disney announced that white actor Billie Magnussen will play Prince Anders in the live-action movie <Aladdin>. However, Prince Anders is a character that does not exist in the original <Aladdin>. Therefore, Disney was accused of creating a new character simply to cast a white actor. Eventually the casting was canceled.

A breakaway from good triumphs over evil story line

As the public has come to analyze characters with more realistic eyes over time, curiosity about the villain character has also increased. This kind of flow, coupled with criticism that Disney animations stick to the stereotypical story line, led Disney to try to break away from the existing system of Good triumphs over Evil. Lee Sun-ok, a professor of SMWU, said, "Depending on social trends, it seems clear that Disney animations are moving away from the dichotomous confrontation between traditional good (passive innocent women) and evil (capable witch villain)." Hwang Se-jin, a student of SMWU '18, said, "When I had a narrow range of thoughts in the past, I was immersed in the main character's story, adversity and emotions. So, I felt uncomfortable and irritated whenever there was a villain. However, this idea has changed little by little with the

recent emergence of an attractive and historical villain." Today, Disney is trying to erase its weakness of a typical story line in with these social demands.

🐭 Linger Problems

Critics of passive feminism

On Disney's attempt to transform former female characters into autonomous ones, some say Disney has become too liberal. In contrast, however, some critics state that Disney only accepted the minimum amount of feminism according to social demand. In other words, Disney only tries to follow the feminism flow rather than lead. Jang Mi-young, a professor of Research Institute of Asian Women, opined, "The challenge and achievement of female characters in the story has moved forward, but the scheme of using women as scapegoats for men's well-being and growth still remains as a task," and added "For example, Belle in <Beauty and the Beast> is a character for the well-being of her father and growth of the Beast. Jasmine in <Aladdin> also has a limit in that Aladdin makes the final solution to the problem." Jeong Min-ah, a movie critic, said "Since the stratum of audience is large, it will be difficult to find a middle ground to satisfy all audiences in terms of making movies. Some audiences argue that the aggressive feminism could make some feel uncomfortable and some audience who do not have any interest in feminism could also feel uncomfortable for other reasons."

Black washing and synchronization controversy

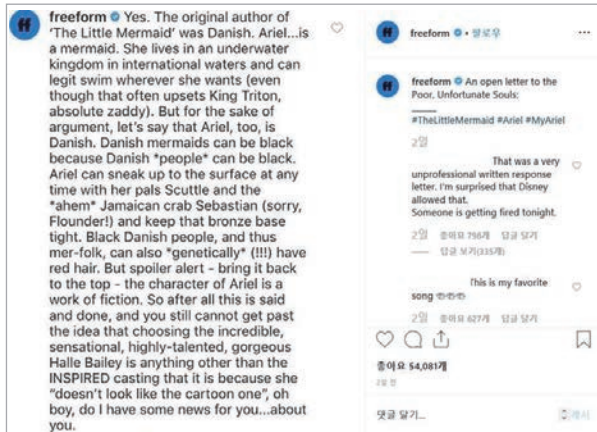
Disney has cast various races to avoid the white washing



▲ Maurice (L) and Belle (R) in Disney live-action movie, <Beauty and the Beast>, gaze warmly into each other's eyes.



▲ Disney has cast Halle Bailey as the Ariel of Disney live-action movie, <The Little Mermaid>.



▲ Disney criticized the black washing controversy through their Instagram channel.


controversy, but this was also criticized for being excessive in an effort to avoid criticism. Therefore, the black washing controversy came out. “Black washing” is a neologism coined against white washing, in which a black person plays a character originally set as white. It flared up after Halle Bailey was cast in Disney live-action movie, <The Little Mermaid>, which is scheduled to be released on March 27, 2020. Ariel, the main character of the original animation <The Little Mermaid>, released in 1989, is a white woman with red hair. However, 19-year-old black singer and actor Halle Bailey has been selected for the role of Ariel in the live-action movie. Some netizens expressed their anger at Disney by spreading hashtags such as #NotMyAriel #Blackwashing because of this casting. In response, Disney left a message on its affiliated channel “Freeform” on Instagram that Princess Mermaid could be black. This is one example that has intensified the debate about casting.



▲ One of the Disney live-action movies, <Alice in Wonderland> is directed by Tim Burton.

A sense of divergence between original and live-action

Disney’s switch to live-action movies has not only received positive reviews. Some films were also criticized by fans for a lack of connectivity with the original. Disney starred a villain in <Sleeping Beauty> in its live-action movie <Maleficent>, but a lot of old fans of Disney were disappointed because the setting of the Maleficent character was so different. In the live-action movie, Maleficent appears not as a witch, but as a fairy captain, and has a kind heart that cares about her own world, unlike the original version. <Alice in Wonderland>, directed by Tim Burton, is also a live-action movie that differs greatly from the original. Movie critic Jeong Min-ah, said, “Among the live-action movies, <Alice in Wonderland> has developed a more likely story than the original, explaining the fantasy space in the original film through human psychology. However, I personally think this development hurt the originality of the story, creating a gap between the original and live-action.”

It is positive that Disney, a 100-year-old conglomerate, is trying to make a change according to the needs of the day. However, “dreaming” of change should be stopped by the past when we are consumed by the Disney animations of the 1900s. We should now “turn another dream into reality” through brand-new Disney live-action movies. The Argus hopes that readers will continue to critically analyze differences between Disney’s original animation and live-action movies, instead of spending their interest on live-action movies just for entertainment. 

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Not a Victim, But a Victor

By Lee Jae-won
Argusian



Prof. Kim Eun-mee
(Ewha Womans University)

“Sexual Violence in Conflict (SVC) is still ongoing,” exclaimed Professor Kim Eun-mee from the Dept. of International Studies at Ewha Womans University. Although the issue is somewhat obscured or ignored, untold numbers of women around the world are groaning from the pain of sexual violence. To address the SVC issue, The Republic of Korea (ROK) government convened the first international conference on “Action with Women and Peace” from July 2 to 3 in a bid to urge a global partnership to combat the sexual violence problem. After attending the conference, The Argus met Prof. Kim, the head of the committee set up to accelerate the congress. She emphasized: “Women are not just victims, but they should become victors of their lives.”

- Professor of the Dept. of International Studies
- Director of the Global Health Institute for Girls
- Former dean of the Graduate School of International Studies
- Former director of the Institute for Development and Human Security

The Comfort Women Negotiation was the starting point

Kim mentioned that the conference this year starts by looking back upon the “Comfort Women Agreement” in 2015. In December of that year, the Park Geun-hye government settled this very controversial issue with Japan. The agreement provoked a fierce amount of controversy since during the negotiations the surviving comfort women’s opinions were not considered. In 2017, however, the Moon Jae-in administration reexamined the whole process of the highly debated treaty. Kim was one of the civil consultants of the procedure.

The main problem with the dialogue was clear. “The then-government excluded the victims from talking with Tokyo,” said Kim. The ROK government then launched the “Action with Women and Peace” Initiative in June 2018 in an effort not to repeat the survivors’ sufferings. The initiative stresses the importance of women’s roles in solving the sexual violence issue and building peace. The international conference held this summer was a part of this project for a specific discussion on Women, Peace, and Security Agenda.

Two main pillars of “Action with Women and Peace” Initiative

(1) to support projects that address the needs of women and girls in conflict and post-conflict situations, prevent sexual violence, and enhance the capacities of communities

(2) to convene an annual international conference solely dedicated to discuss issues of critical importance to Women, Peace, and Security Agenda





Sexual violence equals a traffic accident

In disputed areas, how is sexual violence committed and defined? Many speakers of the conference concurred that SVC is a weapon of war. It is a premeditated crime designed to weaken the other country or group's solidarity. As being a planned act, the crime's cruelty is quite beyond imagination.

This reporter was shocked at what presenter Dr. Denis Mukwege illustrated in his keynote speech. The medical director Dr. Mukwege, a 2018 Nobel Peace Prize laureate, has dedicated himself for a long time to healing and supporting the victims of SVC. "Sexually abused victims' ages vary from a six-month-old baby to an eighty-year-old woman," he said. They are not raped just one time. After repeated abuse, a majority of women and girls are often taken to the hospital with their genital areas significantly damaged.

But their emotional wounds are more difficult to be recovered. Why? Misconceptions of sexual violence is the obstacle, mentioned Kim. She pinpointed that most of us console a sufferer of unavoidable events like traffic accidents while acting indifferently towards sexual violence victims.

"Many lay the fault of sexual abuse at the victim's feed, with terms such as, 'You were molested because of your short skirt.' These words, however, express the same meaning as, 'You were in a car accident since you walked along the road.'" Per this message, countless victims of SVC are regarded as "impure" and seen unfairly as the most "marginalized" group in their community.

Power to women and girls

The most impressive program of the conference was Session 2: Ensuring a Survivor-centered Approach. Three national coordinators presented who belong to the Global Network of Victims and Survivors to End Wartime Sexual

Violence. Among the coordinators who confessed their agony courageously, The Argus was touched by the coordinator Mer Ayang of The Republic of South Sudan. She said, "The boy soldiers who assaulted me were also victims of war in a broad sense." Prof. Kim said she felt the same as the writer.

"The power of Ayang's words comes from her self-confidence. She does not hate the perpetrators but rather understands their inevitable conditions. How many tears did she shed in order to reach that comprehension?"

What will it take for us to see more survivors speaking like Ayang? The professor thinks the answer is a "bottom-up" approach, versus a "top-down" approach, as a way to solve the SVC issue. With the latter, countries or organizations unilaterally offer protection and support to victims. The former focuses on helping survivors become empowered. Women gradually grow into subjects of their own lives with medical care and education service.

Kim is also a bottom-up activist. She is keen on girls' health in developing countries as a director of the Global Health Institute for Girls. The current reality the girls are facing is horrible. Early marriage and premature birth are conventional in under-developed nations. "It is not uncommon in developing nations for a nine-year-old girl to die of premature birth and a ten-year-old to get pregnant," added Kim in accents of grief.


The pregnant girls whose bodies are too immature have a high chance of dying after giving birth. They cannot afford to attend school post-partum. To keep girls from this type of situation, Kim travels to developing countries and provides proper sex education to students and teachers. She is also studying on how the girls are able to stay healthy and to undergo basic education at school.

My work helps everyone

Since 1997, when having come to Ewha, Kim has tirelessly worked in the International Development Cooperation (IDC) field. We asked her to give some advice for HUFs who dream of becoming global leaders. The professor stressed that HUFs must remember not only countries that we need to work with but also countries that need our help.

"HUFs leaves the door open for all the countries in the world. Strong and weak nations coexist around the globe. Basically, for the amount of effects that you have, you can do one amount of good in the former, but ten times as much good in the latter with the IDC."

Finally, Kim called for the youth to pay attention to the IDC, stating that her work also makes her feel fulfilled.

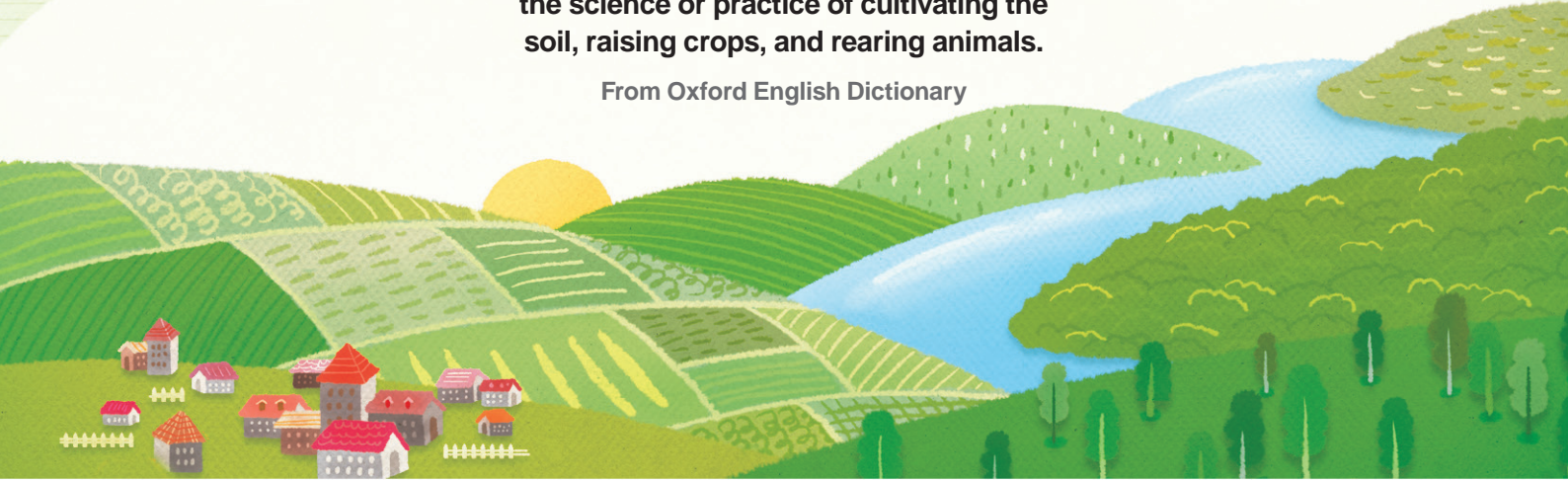
"Among college students, some study for their own future and well-being while those who do not simply exist. I hope more and more young people contribute to others' happiness as well as for themselves." 

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#Agriculture

the science or practice of cultivating the soil, raising crops, and rearing animals.

From Oxford English Dictionary



Na Geum-chaе

Sometimes we forget about the value of precious beings. As they were always there, we just took them for granted. We are blind with familiarity, and act as if we had done it on our own. Then, we pay the price as usual. Should not we never repeat the mistakes of the Greek gods who realized Demeter's preciousness after her curse? Do not be taken in by familiarity.

"Where tillage begins, other arts follow. The farmers therefore are the founders of human civilization." - Daniel Webster

Kwak Hyun-jeong

We're prone to overestimate our own agency in nature. Many of the activities humans like to think they undertake for their own good purposes—inventing agriculture, outlawing certain plants—are mere contingencies as far as nature is concerned... Our grammar might teach us to divide the world into active subjects and passive objects, but in a coevolutionary relationship every subject is also an object, every object a subject. That's why it makes just as much sense to think of agriculture as something the grasses did to people as a way to conquer the trees.

-Michael Pollan: The Botany of Desire

Kim Min-ji

Imagine a table without rice and kimchi.

Imagine a table without bread and pasta.

It must be very empty, right?

Just try hamburgers without French fries.

Just try cheese without wine.

Something is missing, right?

Without agriculture, we lose our daily pleasure of eating.

Park Chang-hwan

Genesis 8:22

²²While the earth remains, seedtime and harvest, cold and heat, summer and winter, day and night, shall not cease.

As long as we remain on this Earth, seedtime and harvest will always accompany us. Let us not forget how precious the gift of farming is.

Oh Ju-yeong

Since the beginning of industry, human beings have achieved splendid development through theorizing and critiquing, or perhaps

discussing the growth of society, or through the nurturing of culture. In September, The Argus focuses on the primary industry which marks the beginning of humankind and is foundational to the other industries. Are you ready to enjoy the articles of The Argus? Welcome to The Argus!

Kim Ji-hyeon

Agriculture is a traditional thing but it is an essential thing to people in Korea. Can you imagine a meal without rice?

There is a famous saying "Koreans need to eat rice(Bapsim)."

We should be aware of the importance of the agriculture so let us read about it with The Argus!

Mun Ji-hyun

"As a man sows, so shall he reap" is an idiom that I like the most. Just as our ancestors endeavored to cultivate mother nature to make us what we are today, I should try hard to get the best of me in The Argus.

Yoo Chan-heum

People sometimes do not appreciate what is really important to them and forget about it. Human society is just the same. Of course we have fancy technologies, such as VR. and IoT. But that did not help us exist this long, right? Then, what is the real important thing that we maybe have forgotten? Find out about with The Argus in September about the real thing we forgot: "agriculture."

Jung Min-yeong

Agricultural products sustain our lives. However, we easily forget how precious they are. Starting with being thankful for what we eat everyday, I hope we become people who know to appreciate everything we get.

Choi Yun-jeong

"Agriculture" is derived from the Latin word "Cultura" which means cultivation and care. This meaning gradually expanded from the cultivation of crops to the cultivation of humans. Then Culture became an independent noun in the late 18th centuries. As a Staff Reporter of Culture Section, I realized that before we started agriculture, humans were also just of nature, without Culture.



The Argus

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