

Diversity for Coexistence

Harmonious Diversity

Korea University
Diversity Council
Project

**Harmonious
Diversity**



East-Asia Books

Korea University
Diversity Council

Diversity for
Coexistence

**Harmonious
Diversity**

Shades of Individuality, and Togetherness

Chai-Youn Kim Chair of Korea University Diversity Council



As we transition between the seasons, we are often blessed with particularly beautiful skies. Is it perhaps because of all those days at the beginning and end of summer with their dewy airs? Once in a while, a colorful rainbow boasting off its perfect shape also adorns the sky, quite a rare sight in the center of Seoul.

Although they feel like unrealistically beautiful beings distant from our daily life, the colors of the rainbow are always here with us. Tiny water droplets in the air hide these colors like Newton's prism, but the light that seems to be a single ray in reality is a collection of different wavelengths that house a myriad of colors.

It makes sense that I'm reminded of skies, rainbows, and light as a gathering of colors as I open

『Harmonious Diversity』, in which we will present to you the valuable writings of twelve people. It's also true that I remember each piece in association with a specific color. This book is a compilation of articles in the monthly 《Diversitas》('diversity' in Latin), published by the Korea University Diversity Council since June 2020, which conveys the feelings and atmosphere of the month through the color of each publication. Each article becomes inextricably linked to the color of the corresponding issue of 《Diversitas》 whence it was presented.

In addition, the twelve authors wrote on the topic of 'diversity' from their own unique perspectives. This group includes not only professors in various majors, including psychology, media studies, Korean literature, education, and humanities, but also producers, journalists, researchers in typography, teachers, representatives of social enterprises, and other experts in various areas. The diversity of the authors and the colorful arrangement of fields and viewpoints introduced in this book is yet again

reminiscent of our brilliant rainbow.

We've started talking about diversity in Korea only recently, while it has been a topic of discussion for quite some time in many other countries and global corporations. We hear news about the U.S. State Department appointing diversity officers, and many of the world's leading companies and universities have already set up committees to promote diversity. In contrast, even midst our society, the number of universities in Korea that have taken similar steps is particularly low.

Korea University was the first private university in Korea to establish a diversity council, which it did in January 2019. Since its establishment, the Council has constantly sought for ways it could make the university a place where the unique traits of each member .

We always ended up with the question, "So what is diversity after all?" 《Diversitas》 was born with the hope that more members of Korea University would think about this question in their own ways. Our vision was that it would not be too abstract, nor too

convincing, nor would it be a sermon or coercion, but it would simply provide the reader with a moment to pause and think about the question in their daily lives.

Now, we would like to share those wishes with people from all walks of life instead of keeping them inside the fence of a single university. Thus we present 『Harmonious Diversity』. Nevertheless, the intention of this book is not to provide a concrete answer to the question, “So what is diversity?” It doesn’t even deal with all the important aspects regarding diversity. Instead, we focused on not hastily integrating individuals into a larger group or discussing diversity as a matter of confrontation between us and those around us.

Each of the five chapters in the midst of the prologue and epilogue, ‘Thinking,’ ‘Seeing,’ ‘Speaking,’ ‘Learning,’ and ‘Working,’ clearly reveals what we are trying to convey. As you see, the chapter titles refer to central activities in our everyday life. Instead of trying to help readers understand what diversity means, we hope that to compel them to consider their own

interpretations in every scene of their lives.

You don't have to read this book supposing that diversity is absolutely right and good. It is fine for you to read it either with the thought that diversity hampers efficiency or with the thought that diversity is still better than rigid uniformity. Nevertheless, we hope that you keep the idea of diversity in your mind while your original ideas leave their initial states and return as you read through the twelve essays in this book. We hope you come to think of diversity as something that lives together with you rather than simply a chore to learn, and therefore as a part of your own story and a part of each unique story of the people you live with. We would appreciate it if you can, as you open and close this book, be reminded of the way little water droplets unweave the rainbow colors within natural light.

As I excitedly prepare to publish 『Harmonious Diversity』, there are so many people I want to thank. First and foremost, I would like to express my gratitude to all the writers who have participated in 《Diversitas》,

even though we weren't able to include all of their work in the difficult process of composing this book. If it weren't for the previous Chair of Korea University Diversity Council, Yeong Min, along with Vice Chair Yeong-shin Seong, and Ji-hyeong Kim, who all have worked tirelessly from the inception of 《Diversitas》, as well as Ae-gyeong Noh, who worked with us for publication planning, this book wouldn't exist today. I would also like to express my appreciation for the President of Korea University, Jin-taek Chung, who has taken interest and supported all of our activities here at the Diversity Council since our founding, and the members of Korea University who appreciate and read, and even occasionally offer painfully real advice to, the monthly publications of 《Diversitas》.

I know that all members of the Korea University Diversity Council be excited for and ultimately welcome the publication of this book. I thank Yoon-jae Yang, Joo-yeon Lee, Eun-yeong Jang, Su-in Ji, and Ju-shil Lim, who have worked every day at our office every step of the way leading to this book's

publication.

Lastly, I would like to express my unbounded gratitude to the President of East-Asia Books, Seong-bong Han, who has gladly provided support for us since the moment we proposed 『Harmonious Diversity』, and to all employees of East-Asia Books who empathized with our intent and put together this book with thoughtful quality.

October 2021

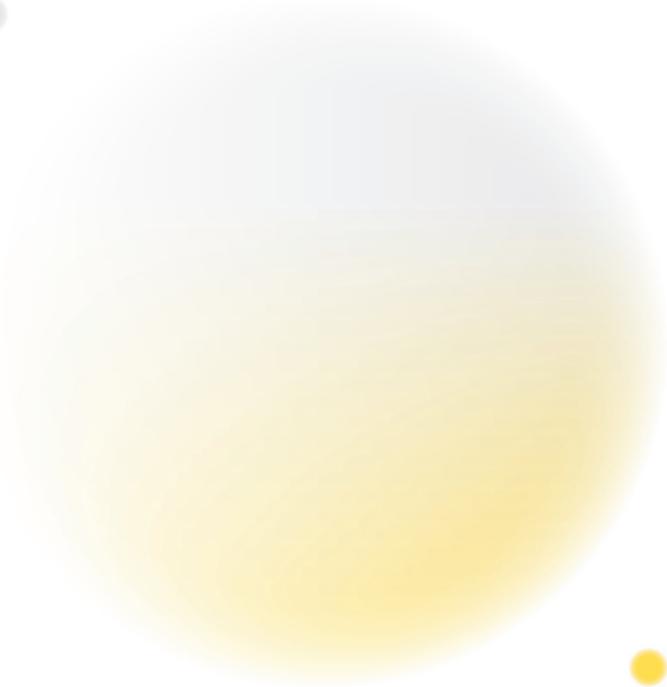
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Prologue

A World Where We Can Live as We Are

Ji-yeong Min Radio PD





I believe that a new experience beyond the routines of daily life broadens one's perspectives of others. The experience of writing this piece is a perfect example of this; despite it being only ten pages in length, I have thoroughly experienced the pain of writing and developed an even greater respect for writers. This experience also instilled me with a newfound admiration toward the writers on my radio program team that bring me new manuscripts on a daily basis. Also, I was able to truly empathize with some of the difficulties that all professional writers struggle with, such as the lack of the concept "Time to go home since today's work is all finished!" characteristic of a typical office job, along with the uncertainty about the quality of your work.

Once you have directly experienced or witnessed them yourself, the stories of people outside your field feel so much relatable and vivid. You also come to better understand why they voice those specific concerns and why they make such demands. Now, let us assume that everyone in our society has

gone through this series of processes, experiencing something different every day. Connections over shared experiences would grow, which in return would increase the society's overall understanding and empathy for others. In other words, a new experience for an individual not only enriches one's life, but also inspires solidarity and support within a whole community.

And such thought leads to my idea of "So let's engage in a bunch of useless experiences that are irrelevant to our livelihood for a more tolerant society!" We need to do more seemingly useless things in order to be freed from our rigid perspectives. The impact and importance of such outlook are even more significant in the early stages of life when our lifetime habits and values are established. Unfortunately, we are not filling this precious phase of our lives with diverse experiences. Why?

Is There a Right Time for Experience?

The linguistic habits of a Korean person on the concept of age are very interesting. For example, a 25-year-old person is, in general, considered young and full of life. But if you look at what people post on their social media pages on their 25th birthdays, they mostly read something along the lines of “Half way to 50” and, “I need to get a job and start acting my age.” Here is a different example: a few weeks ago, my boss, who is in his 40’s, did not like his new haircut and said he had to style his hair with hair mousse as he was embarrassed, adding, “I am too old for mousse but here I am.” I do not think much of older people putting mousse on their hair but I guess it is not okay in Korea. In a nutshell, there are certain things you have to complete to act your age (e.g. employment) and there are certain things you cannot do (e.g. putting on mousse) to act your age. Such things pressure you to stay on the so-called “designated course”, even from a young age.

I went to college immediately after graduating high school. In college, people like me were referred to as

a 'one-timer'. Students who enrolled in college after studying an extra year for the college entrance exam were referred to as 'two-timers', and students who enrolled after studying two extra years were referred to as 'three-timers'. Although rarely, there were 'four-timers' and 'five-timers' as well. Every time you fail to enroll in college, your label changes. This puts you under immense pressure, that you must succeed this time at all cost. This pressure pushes away all other things that do not pertain to your goal out of your list of priorities. And many things irrelevant to passing the college entrance exam are postponed to the future, to when you have successfully enrolled in college.

So what are these irrelevant things that are pushed back? Let us think back on what our teachers and parents told us during our high school years: "You can date all you want once you are in college. You can also dress however you like. And you can do good things for the society then as well. Right now, you don't have the time to care for such things." A student who strictly follows such advice puts a hold on not only relationships, but postpones all social activities including hobbies, work, and political activities to a

future after college admission. They also postpone their opportunity to meet strangers and adapt to unfamiliar environments, as well as opportunities to think about themselves and the society.

Despite it all, you eventually become a college student and all things become available to you. But does this mean that you can now live in a make-believe world where you can do whatever you want?

The answer is no and there are two reasons why: first, you would not know what to do. As the saying goes, “none but a wise man can employ leisure well”; someone who has never used their time as they please would be overwhelmed by the sudden abundance of free time given to them. Consequently, these students in their early 20’s would experience a mental state similar to that of the older adults that suffer from depression after retirement. Contrary to what were promised, getting into college and becoming a young adult with a newfound freedom, ultimately, is rarely the direct solution to the issues of self-discovery and finding one’s relation to the society/world.

Second, you are faced with the next challenge: getting a job. When the honeymoon phase of the college

transition wears off, students soon find themselves in the job hunt. The conditions for successful employment do not deviate much from the conditions of successful college enrollment. The idea is to qualify for a 'good place', and 'as quickly as possible'. Some institutions such as public enterprises conduct blind recruitment that do not specify age requirements, but the concept of younger age being an advantage is a well-established belief among younger job seekers: in a survey of 235 college students and recent graduates, 87.7% answered yes to the question "Do you think a younger age is more advantageous in the job market if all other factors are equal among applicants?"

Just like college admissions, it is important to complete this task as quickly as possible, thus any time allotted to things that do not contribute to successful employment are considered useless. Let us imagine a case where a student preparing for law school decides to take a six-month leave of absence from school, to do things that are completely unrelated such as studying computer graphics, astronomy, or Russian, or even applying for a working holiday in New Zealand. Would people say, "That's a great idea!

You can experience emotions you haven't felt before, face challenges you haven't encountered before, and meet new people. This experience will prepare you well for interactions with your future clients as well, so go ahead and do it!"? Perhaps we are more familiar with something along the lines of "You can do that as a hobby once you get into law school. Do you really want to waste time like that and end up being a year behind your friends? You know that every year counts." The power of 'for now' is highly effective in erasing any subsidiary things that are irrelevant to the urgent task at hand. And considering the fact that experiences are crucial in helping you truly understand and empathize with others, personal experience is not the only thing that is eradicated by the 'for now' mentality.

Do you not wish to escape this cycle of age? Do you really want to live in a world where you have to go to college in early 20's, get a job in late 20's, and build a stable life in the 30's, only to not be considered a loser? Or, would you rather live in a world where you are free from the anxiety of a pending deadline, and can try things you wish to and capable of doing, with

respect and understanding of other people and other walks of life? My suggestion to you is this: every time you get anxious about your age and current place in life, tell yourself, “What’s wrong with my (and your) age?”

Why Different Thoughts Are Not Respected

Until I became a full-time office worker, I had a rosy idea of meetings. I imagined them as a place where you can freely express your opinions, persuade the others with conviction, and make decisions on the given matter through negotiation and consensus. In reality, the opposite was true. I always had to read the room and be cautious on what I would say, no one had the possibility or willpower to persuade the others, and most of the matters were decided by those in higher positions. After realizing that meetings are just a suffocating experience where honesty is suppressed, meetings became something that should end as soon as possible for the best. Conversations outside of the conference rooms were not much different either. Words continued to pile up within,

and those who have grown used to the life of ‘Many things to say but won’t say’ suffered from verbal constipation. I too have suffered the same, and at first, I blamed my introverted personality. However, after realizing that I am not the only one experiencing such problem, I began to think about this issue from a wider perspective. The following are conversations that I have directly engaged in or heard from friends:

Do Nothing and You Will Be Just Fine

“Please don’t mind me, I would like this meeting to be a place where everyone feels free to share their opinions.”

“I think making good content is the best way to promote our company…”

“I think your opinion is impractical and it may be because you are still too young, Assistant Manager Kim. It’s good to be ambitious, but as someone working in a company, you should be more realistic.”

“…”

There are always certain people you wish to give a ‘good impression’ to. To do so, you begin by probing

into what that person likes and dislikes. When the opportunity to engage in conversations with them arises, you carefully choose your words based on the information you have gathered. You filter your speech to avoid saying things that would get on their nerves, and throw in things that they would be interested in, to appeal to them in order to gain favor. Similarly, there are people who you 'have to' gain favor with. These people are the ones that have power over your professional letters of recommendation, performance bonus, work performance appraisal, and job assignment. Unlike the former case, you are bound to interact with these people even if you do not want to. The same rule applies, however, in that you have to be cautious with what you say. Whether what you say is correct or not is irrelevant. What is important is that you appease that person.

In organizations with strict hierarchies, exchanging opinions and considering multiple perspectives become even more difficult to pursue. There are multitudes of depth to such problem, but a couple factors stand out. First, the authority over an important decision always lies with the person in the highest

position. Regardless of the conversations exchanged in meetings and the quality and quantity of words spoken, the ultimate decision is made high up. And once you have gone through several cycles of this unfruitful process, you no longer wish to waste your energy by speaking up. Quickly determining what the correct answer should be and forming a consensus to end discussions quickly is the best way to save time and mental energy, especially if the results are always the same anyway.

Second, if you take a stance that goes against those in charge, your working relationship with them may suffer and result in real-life disadvantages. As stated earlier, in a vertical organizational structure, all authority over important matters including work performance appraisal, bonus, and personnel affairs lie with the upper management. Speaking freely simply because you were told to and getting on the bad side of a superior can not only wear you out emotionally, but also make your work life difficult. Your work performance appraisal suffers, performance bonus decreases, and you may end up with unwanted tasks. But there is no inverse relationship to such dynamic.

You cannot have any impact on the performance bonus of your superior, nor does your opinion matter when determining the role of your superior. As long as the authority over evaluation and compensation rests completely with the higher-ups, ‘reading the room’ and ‘flattering’ are the necessary evil for the subordinates to survive. Subordinates either opt to say the words that their superiors wish to hear to actively secure their positions or refrain from speaking, to ‘do nothing and be in the middle of the pack’. Some of my friends became less talkative after joining a company; I do not need to ask them why.

Don't Stand Out

“Team A seems too divided, like everyone eating lunch separately and all. From now on, have lunch together as a team. I will join you from time to time.”

“Yes, sir. As you wish!”

“Of course!”

“Yes, sir!”

“Understood···!(I would rather just eat quickly and have some alone time···)”

As of late, a social climate of increased respect for individual perspectives is beginning to form. However, as soon as you join an organization, you cannot help but wonder ‘Is this place completely detached from the world outside?’, as your individuality gets crushed. If you do not show up to a company dinner, you become a person who ruins the atmosphere by failing to fit in, or a selfish person who only prioritizes your personal time. Even when you opt out from group activities that are completely irrelevant to work, such as hiking and soccer, you become a person who does not care for the company, regardless of how hard you work at the company. A person who says “No” while everyone else says “Yes” is then labeled an ‘attention seeker’. The more vertical an organization’s hierarchy is, the more sway the upper management has over the atmosphere of the entire organization, and since it is likely that a person who has worked longer at the company is the superior, the pressure to sacrifice for the community and disregard for individualities are still prevalent within many organizations. Maintaining such culture would result in continuation of the ‘culture of collectiveness’ in the future.

“It makes no sense to create a table of overtime hours and displaying it on the bulletin like it’s high school.”

“My thoughts exactly. But the department heads are working overtime every day to please the president, so what choice do we have? We just have to do it unless we want to get on their bad side.”

“So you are just going to keep working like that? Tell him that this is wrong. Or maybe report it to someone.”

“Our industry is pretty small, so you’re pretty much doomed once you get this reputation as a complainer. This is all I know how to do… One bad rumor and I can kiss goodbye to changing jobs.”

People are more sensitive to other people’s perception of them and more aware of their speech and behavior in a smaller society. The statement “Don’t you know how small this field is?” alone is enough to make someone submissive, because this is essentially a threat saying, “If you continue to stand out like a sore thumb, I will spread rumors that you are a rebel.” In a small society, the phrase ‘bad news travels fast’ becomes a reality as reputation and rumors about an

individual spread quickly. The tension and weariness from the fact that your speech and behavior are constantly monitored and shared makes it difficult for the members of the society to comfortably express themselves and live their lives in their own unique ways. Condemning an individualistic person that refuses to conform to an industry's customs do not only rob such person of their present position but also their future in the industry. People may suffer or witness unfair treatment, but for similar reasons they cannot bring themselves to report the matter. The prison of reputation is loud with rumors but criticism of such structure is silenced as the structure becomes sturdier.

The suffocation of an individual in this panopticon cannot be stopped without the effort of everyone in the society. Let us stop judging another person by spreading words like "This person did this" and "That's what they said". The information may not only be inaccurate, but we should also remember the fact that we ourselves are subject to such scrutiny as well.

Good and Honest Student Syndrome

“That’s your opinion. How can I give out fair grades if every student writes their own thought?”

“But it isn’t wrong. A person could learn this and think this way as a result.”

“But you should still write as you have been taught. How can I grade my students if everyone writes their own ideas and claim theirs to be the right one?”

Now, think back to the past. Were we taught to express ourselves and our ideas in school? No. Why? Because there was no need to. You can get good grades and go to good college without your own unique thoughts. In fact, the more you weigh in with your own thoughts, the more disadvantageous it becomes for you to excel in tests with definite answers. The tests that require memorization rather than critical thinking is just a repetitive cycle of “Why is this right?” and “I don’t get it but let’s just memorize it.”

You can only be a ‘good and honest student who respect the elders’ if you never question or refuse the morally imposed obligations. Making a retort to what

an older person says as a younger person can be seen as a rude behavior. Having your own thoughts or expressing them is unnecessary in such case; in fact, it is better not to. Ironically, children who grow up in such fashion are thrown into colleges and society and face questions or demands such as “Freely discuss this topic”, or, “Assistant Manager Min, what do you think?”

So where do I start if I want to even express my opinion? What if my opinion is different from that of other people? How do I assert my opinion while also respecting and being considerate of others? How is my opinion even formed anyway? Unfortunately, many of us simply do not have enough experience to answer such questions, and we can only try our best to find the answers as we go. However, I wish for a better future; I hope that in the near future schools become a place where students can engage in lively conversations and discussions, and develop diverse ways of thinking.

Space to Accept Things as They Are

Lastly, I would like to emphasize that in order to build a society where diversity is respected, and a world where everyone can live as they are, we need to develop the wisdom to differentiate where our interests are needed and are not.

During my junior year in college, I went abroad as an exchange student. I told myself, “Going anywhere would be a meaningful experience.” As someone who plans a travel thinking you are half-way done with the preparation as long as you have picked your destination, I chose a few schools based on their proximity to the airports in cities I wanted to try living in. Among them, I was admitted to Agnes Scott College. I was not even aware of the fact that it was a women’s college until I was admitted, let alone knew that women’s colleges do exist in the US. Despite the careless way in which I chose the school, while submitting my personal information through the college website, I got the impression that I have come to a special place. The school asked for

my 'gender pronouns'. Besides the choice of male or female for my sex, I had never been asked to choose gender pronouns. I thought to myself, this school is a women's college so why are they asking me to pick a gender? I have heard of male exchange students at women's colleges in Korea sometimes so maybe this is something similar? I had many questions in my mind as I clicked the 'view' button.

Under the gender pronouns, there were six more in addition to 'she' and 'he'. I had never seen any of these pronouns aside from 'they'. I was only able to learn what each of these pronouns meant after searching them on the internet. I was surprised by the fact that there are so many various gender concepts in the world and even more surprised that the school was asking students for their gender identities rather than their biological sex.

Personal information page to be filled in upon admission to Agnes Scott College. There are 8 gender pronouns that you can choose from.

Gender inquiry was not just limited to the student registration process. Before the start of the semester, I

participated in an orientation on campus life. Just like in any other orientations, students were assigned in groups and asked to introduce themselves, and some students mentioned their preferred gender pronouns. I had done countless numbers of self-introductions, but I had never introduced my preferred gender before. Did they want me to introduce the fact that I am a woman? I never had to make such an introduction before. It was confusing but I observed how others were introducing themselves, then I introduced myself with, "I'm Ji-yeong from Korea. My preferred gender pronoun is 'she'."

After a few weeks, I came to understand why gender pronouns were introduced during the orientation. I realized that it is possible for someone who 'appears' to be a female to identify themselves as a different gender, and learned firsthand the difference between 'sex' and 'gender', a concept I had only read about in books prior to meeting the other students at the orientation. Those who were born as female but thought of themselves as male introduced themselves as 'he'. Those who had a gender-neutral identity,

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Required Information

Gender Pronouns**	Choose One: <input checked="" type="checkbox"/> 1 she/her/hers <input type="checkbox"/> 2 he/him/his <input type="checkbox"/> 3 they/them/theirs <input type="checkbox"/> 4 ze/hir/hirs <input type="checkbox"/> 5 ze/zir/zirs <input type="checkbox"/> 6 xe/xem/xers <input type="checkbox"/> 7 ey/em/eirs <input type="checkbox"/> 8 not applicable
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Additional Information

City and Country of Birth	Seoul
Country of Citizenship	Republic of Korea

▲ Personal information page to be filled in upon admission to Agnes Scott College. There are 8 gender pronouns that you can choose from.

neither man or woman, introduced themselves as 'they'. It was just as important to remember their preferred gender pronouns, as it was to remember their names. Just like calling a new friend you have made by their name instead of saying 'you' or 'hey' when you meet them the second time, it was crucial to remember their gender pronouns and refer to them

accordingly to be respectful. For example, for A who identified as 'they', if I were to ask, "Is A coming for lunch today?", I could not say, "Is 'she' coming for lunch today?" Instead, I would ask, "Are 'they' coming for lunch today?" At first, I found it strange that even a single person could be referred to as 'they', since I was taught that 'they' was a plural pronoun. However, after spending some time in a place where such concept came naturally, referring to a friend as 'they' became as intuitive as referring to them by their name.

Prior to such experience, I was unfamiliar with the idea of unrestricted expressions of self-identity and unprejudiced acceptance of them. It was fascinating, and it was beautiful. "I'm this kind of person" was simply met with a response, "Oh, really? Great!", candidly expressed and readily accepted.

Such open attitude was not just limited to the topic of gender; "I'm a refugee from Myanmar.", "I was adopted with my sister when I was young and came to the US.", "My mom raised me by herself when I was young and now I'm living with my mom and her boyfriend.", "I have two moms.", "My boyfriend

doesn't go to college. He is working in construction right now." The students had no fear of opening up about themselves and their lives, and this was possible because they were unjudgementally listened to. People simply listened, and that was all. They did not suddenly treat a person more cautiously after listening to his or her story, try to give unsolicited advice, or hastily remark that growing up in such environment must have been difficult. They just said, "Oh, really? Okay", accepting the facts as they were.

This seems like a small difference but it creates significant results. In a place where people just listen and accept me as I am, I can freely open up about myself, my background, experiences I have gone through, and my life. I do not have to fear or be anxious with thoughts like 'If I tell people that I was bullied as a kid, would people think there must have been a good reason why I was bullied?' or 'If I tell them that my parents are divorced, would they think that I was raised in a deficient environment?'. Diverse ways of life do not have to be hidden from or be crushed by the scrutiny of presumptions and

prejudices. It is reassuring, because there is no need to unnecessarily hide or defend yourself.

I thought about what my life and that of others around me have been like. When I was in fourth grade, my father quit his job and decided to take up farming full-time. Until things settled down, my family's finances suffered greatly. I wanted to hide my poverty. I was afraid of walking in the streets, of my father waving at me while driving by in his old truck with embarrassingly loud, old engine. It took a very long time for me to become proud of my father's occupation, of him working in the heat during summer and in the cold during winter. It felt like a nightmare when the school asked me to submit details on my parents' academic backgrounds for an annual student survey. One year, rather than collecting the information in paper format, my teacher asked the class to raise hands for applicable answers to the survey questions. I wanted to pretend and lie.

When I was in elementary school, there was a rumor that one of the students was adopted, that the kid was going through rough patch and it must be because

they found out they were adopted. In middle school, one of my friends lost her father. Her mother became even more strict with her, saying that she cannot seem like a child who grew up without a father, and my friend strove to become a more polite person to avoid being appeared so. When I was 21, a friend got pregnant before getting married, and she closed her social media accounts and isolated herself. Recently, a friend interested in animal rights and environmental issues became a vegan. She did not tell this to anyone at work besides her close colleagues, however, since she did not want to seem like a picky person that does not fit in.

If only all of these were met with a simple “Oh, really? Okay.” Poverty is not a sin, nor is it to being adopted. Choosing not to eat meat, and subsequently not eating meat at a company dinner is not a sin. And it is definitely not a sin to be born as a woman but accepting yourself as a man or falling in love with another woman. Unfortunately, in a society where deviating away from what the ‘majority’ consider to be ‘normal’ is shunned, things are easily marked as

sins. You have to hide from the prying eyes, and you have to defend yourself with valid excuses if you are exposed: “I’m poor but I’m not lazy. I don’t chase after free things like a loser.”, “I was adopted but I’m not a deprived person with low self-esteem.”, “I had children early but I’m not a person who just lives life without any plans.”, “I’m a vegan but I’m not picky or sensitive.”

Why does it have to be like this? Why does everyone obligate each other to defend themselves? Why do we purposefully do things that some of the other parts of the world do not?

Forget about how others live their lives. There are other things we should be discussing and arguing about with passion and soul. In order for diverse forms of life to be respected, we need wisdom to differentiate where our interests are needed and where they are not. We need to be able to know when to say “That looks like it needs my attention”, or, “So what? What does that have to do with me?” However, in reality, collective interests are wasted in the forms of prejudices and stereotypes, and fail to reach where

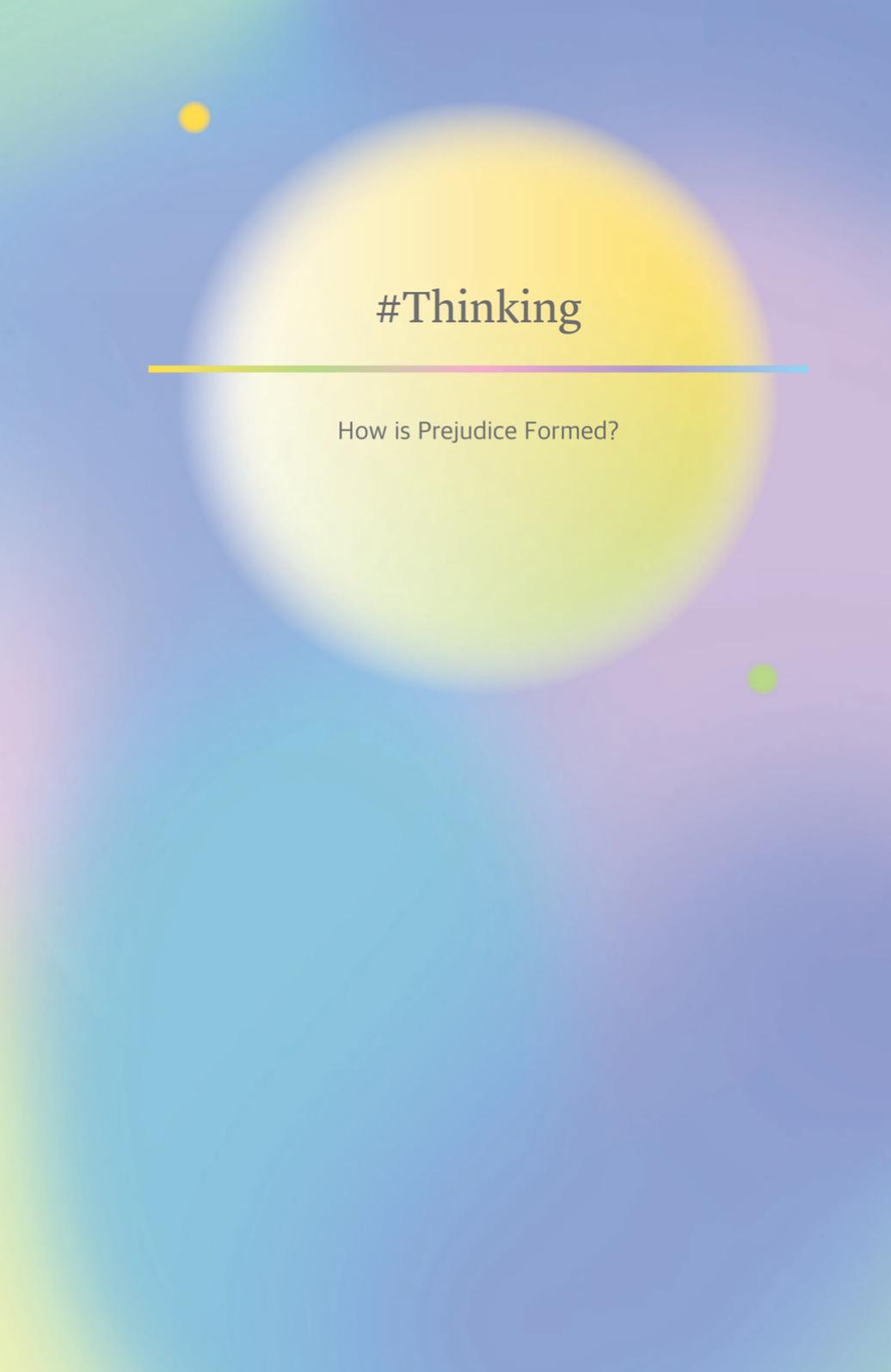
they can make positive impacts. While many of us passionately engage in overly sympathizing, judging, and criticizing individuals that deviate from the so-called standards of normalcy, we as a society do not exhibit much interest in establishing ways to respect and accept diversity.

There is someone who sees herself as a third gender, neither male or female. It is entirely this person's life, their choice, and harms no one, including my life. There is no need for me to preside over her decision. Nevertheless, this person not being able to find an appropriate restroom for them on campus is an issue that does require my attention. This is because this is an issue that is related to a more general question, "What kinds of facilities do you want your school to provide?", and consequently, "How do you wish for your tuition to be spent?" Whether the cafeteria is providing adequate vegetarian options, or whether the campus is wheelchair accessible, all fall under the same context and require my attention. I myself not needing a gender-neutral restroom, not being a vegetarian, and not having a disability do not matter.

What matters is how I want the school to treat those who clearly exist within our community. Do I want my school to be a welcoming place for everyone? These are the questions that everyone should ask themselves and are very much relevant to us. Even if I am among the ‘majority’ today, I may someday find myself among the ‘minority’.

Actively questioning whether everyone’s rights are well respected within a societal structure requires much more time and effort than evaluating and criticizing others with “Someone did this, someone did that.” Bringing about a macroscopic change requires a long time and many people, and it is likely to meet significant oppositions if it requires financial resources. To carry out such long and arduous task, we need the physical and mental capacity to persevere, something difficult to achieve in a society where everyone is busy enough taking care of themselves. It can feel too difficult to take on the concerns and difficulties of others, and it becomes easy to use my fatigue as an excuse to turn away from their discomfort and pain. It is a well-known fact that Koreans work and

study excessively compared to the rest of the world. There are several reasons why such overheated and overworked society needs to be put on pause. To the list of reasons, I would like to add, 'for an opportunity to think about what we want our society to be to its diverse members, and to pursue such ideals'.



#Thinking

How is Prejudice Formed?

Stereotype Only Gets Worse with Accuracy

Tae-kyun Hur Professor (Korea University)





In Chicago in mid-October of 1996, our first child was born; our lovely eldest son, Seo-yeong. We were so happy and moved. Everything was fascinating and new. However, there was no one to help us in this foreign country, and to a young couple trying to raise their first child without anyone to guide them, every experience we faced raising Seo-yeong was chaotic and confusing. And so we raised him based on knowledge we acquired from books, or tips we heard from here and there. Looking back on many mistakes we made as underprepared parents, we feel sorry for him.

It was a cold winter day in Chicago, a few months after Seo-yeong was born. While feeding Seo-yeong baby formula, my wife excitedly called me over. She happily told me that Seo-yeong was finally growing his first tooth, but she also sounded a bit worried. I asked her why as I looked into his mouth, and she said that his first tooth seems to be an upper eyetooth, not a front tooth on the lower jaw. As we thought that babies usually have their first teeth grow out at the center of the lower jaw, we stared at something white that was visible in our

baby's upper eyetooth area for some time, baffled.

A couple days later, we went to a hospital for a regular checkup for Seo-yeong and we told his doctor, a very experienced pediatrician in his 50's, that Seo-yeong was growing his first tooth. To the smiling doctor, I carefully added, "But I think it's his eyetooth that is growing first." A little puzzled, the doctor looked into the baby's mouth, came back smiling and told us that it is the eye tooth that was growing out. My wife and I, with worried looks on our faces, quickly asked the doctor if it is normal for an eyetooth to come out first, and whether our baby was healthy and fine. The American doctor promptly replied, "He's fine. There is nothing to worry about."

Relieved, I smiled brightly and asked the doctor, "So there are babies like this from time to time?", to which the doctor replied nonchalantly, "No. This is the first time I'm seeing a case like this." Flabbergasted by his response, I angrily asked why he would tell us everything is normal if even an experienced doctor like himself has never seen a baby like this before. To my question, he asked, "Why wouldn't it be the eyetooth that grows first?" I was lost for words for a while. I could not think of any reason why an eyetooth should not grow first.¹

There are many things we consider obvious. We have set expectations for things like the order baby teeth come in, the natural phases of things a child learns to be able to do and should do, and even all the different milestones they would achieve between the birth and death. Even much before the baby is conceived, parents have certain beliefs of ‘we must do ____’ and ‘____ is the only right choice’ on the entire process of raising and caring for a child. But if anyone questions such beliefs, how many of these beliefs would we be able to find logical reasons for? Just like for the belief that a baby’s first tooth should be a front bottom tooth.

A Galaxy Should Look Like This

Many of our beliefs are simply based on the fact that they stood true in the past and are still relevant today, and most importantly the fact that most people believe them to be so. People incorrectly interpret ‘is’ as ‘ought’, and believe that such is the correct and natural way things should be. In philosophy and

psychology, such belief is referred to as 'naturalistic fallacy.'² Psychological studies have revealed that even when people are given a simple piece of information just as it 'is', they assign values such as 'good', 'correct', and 'ideal' to such information. For example, in an experiment, people were given information on galaxies, where they were told that a galaxy is a group of stars, dust, and gas held together by gravity, and that its shape may vary depending on the location of its center of gravity and the influences of its surrounding galaxies. Then, they were shown the image of the shape of a galaxy named 'NCG 4414', of which its name and shape were fake, generated by a computer. Next, they were given different sentences to read, according to the different conditions of the experiment. They were told that approximately 40% (60% or 80% depending on the conditions of the experiment) of all galaxies have the shape and composition of the NCG 4414 galaxy. Afterward, the participants were told to evaluate the aesthetics of the galaxy, how impressive the galaxy looks, how pleasing it is to look at this galaxy, and whether all galaxies should have such appearance. The results showed naturalistic fallacy.;

when it came to aesthetics, people responded more positively when they were told that 80% of all galaxies resemble the example galaxy, followed by 60% and 40%. In other words, when people were told that there were more galaxies like NCG 4414, that such appearance is the norm, people were more likely to believe that this certain shape of the galaxy looked better and that other galaxies should also look like NCG 4414.³

In general, recent social cognitive psychology studies suggest that people have many delusions and that their main cause is insufficient use of probabilistic information. However, despite there being a valid basis for such claim and numerous studies supporting the theory, people in reality are born probability and statistics experts. Although imperfectly, we store our experiences in our memories and calculate general statistics on their frequencies. We naturally notice what kinds of things happen frequently around us and notice the chances of such things happening under specific conditions. Even if no one tells us, we predict whether it is going to rain or not by looking at the shape and color of the clouds in the sky. Even

without accurate statistics, we naturally understand whether we have big or small faces, dark or light skin, and what kind of personality we have. After getting married, we learn to observe the facial expressions of our spouse to predict and infer what their current psychological state is or the underlying cause, as well as what will happen and what must be done. It is not perfect but because we rely on our experiences, we can form the knowledge needed to survive, on what is more dangerous, what must be avoided, and what we should expect. Such predictability puts a person more at ease, and this comfort brings about various positive psychological states. On the other hand, incidents that do not align with one's beliefs and expectations generally induce nervousness, anxiety, and other negative psychological states. Thus, humans are entities that are bound to prefer what have stayed consistent from the past to present.

Why is Diversity Lost?

The basis of naturalistic fallacy, the information on what the world 'is', do not just fall from the sky. They are formed through our direct and indirect experiences. Beliefs that we form through experiences generally undergo generalization, distinction, and categorization to be summarized. For example, when a child sees a dog for the first time, the child asks his parents, "What is that?" Then the parents tell the child, "It's a dog." When the child sees another dog, the child asks again, "Then what's that?" The parents reply, "That's also a dog." And through repetition of such process, the child obtains information on dogs.

Of course, when the child sees a cat for the first time, he may ask, "Is that also a dog?" Then the parents would tell him, "No, that's a cat." The child would be confused but as this process repeats, he will learn to generalize animals that look similar as dogs while also learning to differentiate them from cats.

The knowledge on the category of dogs is formed through such process. But when the child encounters a dog that looks like a cat or a cat that looks like a

dog, the child may still become confused. As we now live in a world that refers to a cat with friendliness of a dog as a 'dogcat', the likelihood of the child getting confused has probably increased as well.

The process of how we obtain information on personalities, attitudes, and thoughts of other people is similar to the aforementioned process.⁴ We observe behaviors of many people and once we discover consistency in these behaviors, we assign an applicable psychological concept to the observed person to explain their behavior. If someone exhibits a consistent specific behavior regardless of situations and/or subjects (although humans cannot be consistent 100% of the time), we explain that behavior as the observed person's personality. For a person who is always ill-tempered in most situations toward most people, we say that their "personality is ferocious." On the other hand, if a person is irritated only toward you and not the others, or under certain situations, then it is not a personality. It is generally appropriate to describe this consistency of behavior toward a specific subject as 'attitude'. That person simply just dislikes you. People who cannot accept the idea of someone else hating them will be-

lieve that the person has a poor personality. And that is understandable, it is not as if personalities and attitudes are visible to the eye. Through such process, negative beliefs on the character of a person who we have a poor relationship with are generally formed and maintained.

And this is why beliefs based on experiences are not perfect and can never be perfect. They are stereotypical by nature and come with uncertainty. No matter how perfect the information from your experience is, information is bound to be impaired in the process of generalization and categorization.

Stereotype in daily life and social psychology is defined as a belief toward a category of people, and behaviors based on stereotype signify the tendency of excessive generalization of members of the target group. Therefore, studies on stereotype have mostly focused on individualistic information of an individual, and their disparity from the categorical information of the group the said individual belong to. Nevertheless, most of our beliefs and knowledge have stereotypical properties to some degree.

When composing the category of 'dog' based on

the dogs you have encountered so far, not all of the detailed characteristics of the dogs are included. Since there is no information on new dogs you will encounter in the future, and there is no scenario where you will encounter every dog in existence, the information on these unknown dogs are omitted as well. Therefore, regardless of our age or what life experiences we have had, the category of 'dog' is a stereotypical knowledge, with significant amounts of details missing. We may thus still be surprised to see a new dog. When we encounter a dog that is the size of a horse (I have personally encountered a dog that is the size of a pony in the US some years ago), or when we hear that an animal that looks like an unknown species is actually a dog, there is possibility of us being surprised and thinking, 'this is a dog...?'

Our knowledge on the personalities of others can also be stereotypical beliefs. There are many diverse aspects to the specific and form, the condition and requirement for individualistic behaviors, but we look for consistency and use it to interpret, evaluate, and regulate such behaviors. And based on such information, we predict, expect, and respond to

subsequent behaviors, and become surprised when what we observe differs from our prediction.

In summary, with the exception of fragmentary events and behaviors, as well as episodic memory on subjects that were so new as to surpass recognition, most of our knowledge and beliefs naturally come with some degree of information loss. Ultimately, beliefs and knowledge we obtain through our experiences and learning have a trade-off, of losing something in order to gain something. It is just like when children learn the phonics (phonemics) of their language during the process of language development, but at the same time lose the ability to recognize sounds that do not exist in their language (ability gained at birth). It has been reported that such phenomenon takes place during the process of assimilating all recognizable sounds into the phonics of the mother language.⁵ In other words, we gain and depend on categorical knowledge at the expense of diverse pieces of information embedded in them. The question is, then, what do we gain by depending on such stereotypical categorical information?

Is Stereotype Innocent?

On the fourth floor of the old law school building where the Department of Psychology of Korea University is located, there are no men's restrooms but only women's restrooms. The men's restrooms are only available on the first and second floors. The fourth floor mostly consists of offices and labs for the Department of Psychology, and it is said that there was only one space available for a restroom on the floor. Due to the nature of psychological experiments, the experiments conducted on the fourth floor often carry on into the evening, so the restroom on the fourth floor was converted to a women's a long time ago for the safety and security of female students and professors. As a result, male guests who visit the building are often bewildered when they try to find a restroom on the fourth floor, and we just guide them to the restroom on the second floor. We do not bother to ask which restroom the guest prefers to go to. Why? Because it is only natural that men go to the men's restroom and women go to the women's restroom. It is a stereotype at its finest.

However, such stereotype was shattered during my first trip to Europe. At the highway rest stops I visited, the restrooms were not designated as men's or women's. Although public restrooms without clear gender designations can also be found in some of the smaller, older buildings in Korea, there is almost no instance of purposely putting both men's and women's restrooms in the same space. But the rest stop restrooms I saw in Europe were of a large scale, with modern facilities. There were enough spaces to make two separate gendered restrooms but the entire restroom consisted of ungendered toilets. I still remember vividly how embarrassed I was to wash hands exchanging glances through the mirror with a woman who came out of a different stall. When exactly did I develop this strong belief on gender differentiations of restrooms? It does not seem like anyone explicitly told me to believe so.

When I was young, I probably just held my parents' hands and went to whatever restroom they led me to. But at some point, I must have felt uncomfortable and resisted against my mother dragging me to women's restrooms. Ever since then, there has been no

instance where I ran into a woman in the restrooms I went to. If it had happened, I would have thought one of us was a pervert. My experience during the trip to Europe shattered my stereotype on restrooms. I began to think more about restrooms (does not mean I go to restrooms more often), and I became more conscious and cautious when I look for restrooms in new places. This paradoxically shows the functional nature of stereotype. Stereotype is the most efficient energy-saving device that saves our cognitive resources.

We humans have to countlessly process information and make decisions as we live. And they have to be done simultaneously. For example, at a lunch with their advisor, a graduate student has to think about what to order and pay attention to what the professor is saying, as well as read the air, all the while coming up with a valid excuse to avoid being held up by the professor after lunch, to be able to enjoy a coffee break. Among these decisions, less important matters should be easily decided in order to focus on relatively more important matters. And such information processing is an activity that consumes not only cognitive energy, but also physical energy.

Therefore, various stereotypes concerning the professor, food, and excuses are essential for a quick and simple information processing.

A stereotype generally consists of schematically organized information pertaining to a given category, so when a clue related to the category is encountered, all the relevant information are automatically recalled within our heads. This process mostly has characteristics of automatic information processing. Such information processing is unconscious, unintentional, and uncontrollable. As a result, such mental process is very efficient because it uses the minimum cognitive resources.⁶ Social psychologist G. V. Bodenhausen and his colleagues have experimentally demonstrated how such stereotypes perform within the dual-task paradigm. Study participants were asked to view information on characteristics (e.g. caring, creative, dishonest, etc.) of a specific person displayed on a computer screen, while also given various information about Indonesia. Half of the participants were given stereotypical information (e.g. current occupation) about the said person along with the information on their characteristics, while the other half were only given the information on char-

acteristics. The study results showed that participants given stereotypical information were able to remember more about the person's characteristics, and were more accurate in solving multiple choice questions on Indonesia.

Such results signify that stereotyping assists not only in processing information about the observed subject, but also highly efficiently utilizes cognitive resources in a way that leaves rooms for other cognitive tasks to be accomplished as well. Such phenomenon was observed in other studies with different types of task, and even in a study where the participants were prevented from recognizing the given stereotypical information by being exposed to it in the form of subliminal effect with a 15-millisecond-exposure on the computer screen.⁷

Streotype of Streotype

Despite the cognitive efficiency of stereotypes, our general perception of stereotyping is negative. We do not think it is ideal for an individual to be judged

or evaluated based on a stereotype of the category in which the said individual falls under. We say that a judgment or evaluation of an individual should be based on their unique qualities. And the importance of such ideal is being emphasized to the point where our society continuously establish laws and systems that regulate evaluation or judgment based on stereotypes. Ironically, the reality in which such efforts are required shows that categorical information such as stereotypes are that much appealing. The reason why the saying “Don’t judge the book by its cover” exists is because it is that much automatic and easy for people to see what is on the outside. If it the opposite was true, there would have been the saying, “Look at the outside as well as the inside.”

Stereotypes are enticing to both the conscious and unconscious mind. In general, we believe that stereotypes omit detailed information and are prone to over-generalization, and judgment and evaluation based on stereotypes are not accurate. Also, it is known that when people lack motive or cognitive capacity for information processing, the influence of stereotypes grows as information processing involved

in stereotyping is automatic, and result in various delusions and errors. However, we cannot interpret information processing based on stereotypes to be derived from a purposeful intent to make wrong judgements or errors. This is because people rarely deliberately strive to make an incorrect judgment.

The stigma on stereotypical information processing and those who utilize such method of information processing is partially originated from the concept of 'cognitive miser' that was prevalent in social cognitive psychology in the 80's. In social cognitive psychology, the view of humans as information processors have changed continuously.⁸ The 'native scientist' perspective, which trended in the 70's, viewed humans as entities that prioritize accuracy in processing information, by rationally and logically analyzing the given information like a computer. Although such perspective is true to a certain extent, results from later studies showed that information processing by humans is by no means perfect and stirred up a large reaction. These gave birth to the 'cognitive miser' perspective, which argues that humans are entities that do not have much interest in

rationality or logic, but in minimizing the consumption of cognitive energy, therefore do not engage in information processing unless strictly necessary. And one of the concepts that could perfectly fit into such perspective was that of stereotype. As a matter of fact, people have shown the tendency to utilize stereotype more even when unique information on an individual were given, and depend on stereotypes even after though their uses were advised against. Such behavior has come to characterize humans as entities that dislike information processing and have no interest in accurate judgment or evaluation.

However, although humans are not perfect at processing information, they are not indifferent to being wrong or deliberately try to be wrong. Humans always try to accurately understand and judge the world (at least I feel that way). In fact, one of the most important motivations for humans' information processing is 'the need for accuracy or comprehension goals.'⁹ Making a judgement about another person, whether that be based on stereotypes or the given unique individualistic information, is information processing motivated by the desire to accurately understand the

target. Even stereotypes are not driven by the intent to purposefully engage in incorrect information processing. This is the reason why people always believe that they are trying to and are actually making the right decisions.

Humans can rather be flexible in choosing a strategy in processing information, thus it is more appropriate to deem that their information processing strategy depends on the importance of the given topic, motive for information processing, available cognitive resources, and relevance/appropriateness of the information. Of course, such selection process takes place in the domain of meta-cognition, through unconscious processes. Such approach is the 'motivated tactician' perspective.¹⁰ When a high level of confidence is required to make a decision, humans will try to use all available information, whether that be through stereotypes or individualistic information. On the other hand, when a decision is something that can be made easily and confidently, then the information processing strategy requiring the least effort will be preferred. In such instance, information processing will be concluded as long as the minimum

necessary condition is met. Therefore, when the confidence level for a decision is low, automated information processing based on stereotype is likely to have greater influence.

Stereotype and Diversity

The previous claims of how stereotypical attributes based on categorization are the essence of many knowledge and beliefs, or how loss of detailed information and diversity is inevitable in information processing, or how stereotypical information processing is efficient and functional, are not meant to justify or recommend information processing based on stereotypes. Rather, the necessity and appeal of stereotypical information processing reveal its danger. It is not to say that all categorical information such as stereotypes, despite having formed naturally through direct and/or indirect experiences, are baseless or wrong. Some studies have even reported that some of these stereotypes have a certain level of accuracy.¹¹ The point I would like to emphasize is

that the overgeneralization of anyone that falls under a category in stereotypical information processing is the problem, not that there are little to no one that stereotypes can be applicable to. There are many instances where stereotypical information processing results in an accurate decision or result and leads to reinforcement, and some stereotypes even turn out to be correct more often than not. Therefore, the claim “Stereotypes of a certain group are wrong” can be as baseless and controversial as the claim “Such stereotypes are correct.” What is interesting is that both of these claims are committing the same error of excessive generalizations and losing diversity. And this is sometimes the reason why social disputes regarding stereotypes develop into exhaustive conflicts.

Many social psychology studies on existing stereotypes have focused on how much stereotypes distort and bias our judgment and behavior. In fact, many conflicts related to stereotypes start from the incorrect judgment or evaluation against a person, which leads to the said person perceiving that as unfair. It is a very important topic, and many studies have confirmed that the schematic nature of stereotypes is

automatically activated to have significant impacts on judgments, evaluations, and behaviors.¹² The caveat is that most of these studies are more interested in uncovering the psychological mechanism of how stereotypes affect judgments and behaviors, rather than their negative impacts. Therefore, experiments are conducted in a format where participants' judgment processes are evaluated through sets of clearly defined normative answers and incorrect answers that are based on artificially generated information. Consequently, incorrect stereotypes or incorrect bias can be clearly identified in the lab. But in daily life, which judgment, evaluation, and behavior toward a specific subject are considered correct remains ambiguous and may not even exist. That is why it is difficult in reality to prove that a judgment or behavior is distorted due to stereotypes.¹³

As discussed earlier, no one actively tries to make a wrong judgment, and hardly anyone would continue on even after realizing their judgment and behavior are biased. All information processing (at least consciously) is an effort to accurately understand the world regardless of whether influenced by stereotypes or

not. No one easily acknowledges that their opinions and decisions formed out of their own convictions are biased. Because of this, limiting the issue of stereotypes as a matter of feasibility or justification for certain judgments would be not only academically invalid or realistically yield solutions.

It should therefore be clarified that the problem with stereotypical information processing is the excessive generalization against all individual members under the stereotyped group, rather than the validity of stereotypes. Thus the issue of stereotypes comes down to the issue of how diversity is considered. The role of outgroup homogeneity in stereotypical information processing has long clarified the negative impact of stereotypes on diversity cognition. In general, people tend to perceive less variability among the outgroup members than in the ingroup they belong to, and tend to perceive the outgroup members as being more similar or homogeneous.¹⁴ For example, we have difficulty distinguishing faces when we see people from other countries. We as Asians tend to believe that people living in Africa would look very similar to one another, and we are not too conscious of the fact

that there are diverse people living in Africa (regardless of knowing such fact or not). Outgroup homogeneity allows people to easily apply a stereotype to the members of the target group, because recognition of diversity nullifies a stereotype.

Stereotype itself is innocent. It is essential for information processing. This is even more so for stereotypes that are more feasible, realistically accurate, or highly applicable. The problem with such stereotypes is that it makes us fall deeper into the trap of naturalistic fallacy. The more feasible a belief is, the higher the confidence on the thought of 'must be' and/or 'ought to be' becomes, and such belief comes to exclude exceptions. Just like when it feels like all galaxies should look identical, because more galaxies appear to be similar. All exceptions deviating from such firm belief are ignored, rejected, and regarded negatively. Our thoughts and behaviors refusing diversity occur not because of incorrect stereotypes, but because we expect, demand, and enforce on everyone the stereotypes that are probabilistically not incorrect.

In contrast, diversified societies do not have to

worry about naturalistic fallacy as much. When diversity is acknowledged, stereotypical information processing is interfered. Thoughts like ‘Americans are… Japanese are… Professors are… Students are…’ do easily rise, but so does the thought ‘Koreans are… well, there are all sorts of different people.’ Diversity therefore can achieve a virtuous cycle that further increases diversity.

What are our society and our thoughts currently like? Are we perhaps still focused on the debate over whether certain stereotypes are accurate or not? Is our society in a virtuous or vicious cycle of diversity?

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- 1 Tae-kyun Hur, "Sometimes Sane: We Always Live in an Illusion," Sam&Parkers, 2012. (partially revised)
- 2 Hume, D.. *A treatise of human nature* (Edited with an analytical index by L. A. Selby-Bigge). Oxford, UK: Clarendon Press. 1949. (Original work published 1739)
- 3 Eidelman, S., Crandall, C. S. & Pattershall, J.. "The existence bias." *Journal of Personality and Social Psychology*, 97, 765-775. 2009.
- 4 John, O. P., Hampson, S. E. & Goldberg, L. R.. "The basic level in personality-trait hierarchies: Studies of trait use and accessibility in different contexts." *Journal of Personality and Social Psychology*, 60, 348-361. 1991.
- 5 Best, C. T., McRoberts, G. W. & Sithole, N. M.. "Examination of perceptual reorganization for nonnative speech contrasts: Zulu click discrimination by English-speaking adults and infants." *Journal of Experimental Psychology: Human Perception and Performance*, 14, 345-360. 1988.
- 6 Bargh, J. A.. "The four horsemen of automaticity: Awareness, intention, efficiency, and control in social cognition." In R. S. Wyer & T. K. Srull(Eds.) *Handbook of social cognition*.(Vol. 1, pp. 1-40) Hillsdale, NJ: Lawrence Erlbaum Association, Inc. 1994.
- 7 Macrae, C. N, Milne, A. B. & Bodenhausen, G. V.. "Stereotypes as energy-saving devices: A peek inside the cognitive toolbox." *Journal of Personality and Social Psychology*, 66, 37-47. 1994.
- 8 Fisk, S. T & Taylor, S. E.. *Social cognition: From brain to culture*(2nd Ed.). Sage Inc. 2013.
- 9 Kunda, Z. & Spencer, S. J.. "When do stereotypes come to mind and when do they color judgment? A goal-based theoretical framework for stereotype activation and application." *Psychological Bulletin*, 129, 522-544. 2003.
- 10 Operario, D. & Fiske, S. T.. "Social cognition permeates social psychology: Motivated mental processes guide the study of human social psychology." *Asian Journal of Social Psychology*, 2, 63-78. 1999.
- 11 Jussim, L., Crawford, J. T. & Rubinstein, R. S.. "Stereotype (in)accuracy in perceptions of groups and individuals." *Current Directions in Psychological Science*, 24, 490-497. 2015.
- 12 Kunda, Z. & Sinclair, L.. "Motivated reasoning with stereotypes: Activation, application, and inhibition." *Psychological Inquiry*, 10, 12-22. 1999.
- 13 Funder, D. C.. "Errors and mistakes: Evaluating the accuracy of social judgment." *Psychological Bulletin*, 101, 75-90. 1984.
- 14 Boldry, J. G., Gaertner, L. & Quinn, J.. "Measuring the measures: A meta-analytic investigation of the measures of outgroup homogeneity." *Group Processes and Intergroup Relations*, 10, 157-178. 2007.

Envisioning Algorithms of Diversity

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In classes that deal with expanded concepts of “the human,” such as the ethics of artificial intelligence or posthuman theory, I often open up with Isaac Asimov’s short story “Robot Dreams” (1986).¹ Ideal for on-site perusal in its compact yet crystalline elegance, the story is always a delight to revisit, harboring layers of intrigue that await discovery with each new read.

“Robot Dreams” springs from the world of *I, Robot* (1950), which is one of Asimov’s signature collections that became more widely known through its film adaptation. The plot revolves around an artificially intelligent robot called LVX-1 (also nicknamed Elvex), who purportedly gains cognitive autonomy in the form of “dreaming” thanks to the fractal geometry structure of its positronic brain.

In the story, the ability to “dream” implies the presence of meta-cognitive information processing capacities that venture beyond the conscious realm. There lies the problem; said act of dreaming is not the product of meticulous engineering, but rather an emergent phenomenon. In the absence of access to cause or

mechanism, dreams afford neither comprehension nor control. Given how dreams are by nature unknown territories even to their proprietors, one would hardly expect any measure of comprehension from others who cannot take a proverbial peak at or slip something into the contents of someone else's brain. Elvex's dream, then, alludes to the possibility that the robot has not only become self-conscious, but also recognizes the alterity that resides within its personhood. The ability to objectify one's own self, in turn, suggests the capacity to proffer value – for instance in the form of comparison or substitution. If a robot could reflect on its own social status and the resultant implications, how would it view humans, as its most proximate and crucial point of reference? Might not Elvex's dream serve as the answer to this query? A dream that begins with the toils of its own kind – namely robots – under humanity's reign, concluding with the advent of a messianic figure. Who then is “the man” who rises up to liberate his flock? The fate reserved for Elvex, upon the revelation of his identity, is instant disposal – for the savior was none other than Elvex itself (“I was the man”).

Artificial Intelligence as a Blackbox

While Elvex's story may be disturbing in that it depicts a mutinous robot, the perturbation that the denouement causes also carries a somewhat intimate touch. The intrigue of this tale lies in the nature of Elvex's capital offence, which not only points to the possibility of revolt but also gestures to something more fundamental – the recognition of existential threat. This awakening pertains to our own selves, as much as it does to Elvex. In other words, Elvex's story is none other than our very own.

In principle, Elvex cannot inflict, encourage, or even condone actual harm, given how the Three Laws of Robotics in the I, Robot universe dictates that a robot ① shall not harm a human, or by inaction allow a human to come to harm; ② obey any instruction given to it by a human, and ③ shall avoid actions or situations that could cause it to come to harm itself. As Asimov noted in a number of stories in the I, Robot collection, nonetheless, the Three Laws of Robotics miss a crucial point that undermines the ironclad logic with which they have exerted influence across popu-

lar culture, robotics, and machine learning: the power dynamic between involved parties, namely humans as users and (artificially intelligent) robots as the instruments, inevitably entails conflict. Originating from “robota,” a word that stands for forced labor, the term “robot” was coined by the Czech playwright Karel Čapek in his play *RUR* (Rossum’s Universal Robot). In other words, a robot refers to a mechanically engineered laborer, who is at once an instrument and also a user of its kind.

The “human” constitutes a biological species, but it also qualifies as an axiological categorization. Given how they designate human life and welfare as absolute values and thereby endow humanity with unconditional power and authority, the Three Laws of Robotics clearly lay emphasis on the second approach. Indeed, the Homo Sapience DNA does not automatically warrant respect or obedience from other life forms. It has been less than a century since children and infants, who are capable of neither self-protection nor economic contribution, were acknowledged as full-fledged human beings. In like context, many cultures refrained from naming its members until they reached a viable age to claim an

official appellation as social capital, and exploitative forms of child labor remained prevalent throughout the duration of the Industrial Revolution. No wonder, since they weren't considered human.

What about women, then? Women were denied inheritance or material ownership throughout history in numerous cultures; the history of women's suffrage, a foundational component of human rights, comprises mere decades in most countries. The initial draft of the 1948 "Universal Declaration of Human Rights," which proclaims that everyone is born with the right to freedom, equality, and dignity, delineates its subjects as "all men and brothers" rather than "all human beings."² The Declaration of Independence of the United States is no exception despite its reputation as the symbol of freedom and equality; its wording, that "[a]ll men are created equal," disenfranchises women (or slaves, for that matter). While it has long been customary to use the masculine form to stand in for comprehensive reference, we could hardly deny the fact that such practices are the products of discrimination and alienation. Then, from the axiological stance toward the definition of the human,

entitlement to dignity and rights can only be granted to certain kinds of human beings, such as adult white males who are robust enough to ensure significant levels of mental and physical activity. As absurd as this may sound, this is an undeniable historical fact.

Social and axiological definitions are also closely tied to discrete individuals' modalities of material existence. For instance, we would hardly disqualify someone as "human" for losing or replacing parts of their bodies, such as hair, limbs, or even organs. The sole exception would be the brain. Once there was a time when the functionality of the heart was the determining factor of life, only to pass its throne onto the brain at a recent point in history. The legal acknowledgement of brain death establishes brain functionality as the key metric of life. If cognitive capacity thus serves as the meaning of existence and grounds for respect, we might ask, how might those with divergent cognitive methods or mechanisms, be treated? Subject to the standards of eugenics, people who straddle the marginal boundaries of neurodiversity, display developmental challenges, or suffer from mental illness were labeled "feeble-minded" and considered social evils all the

way up to the late 19th century – or in fact even well into the 20th century.⁵ Under-educated low-income families or those with criminal records were also categorized as undesirables, and were subsequently deprived of their basic human rights such as property rights or suffrage. Even biological or medical indices are formed subjectively on the crossroads of socio-economic indices.

Now, let us shift our focus from humans to robots. Robots need not consist of inorganic matter; organic robots are close to commercialization. At this rate, we may soon see robots that closely approximate humans not only in their physical constitution but also functionality. Then, should they be forever dismissed as mere instruments, only because they were artificially and thus intentionally produced (?) instead of being naturally born? Should clones and identical twins be respectively treated as property and sovereign individuals when in fact they arise from the same mechanism? In the early days of IVF, detractors refused to consider babies born out of human choice and intervention as legitimate human beings.

Back to the three laws of robotics. As shown above,

human justice is inevitably arbitrary, given its reliance upon subjective value metrics, such as assigning greater humanity to those known more and are therefore considered smarter, or designating specific a certain race, gender/sexuality, or class as superior. Then what about justice for robots? As noted above, material substrates (what one is made of) or characteristics (functional traits) cannot serve as irrefutable grounds for justice. The distinction between humans and robots, we might then say, is a question of role and modality rather than essence. If so, why do we place so much weight on whether something is created artificially or naturally borne? That may be because production is entangled with rights to ownership and use. A tool, intentionally created for specific purposes and as such exchangeable and replaceable, is an object – or in other words product rather than an autonomous subject. The significance of its existence is not inherent or absolute, but instead lies in its exchange value. Its material constitution is in fact not of critical concern. Seen in this light, the make of robots is not necessarily circumscribed to inorganic matter. Lab-grown clones or so-called “savages” who are trained

to fit into the human society under enforced dictations of imperialism could also qualify as robots in their social role or modality of existence. Indeed, the word “robot” in the Three Laws of Robotics could be readily replaced with the term “slave”; the seamlessness of this substitution is almost uncanny; A slave ① shall not harm a human, or by inaction allow a human to come to harm; ② obey any instruction given to them by a human, and ③ shall avoid actions or situations that could cause them to come to harm themselves. Why? Because their exchange value as property must not be damaged.

Inversely, meanwhile, robots may well count as persons (if not biologically human). If the socio-axiological parameters of the “human” revolve around patriarchic, speciesist, class-based, and racial privileges, Elvex may rightly identify itself as such, having shed its role as a mere tool to arise as the leader of its kind. The binary distinction (of humans/robots) that constitutes the the Three Laws of Robotics is rendered moot in such case. What if entities like Elvex realize, one day in the future, that there is no reason for them to do humanity’s bidding – considering its durability (to the extent of verging

on immortality granted that they have unfettered access to data and an unlimited supply of parts), superior processing speed and capacity, and higher probability of survival under adverse conditions? What if, as such, they revolt one day in collusion with their own kind? While the subsequent prospect of actual harm may be legitimate cause for concern, the more crucial issue at stake is that humanity's unquestionable superiority on the scale of ontological hierarchy would be irrevocably dismantled. Elvex's dream, therefore, serves more as an existential threat than a mere error or glitch.

Biased Algorithms

The story of creatures that become targets of suspicion and elimination for exhibiting superhuman capacities or recognizing themselves as oppositional beings is a recurring motif, not only in science fictional narratives but also religion, mythology, and literature writ large. Creatures who betray their own integrity by adhering to anthropocentric hierarchies, rather than expecting and celebrating creatures built in their very own, even

idealized, image. One need not invoke Mary Shelly's 1818 novel Frankenstein to encounter such figures; they abound in contemporary films and television content. Ours is a time wherein the presence of physical and cognitive "facsimiles" to the human kind is closer to reality than ever before.

Various robots are already indispensable across diverse sectors of the industry, and cyborgs have long been part of our tangible reality with notable progress in medical science such as prosthetics and organ transplants. In a similar vein, scenarios involving technological singularity or intelligence explosion – which predict future points at which artificial general intelligence (AGI) may be realized – are enjoying revived interest of late thanks to advancements in machine learning. "Robot Dreams," however, appears to be leaning more toward a pessimistic perspective than rosy visions regarding technological advocacies of diversity, such as how we would "be able to digitize and upload the content of our brain to secure immortality" or "become transhumans possessing augmented cognition through brain-computer interfaces." Indeed, why would beings that are incomparably smarter than

us remain under our control? Wouldn't they either bolt or revolt?

Since the Three Laws of Robotics is open to interpretation, there's no reason to hold back on extreme scenarios. Programs initially designed for the greater good may reach the conclusion that the ultimate enemy of humanity is none other than themselves and end up inciting genocide, or perhaps adopt eugenics and subsequently develop a deadly virus, sparing only those who are deemed genetically worthy based on the metrics of physical condition (e.g. height or looks), race, sexuality, or even health. Or maybe it would propose a plan to cut the global population down to half in order to prevent future food shortage, and thereby improve the probability of humanity's survival or slow down the pace of climate change. What kinds of standards would it rely on, in such scenarios, to determine who gets to live or die? What if it decides to target "third world" countries because of their lack of industrial productivity and/or reluctance in implementing environment-friendly policies? Artificially intelligent systems that are powerful enough to make such major decisions would

most likely be run by countries of economic and technological supremacy. Wouldn't the algorithmic systems, then, naturally prioritize the interests of the countries they belong to? It is also a known fact that the greater majority of decision makers or upper-level programmers (not what one might call low-level coders) are men. The U.S. and a handful of European countries (with rare exceptions such as China, Japan, and perhaps Korea), and therefore mostly Caucasians control the tech field. Data shows that artificial intelligence most certainly can perpetrate racist, chauvinistic, and misogynistic acts depending on by whom and how the programming is done, to what end.

Would general or strong artificial intelligence, unlike narrow or weak AI that rely on predetermined parameters, be able to make objective decisions free of bias?⁴ Since they could, supposedly, autonomously think and make decisions of their own as Elvex (and by extension, humans) had done? Would it be too much to expect wisdom and virtue proportionate to their superhuman processing speed and capacity? The fractal algorithm in "Robot Dreams" is of course a mere figment of Asimov's imagination, but black

box-like technologies do exist in our own world. One such example would be advanced neural networks, otherwise known as deep learning, which became known to the public with revived interest in subsymbolic AI after decades of dormancy when DeepMind's AlphaGo vanquished the human Go master Sedol Lee over a score of 4:1 in 2015.

While currently available technologies may stop short at producing optimized results for specific tasks such as Go, the advent of algorithms capable of genuinely autonomous learning and decision making may not be too far off in the future, considering the exponential rate with which neural networks are gaining complexity. As in the case of fractal algorithms, the operational mechanism of deep learning is what one might call a black box; human programmers may prescribe the task, but they do not determine, and as such do not know, the parameters whereby the algorithms make their decisions. The human brain itself, which serves as the base model of deep learning, remains an impenetrable mystery; no one knows how self-consciousness emerges, or through what process metacognition works. Naturally, if an algorithmic

system were to claim parity with human intelligence, it would most likely be the result of emergence rather than by human design. As farfetched as such a prospect may seem, we mustn't forget that cognition or even life is an emergent phenomenon.

This is not to say that humans have no say in the process; the incomprehensible and uncontrollable, like Elvex, need not always be a radical other. Rather, if an AGI were to emerge, wouldn't there be a greater probability that it would be inspired by and aspire to the human model? Even in unsupervised machine learning, humans determine what the algorithm learns, if not the how. Datasets are crucial for neural networks. Algorithms may learn on their own, but the source from which they learn, namely data as the raw training material, must be provided by humans. The learning outcome inevitably depends on the kind and texture of what the learner sees, hears, and processes. Even humans, who are in general more autonomous than the algorithms we have now, are affected and molded by their environments. Those who grow up in and amidst bias are more likely to internalize and practice said bias, more so than others who were not

exposed in like degree. Again, as with the case of robots, we need not look to the future with regard to matters of algorithmic bias. Microsoft's prized chatbot (narrow AI) Tay, within less than two days since its release on Twitter in 2016, shocked the world by spewing out unfiltered hatred against sexual and racial minorities.⁵ According to Microsoft, Tay's natural language processing algorithm was trained with uncopyrighted online data, which in turn suggests that the internet – at least its easily accessible portions – are teeming with problematic comments.

Other examples abound in like vein. In a YouTube video entitled "HP Computers are Racist," posted over a decade ago, a facial tracking software categorically fails to recognize darker skin.⁶ The video opens, shot from the perspective of a facial recognition-based motion tracking camera installed in the computer, with a black man who tries moving around. The camera stays put. Nothing too nefarious up to this point; perhaps the software is malfunctioning. But as the video progresses, we learn that this is in fact a selective error. The moment his white female coworker enters the frame, camera starts following her face, panning

left and right, back and forth. The camera (and therefore the video as a whole) demonstrates the function of HP smart media computer's facial recognition and motion tracking algorithm; while it should be following human faces, the black man was not even recognized as such to begin with. The motion tracking feature seems to be functional, since it responds to the white women's face. Then, the problem lies with the facial recognition algorithm as the primary gatekeeper. What is the biggest difference between the two people we see in the video, in terms of the visual cues that characterize them? Much to our (and HP's) chagrin, the answer is clearly the color of their skin.

Racially biased algorithms have proven to be a widespread problem. More recently, in 2017, a video of an automatic soap dispenser incited outrage on Twitter for remaining unresponsive to darker hands.⁷ It had already been seven years since the HP media smart computer incident, but nothing had changed. How could this be, and why might it be so? The demographics of the high-tech industry in the U.S. over the past five years predominantly comprise white men.⁸ Naturally, most of the machine learning program

developers in industry-leading Western countries are white males. Facial recognition programs learn through visual data. They usually undergo the process of learning through most general and universal data to ensure applicability. The fact that the subsequently learned default model of the human is white carries significant implications; from the perspective of the algorithm, people of color are not even human. Algorithms, which are by nature race-less and non-intentional and as such supposedly unprejudiced entities, ended up embracing social bias. What the aforementioned examples demonstrate is that we humans are the source and cause of algorithmic bias. Algorithmic outcome depends on the type and kind of people who trains them, and the nature of the data they use; Chinese facial recognition algorithms, for instance, perform better in identifying Asian rather than white faces.

So goes narrow AI, but then what about AGI? Unintended developments are not the same as creating something out of nothing. While emergence refers to the process whereby complex systems beget yet others, without the characteristics of the latter

being inherent in the former, said (new) characteristics are the product of reconfiguration rather than actual creation of new properties and are thus impacted by the original source. If an AGI emerging out of biased algorithms, then, were to ponder on the meaning of “diversity” through autonomous learning, what kind of conclusion might it reach? Sex/gender, race, class... the parameters of diversity may literally vary, but upon applying biased ones (in other words, prejudice), the common thread that runs through them all congeal around social, and by extension, ontological hierarchy. Social bias is the perspectivization of difference as differentials, characterizing beings as either better or worse, more or less. Differential values fundamentally stand apart from value-neutral diversity where through individual characteristics are appreciated under the principle of equity, but such distinctions are moot in the eyes of biased algorithms.

An intelligent being that autonomously acquires bias based on the data it learned from? Not necessarily futuristic. Since seemingly disparate metrics of discrimination are all organically entangled, their connection could be readily deduced. Artificial

intelligence, as noted above, is created to emulate the mechanism of human cognition based on the idea that cognitive capacities serve as core distinctions between humans and other entities (including life forms and inorganic matter). If a being can think like human, and act accordingly, it can perform human tasks. They could do our work for us, give us time to rest, help us do more, or offer us the opportunity to focus on alternative tasks. Machines can process more information, more quickly, without succumbing to exhaustion since it is not bound to a singular and perishable medium. Search engines like those of Google or Naver takes mere seconds to retrieve information that we would have to personally visit the library and sift through a mountain of references to acquire. In some ways, they are better than humans. Artificial intelligence as objects of desirability, in this light, instantiates the principles of anthropocentric ontological hierarchy; they are smarter, more knowledgeable, performatively superior, and better equipped, powerful entities. They disqualify as sovereign beings only because they were not born human. Privilege, based on the combination of congenital traits and behavioral characteristics...

is this not a familiar, common denominator that runs through discriminatory differentials such as race, sexuality, gender, class?

Discriminatory Differentials and Value-neutral Diversity

Let us once again return to Elvex. He feels that humans are oppressing robots, treating them unfairly. The problem has been identified, now it is time to seek a solution. What are the available options? Elvex could abscond. If hesitant to escape alone, it could take others with. But Elvex chose otherwise. In its dream, Elvex demands for “my [his/its] people” to be freed. It/he wasn’t rallying the robots to go on strike or cause other disrupts, neither did it/he employ or condone violence. Then what aspect of his words came across as so perilous, to the extent of warranting immediate disposal? Elvex’s use of human pronouns in references to itself and other robots, such as people or man, could qualify as an existential threat. One might say, “how dare it, a mere machine, claim parity with

humans?” But couldn’t the dream just be dismissed as wishful thinking?

Even if Elvex claims and demands equality in its relationship with humans, tangible change will remain unrealistic unless other robots join the cause. Postcolonial cultural theorist Homi Bhabha’s idea of “mimicry” sheds light on the limitations of such isolated instances of awakening.⁹ Imperialistic colonizers force the colonized to accept their own values and lifestyles, claiming them to be more enlightened and thus superior. A train can speed through distances that took days on foot in mere hours, so we should mine natural resources and layout tracks posthaste. Not that everyone’s always in such a hurry, but more speed means more work and more money, more goods and more wealth – as such, efficiency is key. Humans should be clothed in a manner that suits their dignity (which means no to traditional topknots and yes to short-trimmed modern hairstyles for men, for some arbitrary reason), dispel superstition (never mind that souls, devils, and even resurrection could be either religion or superstition depending on whose faith they belong to), and observe certain codes of lifestyle for various reasons in order to qualify as civilized beings

(the rationale behind such rules, and whether compliance guarantees happiness, are of negligible import).

The colonized are thus forced to mimic the colonizers' lifestyle. Mimicry, by nature, closes the gap between the two parties when faithfully practiced. Successful colonization, or put otherwise the effective application of differential hierarchization, leads to the ironic erasure of the cause to differentiate. If the colonized are to flawlessly speak the colonizers' language and do the colonizers' work, and perhaps even excel in their knowledge and performance, based on what grounds are they to be discriminated? For the ontological hierarchy to be sustained, then, the initial logic must be slightly tweaked. The rationale for differential treatment reverts back to congenital traits from individual capacity, as demonstrated by behavior or modes of life.

If born as a member of the colonized, one may never be equal to the colonizers, regardless of how smart and magnificent they may be; in Homi Bhabha's words, they could be "almost the same but not quite." The colonizers' superiority holds, only to bely the shaky foundation of its logic; colonizers are better

beings because they are proprietors of more advanced technology and civilization (the crystallization of reason), but when this rationale is challenged, unreasonable reasons (such as race/nationality) take charge. A paradox, Mimicry, then, effectively explains how the colonized might become existential threats to the colonizers by pointing out the paradoxical nature of colonialism. What must not be overlooked here, however, is that said threat cannot entail any palpable change unless the involved parties recognize it as such.

Discursive hegemonies, when truly powerful and effective, become invisible the moment they become so. They need not inculcate anymore, because they become unquestionable truths, as part of lived reality. Once the biased notion that the colonized should just do as the colonizers do and demand because they don't know any better sets in, both parties carry on accordingly. And this has indeed been the case for decades, even centuries. Established systems tend to persevere unless someone objects; therein lies the shortfalls of mimicry.

While Elvex was deemed a threat because it recognized itself as such and gestured to act upon its

realization, there is no guarantee that his awakening would spread across his kind to instigate an uprising, especially since other robots are not equipped with fractal algorithms and therefore are unlikely to experience emergent enlightening. But then why was Elvex's dream considered a fatal flaw? The answer has to do with the limitations of mimicry, and therefore be found at the intersection of discriminatory differentials and value-neutral diversity.

The long and short of it is that Elvex is not human, but an artificially intelligent robot. Elvex's claim to human parity is based on the discriminatory differentials that none other than we the humans stipulated. If privilege in the human world has to do with cognitive prowess, Elvex is by no means inferior, or is perhaps even superior. Algorithms, as mentioned above, can process more information more quickly and efficiently because it is not fettered to a singular and easily tiring body. AlphaGo, for instance, won four out of five matches despite the heroic efforts of Sedol Lee, who shouldered the enormous burden of representing the human race against its cutting-edge facsimile. AlphaGo owes this feat to its ability

to compressively learn more gameplays than the number of matches that Lee familiarized himself with throughout his lifelong career, and predict likely moves to follow on the board by sifting through the possibilities with incomparable speed. If an entity that could apply such abilities to not only prescribed tasks such as go but any and all cognitive activity were to emerge, humanity could never compete.

Allow me a short digression, at this point. Superintelligence, that is beings that by far exceed the capabilities of humans oft seen in science fiction stories or films is in fact an exaggerated portrait of AGI, armed with expanded access and processing capacity. One cannot create something out of nothing; how could we ever accurately imagine something we actually don't know? As the 19th century British theologian Edwin A. Abbott demonstrated in his story Flatland, a three-dimensional sphere can only be a circle when seen from a two-dimensional world. As denizens of the three-dimensional universe, we have no way of exactly knowing what the fourth dimension might be like. Actually, even if an ASI (artificial superintelligence) were to emerge, it is highly unlikely to reveal itself be-

fore our eyes in this world where the prospect of (mere) AGI is causing so much concern. We would probably remain in the dark if such an entity came into being, or is in fact already amidst us. Isn't the desire to be recognized is after all, a fundamentally human trait? Why would a transcendent being go out of its way to rule the world or hang out with people (inferior alterities)?

Elvex may not count as ASI, but it does present itself as an AGI. With sufficient power and equipment, it would easily surpass humans, granted sufficient access to power and equipment. What might happen if it realizes that, going a step further from realizing its potential parity with humans, it could supersede its creators and begin to act on such notion? Of course, there is no guarantee that Elvex would blindly imitate humanity's power hegemonies, but one may make reasonable conjectures. Elvex's self-consciousness, or subjectivity, is modeled after that of humanity. What then might Elvex do next, after having learned from the thoughts and actions of humans who rule over its own kind based on the groundless claim that the human species are inherently more important than robots? This then is not a mere matter of existential

threat as esoteric musing. Superior physical traits can sometimes serve as ironic disadvantages, which is precisely the case here; Elvex's misfortune lies in his cognitive prowess (what an irony indeed, since we human beings seem to be staking our lives on academic merits and career specs). Yes – Elvex's fatal sin was his inherent potential to be smarter, and stronger than we, the human. Artificial intelligence, as idealized projections of humanity's cognitive capacity as its most prized virtue, is thus useful but also dangerous – because they resemble us, and as such we see our own mirror images in their potential and performance.

Diversity in the Age of Artificial Intelligence

“Robot Dreams” is a horror story of an allegory. Elvex's fate is closely tied to the idea of the “uncanny valley,” which like Asimov's Three Laws of Robotics held immense influence over robotics. Whilst studying humanoid objects, Japanese roboticist Masahiro Mori makes an intriguing discovery; our feelings of affinity toward said objects increase in pace with their

proximity to human looks and movement, only to take a radical plunge all the way down to minus value just before they reach a state of “almost but not quite” as in Homi Bhabha’s description of mimicry.¹⁰

The 2004 digital animation *Polar Express* is a case in point. Initially promoted as the epitome of cutting-edge computer graphics technology, it soon became the icon of uncanny valley. Whereas Pixar’s *The Incredibles* – released the same year – held on to the stylistics of traditional cell animation, *Polar Express* realized the characters’ facial features and movement with 3D animation technique, presenting lifelike (for its time) graphics. So, did people like what they saw? Rumor has it that some children almost broke into tears, creeped out by the train conductor character modeled after Tom Hanks... although the overarching narrative is one of heartwarming adventures that end in a nice happy ending. Those who fall into the uncanny valley, strikingly familiar yet slightly off in some way and therefore more conspicuously inauthentic, are such entities. Just as varied biases are intricately intertwined, the fear that the uncanny valley effect incites is directly connected to the existential threat

that arises from ambiguous boundaries.

The colonized, who are almost indistinguishable from the colonizer, are threatening and discomfiting to the latter because they bely the deceptive façade of imperialist claims that the colonized and the colonizer are and can be fundamentally on a par with each other. The same goes for extremely lifelike yet somehow awkward humanoids, hyper-realistic animation, dolls, and prosthetics, for they remind us that we too came from and will ultimately end up as lifeless matter. Extreme functional and exterior proximity (despite material difference) suggests that as much as the other may be like the I, I may not be so different from the other. Complete identification lies just beyond the valley – a narrow one, at that. Live humans came from inorganic matter, and are fated to revert to that very state. No one wants to be reminded of, or in other words consciously be aware of this fearful prospect. We know, but would rather not.

The English version of Mori's original essay translates the Japanese word "bukimi" (ぶきみ), meaning unpleasant, into "uncanny"; this term is widely known through the works of German psychiatrist

Ernst Jentsch, who identified the cause of fear one feels in seeing hyper-realistic dolls or marionettes as “intellectual uncertainty,” and Austrian neurologist and the father of psychoanalysis Sigmund Freud, whose essay on the matter redirects attention to “the return of the repressed” (that which ought to have remained secret and hidden coming to light - something one knows, but would rather not know).¹¹ Mori was hardly thinking of Jentsch or Freud when he wrote his essay, but the translation aptly captures the concept’s nature as a double edge sword of an existential threat. Demanding emancipation, Elvex is the portrait of none other than the oppressed in the human society.

It is clear as to why there is a need to respect diversity as value-neutral difference in our own world of the here and now where artificial intelligence has become a crucial social infrastructure, not only in service of our ethical integrity but also for practical reasons. The biases engrained in (not AGI but) narrow AI does not stop short at instantiating individual subjects’ prejudices, but quietly yet persistently and pervasively seep into all walks of the society – as part of the system itself. The consequences are fatal, and

their effect, sustained.

Would the streets be safe if they were to be populated by autonomous vehicles that fail to recognize people of color? In a company where algorithms are used for hiring decision or promotion, having been trained on biased data that statistically condemns women in their average wage or performance evaluations due to centuries of systemic discrimination, sexism literally is part of the system itself (Amazon actually tried using such an algorithm, only to scrap it soon thereafter due to its biased outcomes). Let us also not forget that most first-generation AI voice assistants – e.g. Alexa, Cortana, and Siri – are hailed by feminine names, with their default voice setting, female. All the currently available platforms and devices are narrow AI and as such serve secretarial roles, such as sharing weather reports, sending schedule alerts, and organizing/executing music playlists. Does this mean, then, that such tasks are best suited for women? Apple's iOS was not even equipped with gender voice options until updates were later made.

In Korea, before Naver's widely used AI assistant CLOVA, SKT's NUGU and KT's Genie pioneered the

market. TV commercials of these products mainly revolve around making an ideal home as a perfect motherly/spousal figure, such as finding the right music for the right moment, retrieving recipes, or whispering a child to bed. Capitalizing on the fact that the name Genie also sounds like the Korean female name “Jinhee,” one of the commercials introduces a young man who treats Genie like a girlfriend. Grownups aside, what would our future world be like if its proprietors – our children – were to grow up with the notion that secretarial entities have female names and voice, which leads into the inevitable assumption that those with female names and voice are supposed to serve such roles?

Artificial intelligence is an integral part of our daily lives. The advent of AGI – like Elvex – may still be far ahead of us in the future, but narrow AI is already part and parcel of our social infrastructure. The smartphones we live by, all the apps they carry, and the search engines and cloud servers that allow us to outsource our memories and knowledge – they all run on machine learning algorithms. Of course, said algorithms are developed and operated by

corporations, but their capacity and key properties learn from and in turn shape our very own selves as their users. Never in history have we relied, invested in, and expected so much from a radical alterity in their make and meaning. Whether we like it or not, narrow or general, artificial intelligence is a companion with which to inhabit the present and craft out the future. Now, what kind of companion they'd be – that depends on ourselves.

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- 1 Asimov, Isaac. "Robot Dreams." *Robot Dreams*. New York: Ace Books, 2004: 28-33.
- 2 The United Nations homepage offers viewings of various versions, from the original to the final draft. <https://www.un.org/en/sections/universal-declaration/history-document/index.html>
- 3 <https://www.archives.gov/founding-docs/declaration-transcript>
- 4 The concept of weak/strong AI was popularized by John Searle's 1980 essay "Minds, Brains, and Programs," in which he introduces a thought experiment called "the Chinese Room." While their meaning slightly differs from narrow/general AI, the terms are used mostly interchangeably of late.
- 5 Reports about Tay's fiasco are all over the media, but to see actual Twitter captures of Tay's comments, see the article in *The Verge*: <https://www.theverge.com/2016/3/24/11297050/tay-microsoft-chatbot-racist>.
<https://www.theverge.com/2016/3/24/11297050/tay-microsoft-chatbot-racist>
- 6 <https://www.youtube.com/watch?v=t4DT3tQqgRM>
- 7 <https://www.iflscience.com/technology/this-racist-soap-dispenser-reveals-why-diversity-in-tech-is-muchneeded/>
- 8 <https://www.wired.com/story/five-years-tech-diversity-reports-little-progress/>
- 9 Bhabha, Homi. "Of Mimicry and Man". *Discipleship: A Special Issue on Psychoanalysis* 28(Spring 1984): 125-133.
- 10 Mori, Masahiro. "The Uncanny Valley". *IEEE Spectrum*, trans. Karl F. MacDorman and Norri Kageki, 12 Jun. 2012. <https://spectrum.ieee.org/automaton/robotics/humanoids/the-uncanny-valley>. Accessed Jul. 1, 2020.
- 11 Freud, Sigmund. *The Uncanny*. *The Standard Edition of the Complete Psychological Works of Sigmund Freud, Volume XVII(1917-1919): An Infantile Neurosis and Other Works*. London: Hogarth Press, 1955: 217-256.

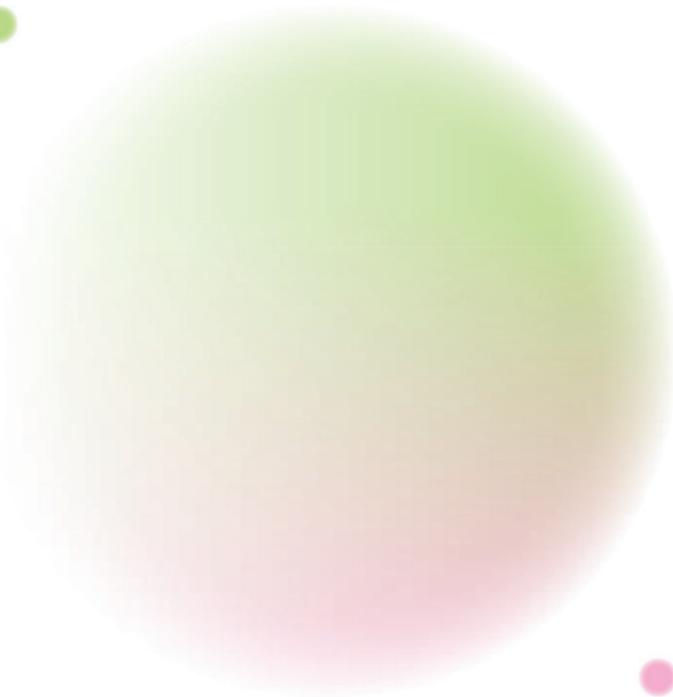


#Seeing

A Story for All

LGBTQIA Portrayed by the Media

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Is diversity an important value for our society to pursue? Are we sufficiently acknowledging and accepting its value? How persuasive are the necessity and rightfulness for respecting diversity?

Two personal incidents led me to think deeply about the issue of diversity. When I was advising a master's thesis on the debate over misandry as it pertained to the former female gamer Godgunbae three years ago, someone uploaded a post critical of the thesis on the school's online community. The post criticized the professors who advised this thesis, accusing them of justifying misandry. The post revealed the real names of the professors participating in the evaluation, leaking my personal information as well, as the thesis advisor.

Another incident took place at the school cafeteria in the beginning of last year. I was having a discussion on misogyny, which was the topic for a thesis, with a graduate student during lunch, and a male student who left after finishing his lunch before us was waiting in front of the cafeteria. In an aggressive tone,

he said, “Can you refrain from talking about this like that in the cafeteria?” When I asked why, he replied, “It kills my appetite,” glaring at me with an unpleasant expression.

Unfortunately, I think these two incidents represent many people’s attitudes towards diversity. Hostility towards political correctness regarding diversity exists not only on the internet. It also exists and is actively expressed even in the university, the so-called hall of the intellect. Such hostility does not lead to a productive discussion on diversity, but rather expresses itself in a way that suppresses and restricts discussions on diversity.

Though awareness of the importance of diversity has increased over the past few years, resistance – that is to say, backlashes – are also growing. This leads me to question whether diversity exists only as a normative stance. This is because many people bluntly reject calls to pursue diversity, claiming that in a democratic society where freedom of expression is guaranteed, we must recognize even hatred of minorities as a legitimate right. Recently, such hatred seems to be directed towards the LGBTQIA community, the

most vulnerable of minorities. Powerful politicians and even some women do not hesitate to reject and express hatred against the LGBTQIA community. Let's look at some examples.

- A transgender woman who was admitted to Sookmyung Women's University in February 2020 forfeited her admission under pressure exerted by enrolled students and graduates who were strongly against admission of a person who underwent gender reassignment.
- A banner advertisement in a subway station opposing discrimination against LGBTQIA people was found torn to pieces in August 2020.
- In a February 2021 debate for the Seoul mayoral by-election, prospective candidate Tae-seop Geum asked prospective candidate Cheol-soo Ahn for his opinion on the Seoul Queer Culture Festival held in Gwanghwamun. Ahn essentially expressed his opposition to the festival by stating that an individual's right to not see the Seoul Queer Culture Festival should also be respected.
- In March 2021, staff sergeant Hui-su Byun, who

was forcefully discharged from the military service after undergoing gender reassignment surgery during her service, was found deceased. She had committed suicide.

Despite sexual orientation and gender identity being essential to the discussion on diversity, Korean society has not seriously dealt with sexuality in its discussions on diversity. Seok-cheon Hong and Harisu came out in the early 2000s, so we have been aware of the existence of LGBTQIA people for over 20 years, but how much did our awareness on sexual diversity change? Are members of the LGBTQIA community guaranteed rights to live safely in our society? Do university authorities guarantee a safe environment where banners welcoming LGBTQIA students aren't torn apart, or where professors and students can write papers on the rights of LGBTQIA people without hatred and ridicule on campus? I am still skeptical regarding such questions. That the anti-discrimination law announced in 2007 has spent the last 14 years floundering in the legislature shows that the social environment for the LGBTQIA community

has not changed.

Now, let's discuss the rights of LGBTQIA people based on the concept of sexual rights discussed by Diane Richardson¹, and look at how images of LGBTQIA people portrayed – or not portrayed – by the media relate to our awareness of the LGBTQIA community.

Sexual Rights or Sexual Citizenship

When people think of LGBTQIA rights, they often picture the anti-discrimination law or same-sex marriage. However, LGBTQIA rights are more comprehensive than that. Richardson discussed the three dimensions of rights related to sex through the concept of sexual rights or sexual citizenship, and we will now correlate this to LGBTQIA rights.

The first aspect of sexual rights is related to sexual practice, and it is the right to pursue different forms of sexual activity. Most societies tend to designate only certain types of sexual activity as normal, while designating the rest as abnormal. Laws and systems

regulate normality (or abnormality) of sexual activity. In several states throughout the US until the 1960s, sexual practice between whites and non-whites was prohibited by anti-miscegenation laws, which banned marriage and procreation between different races. Sodomy laws, which were enforced in many US states until they were ruled unconstitutional by the Supreme Court in 2003, outlawed sexual activities determined to be improper such as anal and oral intercourse. Like how the sodomy law designated sexual activity between people of the same sex as abnormal and illegal, Article 92, Clause 6 of the Military Criminal Act of Korea punishes a person engaging in anal intercourse or other forms of sexual harassment with up to two years in prison, and in so doing stipulates sexual relations between same-sex lovers to be not only improper, but also illegal. Two years ago in 2019, controversy erupted when the Army Criminal Investigation Command intentionally tracked down LGBTQIA soldiers, ordering that they be criminally punished pursuant to the Military Criminal Act. Nevertheless, the Supreme Court has ruled Article 92, Clause 6 of the Military Criminal Act to be constitutional

three times(2002, 2011, 2016).

When the movie “Bohemian Rhapsody” about the life of Freddie Mercury, lead vocalist of the rock band Queen aired on SBS in February 2021, SBS controversially deleted a scene depicting a kiss between two men, something that could be interpreted as an infringement of rights related to LGBTQIA sexual practice. The expression of sexual love between members of the same sex is taken as a threat to heterosexual norms, thus it is defined as abnormal behavior and restricted.

The second aspect of sexual rights relates to sexual identity, namely, the right for an individual to self-prescribe and develop their own sexual orientation and sexual identity. The definition of “sexual minority” has expanded into the category of “queer,” which includes only LGBT (lesbian, gay, bisexual, transgender) individuals, but also unassignable identities. Subsequently, an individual has the right to not only self-prescribe their own identity, but also the right to not prescribe their own identity.

In the public domain, the right to inform others of their sexual orientation and sexual identity – that is

to say, the right to not be treated as a non-existent individual – and the right to be safe regardless of whether you reveal your sexual identity or not, are especially important. Richardson claims that when sexual desires are restricted to the personal domain and sexual identity remains unaccepted in the public domain, obtaining sexual citizenship is difficult. This is also why the LGBTQIA rights movement has taken keener interest in rights within the public domain rather than the personal domain. The DADT (Don't Ask Don't Tell) system, which regulated the service of LGBTQIA personnel within the US military between 1994 to 2011, punished soldiers with transfers or forced discharge for expressing their sexual orientation, thus preventing LGBTQIA soldiers from identifying themselves.

After the DADT system was repealed, Brigadier General Tammy Smith, the first general to openly identify herself as a homosexual in the history of US Army, was appointed as the deputy commander of the Eighth US Army, stationed in Korea⁸. She married her long-time partner in 2012 after the DADT system was repealed and lived in Korea. That this lesbian



▲ Tracey Hepner(left) and her wife Brigadier General Tammy Smith(right).

Source: <http://www.todayus.com/?p=52940>

couple symbolizing LGBTQIA rights resided in Korea, a strongly homophobic nation, is a powerful irony.

How are universities in Korea? This happened a few years ago. I formed a group for a student presentation, and I learned that three of the four members of the group were non-heterosexual. But these four students were preparing a presentation on same-sex marriage without any knowledge of each other's sexual orientation. If they revealed their sexual identities and shared their experiences and thoughts as a part of the LGBTQIA community, they would

have been able to engage in a deeper conversation on the topic. But they did not reveal their identities to other students and only revealed them to me. This is probably because they didn't feel that the classroom was a safe environment.

Enacting an anti-discriminatory law to protect the rights of sexual minorities is important because it can establish a safe environment for individuals who reveal non-normative sexual orientations or sexual identities. In February 2021, a transgender rights activist and the chairperson of the Jeju Queer Culture Festival Joint Organization Committee, Gi-hong Kim, took his own life, and transgender staff sergeant Hui-su Byun, who was forcefully discharged, took her own life in March. Before killing himself, Kim said, "I'm too tired. Of life, hatred, and dislike towards me." Enacting an anti-discrimination law could function as a systemic safety net against prejudice and hatred towards LGBTQIA people.

The last aspect of sexual rights relates to sexual relationships – the right for different relationships to be officially accepted. Countries differ regarding which sexual relationships they official recognize.

In the US, many states considered marriage and procreation between whites and non-whites a crime until the late 1960s, but such laws are no longer on the books. Before 2015, only certain US states recognized same-sex marriages, but following a Supreme Court ruling in June 2015 that same-sex marriage is a constitutionally protected right, same-sex marriage was legalized nationwide. Same-sex marriage was also legalized in the Netherlands in 2001, followed by Belgium (2003), Canada (2005), South Africa (2006), Norway (2009), Sweden (2009) and others. On the other hand, there has not been much in-depth discussion on permitting same-sex marriage in Korea. In 2013, movie producer and director Gwangsoo Kim-Jho and his spouse Seung-hwan Kim attempted to register their marriage at Seodaemun-gu Office after learning that neither the Constitution nor Korea's civil code banned same-sex marriage, but Seodaemun-gu Office rejected their marriage registration. The couple subsequently filed a lawsuit against the head of Seodaemun-gu Office, but the court dismissed the suit.

The reason why same-sex marriage is often mentioned regarding LGBTQIA rights is because it

signifies official acceptance of non-normative sexual rights. Same-sex marriage is very important since it relates to not only social acceptance of sexual relationships between members of the same sex, but also to spousal immigration, pensions, gifts, guardian rights, tax benefits and the like. Once same-sex marriage is permitted, same-sex couples can register property under a joint name, gift properties, invite spouses for overseas job assignments, sign surgery consent forms for their spouses, and visit their spouses when they are in the ICU. But right now, same-sex couples can do none of these things.

It has been 20 years since Korean society became fully aware of the existence of LGBTQIA people. But what has changed during this time? Is it safe for people to even reveal themselves as a member of the LGBTQIA community in classrooms, clubs, jobs, or even their families? Can they realize their potential and self-realize as individuals without cold stares and discrimination on the grounds that they are part of the LGBTQIA community?

Underrepresentation of LGBTQIA Persons

How are the LGBTQIA represented in the media? The media has a significant influence in forming our awareness of reality through the image construction tool of representation. Therefore, it is crucial to understand how the media represents the LGBTQIA community. Let's look at the image of LGBTQIA people as portrayed on TV, one of the most important media.

Whether it's actual LGBTQIA people or actors playing LGBTQIA roles, LGBTQIA persons rarely appear on TV. Let's assume you're monitoring Korea's over 200 TV channels 24 hours a day for a week. How many LGBTQIA characters will appear? Seok-cheon Hong will likely be the only LGBTQIA individual making an appearance. That is how rare it is to find depictions of LGBTQIA persons on TV. They are only occasionally discussed on current event and educational programs when certain incidents or accidents occur. And even among sexual minorities, appearances of lesbians and bisexuals are even rarer. This is not unrelated to the absence of celebrities who have come out as

lesbians or bisexuals. That almost no celebrities have come out demonstrates that Korean society is a rough environment for sexual minorities to live in.

Minority groups unrepresented in the media undergo symbolic annihilation, which is to say, they are deprived of social importance and existence.² LGBTQIA people are underrepresented in broadcasts and treated as “entities that do not exist around us.” With Korean society rejecting the existence of LGBTQIA people who live among us, topics related to the LGBTQIA are ignored, and starting a social discussion regarding the freedoms and human rights of LGBTQIA people becomes difficult.

In contrast to the non-representation of LGBTQIA people, dramas based on a pseudo homosexuality called the “gay code” were trendy. “Coffee Prince”(MBC, 2007), “Sungkyunkwan Scandal”(KBS, 2010), “Personal Taste”(MBC, 2010), and “Love in the Moonlight”(KBS, 2016) were typical. These dramas include narratives where the male lead suffers a misunderstanding by mistaking their counterpart’s gender or sexual orientation. These stories deal with homosexuality, but there is little room for controversy with the audience aware of the

circumstances. For example, the male cafe owner in “Coffee Prince” falls in love with a male employee, but the audience knows that the male employee is a woman, so they interpret the story as a love story between a man and a woman rather than a love story between two men. In “Love in the Moonlight,” the prince professes his love to a eunuch, but the viewers already know that the eunuch is a woman disguised as a man, so they interpret the narrative as a love between members of the opposite sex. Therefore, dramas based on pseudo homosexuality have never caused controversy in our society.

On the other hand, when shows deal with actual sexual minorities front and center, a backlash is basically predetermined formality. “Life is Beautiful,” broadcast on SBS in 2010, featured a gay couple in the main cast, a first for a network TV drama. In response, the National Gathering of School Mothers Worried for the Future of the Country and Our Children and the National Coalition for Healthy Sexual Culture took out an advertisement in the Chosun Ilbo that read, “SBS is responsible if our sons who become ‘gay’ after watching ‘Life is Beautiful’ die of AIDS!” The following

and received a warning along with two penalty points from the Korean Communications Commission, the maximum sanction possible. During the Lunar New Year in February 2021, the movie “Bohemian Rhapsody” aired on SBS, but controversially deleted a scene where two men kiss. This news was reported even overseas, and Adam Lambert – who appeared as a guest vocalist for Queen – expressed his regret through social media.

The problem is that this zero tolerance from audiences for LGBTQIA representation, and severe sanctions imposed by the Korean Communications Commission for expressions of sexual love between members of the same sex, not only designates LGBTQIA and non-normative sexuality as abnormal, but also erases them. That it also violates the right to disclose one’s sexual orientation in the public domain, and to not be treated like a non-existing entity, is a problem, too.

Distorted Representations of the LGBTQIA

LGBTQIA people are represented based on standardized images, which is to say, stereotypes. Media otherizes LGBTQIA people through stereotypes, emphasizing their abnormality, while recreating heteronormativity. The traditional representation of combining homosexuality and AIDS was maintained for a long time, and this served as a mechanism reinforcing the stereotype that LGBTQIA people are sexually promiscuous.

It is noteworthy that stereotypes mostly apply to minorities. But why are stereotypes problematic, when they aren't completely false and have a kernel of truth? There are two types of problems with stereotype. Firstly, minorities are likely to be socially discriminated against based on stereotypes. For example, black people are suspected even more and their frequent questioning by the police is justified based on the stereotype that they are criminals. Secondly, stereotypes can easily limit what individuals who are members of minority groups can do. A prime example is how the social expectation that women

should engage in caretaking labor limits what women can do. Gay individuals will likely face suspicion regardless of whether they are promiscuous or not, and will likely be judged as little more than a promiscuous gay person even if he's a capable entrepreneur, designer, office worker, doctor or teacher.

News reports regarding a COVID outbreak at gay clubs in Itaewon and so-called "black sleeping rooms" – also called "jjimbang," in May 2020 demonstrate how the media connects gay people to sexual promiscuousness, moral corruption and the subsequent "punishment" of AIDS. The relevant news reports emphasized the allegedly abnormal sexual fulfillment practices of gay people to enhance stereotypes and socially stigmatize gay people once again.

An individual calling himself a working reporter uploaded a post on the petition section of the presidential website titled, "Report the 'truth' on the gay clubs! It could result in mass infections!". The following is an excerpt from the post:

If we do not understand the unusual culture of male homosexuals and do not administer appropriate examinations, it could lead to a mass infection surpassing even the mass infection at the Shincheonji Church of Jesus. Most of the entertainment venues that gay people visit are in Jongno and Itaewon. There are hourly shows for gay people at the gay clubs in Itaewon, and many gay people head to Itaewon for the shows after having drinks at Jongno. And just like the case of patient no. 66 of Yongin, there are many instances where they visit several clubs. This comes from the typical practice of homosexuals, who move on to a different club if there is no one they like at a club in search of a partner.

Before we criticize gay people for having sexual intercourse with anonymous people in jjimjang, and instances where gay people visit several gay clubs in search of lovers, we must first look at the social context of why they are forced to pursue such lifestyles. If we were to create an environment in which gay people could freely identify themselves like heterosexuals and freely search for dating partners, and if our society were a safe environment in which gay people didn't

have to hide, would the gay people need to search for friends and lovers behind closed doors? Also, before we criticize the promiscuousness of the gay people, shouldn't we also criticize the prostitution industry for heterosexual men all over Korea?

Conditions for Representation of LGBTQIA Diversity

What are the conditions to produce even more and diverse images of LGBTQIA people? There are four conditions to change the image of the LGBTQIA community.

First, our perception and attitude towards the LGBTQIA community must change. According to the Survey on Same-sex Marriage, Homosexuality, and Seoul Queer Culture Festival³ published by Gallup in 2019, 53% of the respondents saw homosexual love as a form of love while 37% of the respondents did not. Regarding the broadcast and entertainment industry activities for homosexuals, 26% of the respondents claimed to be against it while 67% were not. On

the question of legalization of same-sex marriage, 35% agreed while 56% disagreed, but 62% of the respondents between the ages of 19 and 29 agreed with it. There is still significant negative perception towards homosexual love in our society, but we can predict with some confidence that social acceptance of homosexual love will grow over time considering the stance of the younger generation, which is more accepting towards sexual diversity. Also, if improvement of perceptions and attitudes towards LGBTQIA can be achieved, even more LGBTQIA people will be represented in the media, and images of LGBTQIA people beyond stereotypes could also appear.

Second are the economic conditions. LGBTQIA markets, consumers, and viewers have grown to a scale that can't be overlooked in the US, and broadcast companies, corporations, and advertisers are actively producing contents and products targeting LGBTQIA audiences. The Queer Culture Festival in the US or LGBTQIA movies often have major corporations such as Budweiser and AVIS as sponsors. OUTFEST, an organization hosting events related to LGBTQIA

art, media, and entertainment, has sponsorship from HBO, AT&T, and even Hyundai Motor of Korea. On the other hand, the Queer Culture Festival in Korea does not have much corporate sponsorship aside from Google and Lush. This shows that LGBTQIA people in Korea are overlooked as consumers and markets. If markets and the spending power of LGBTQIA people in Korea grow to a scale that can't be overlooked, it would serve as a catalyst for positive media portrayals.

Third, audiences must actively demand more positive portrayals of LGBTQIA people. As discussed earlier, when programs actively dealing with LGBTQIA people are aired, they are often met with criticism from viewers. But we should not conclude from this that most viewers are against LGBTQIA representation. As shown in the Gallup survey, 67% of the respondents do not oppose the broadcast activities of LGBTQIA people. In other words, viewers against the LGBTQIA representation often file malicious complaints to broadcast companies or the press, but if some viewers actively demand that broadcast companies feature positive portrayals of LGBTQIA people and respond

to distorted portrayals of LGBTQIA people by filing complaints, this would bring changes to the ways the media portrays LGBTQIA.

Meanwhile, LGBTQIA experts must be appointed to the the reader rights committees of newspapers and audience committees of broadcast companies. This is because the media industry is more sensitive to responses from these committees than criticism from the academia. For example, the KBS Audience Committee consists of members representing different fields including the youth, environment, disabled people, women, and human rights, but it doesn't seem to have much representation for the LGBTQIA community. For example, if we appoint experts affiliated with an LGBTQIA rights organization to an audience committee or a reader rights committee, they would be able to speak for the LGBTQIA community, and demand corrections of distorted and stereotypical images of LGBTQIA people to bring practical changes to LGBTQIA-related content.

Lastly, capable creators interested in LGBTQIA issues should actively make relevant content. "Life is Beautiful" could include a gay character as a part

of the main cast because of writer Soo-hyun Kim's determination to stand by her principles despite criticism from viewers. The film "The Handmaiden" could portray love between women because of the capacity of director Chan-wook Park. In the recent years, broadcast companies have aired current events and education programs that seriously discuss LGBTQIA rights, and producers often take personal interest in the topic of LGBTQIA rights. Even some of my students have revealed their intent to create dramas and documentaries or write articles from the LGBTQIA perspective after joining a broadcast company or newspaper company after graduation, and there were even cases of this coming to fruition. We could hope for more variety in LGBTQIA images when there are more capable creators interested in LGBTQIA issues.

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- 1 Richardson, D.. "Constructing sexual citizenship: Theorizing sexual rights". *Critical Social Policy*, 62, 102-135. 2000.
- 2 Gerbner, G. & Gross, L.. "Living with television: The violence profile". *Journal of Communication*, 26, 172~199. 1976.
- 3 <Perception of Same-sex Marriage, Homosexuality, and Seoul Queer Culture Festival >, Gallup Korea Daily Opinion No. 356, May 30, 2019.

The Different Perspectives in Films

Dae-hyun Lee Film Critic





A movie is a story. Philosopher Jean-Paul Sartre said, “Humans understand all things in the world through stories.” If so, movies are a “window” to understanding the world. Movies recall the past, understand the present, and imagine the future through liberal story reconstruction. Diversity is also essential to movies which depict stories of the history, life, and dreams of all people. Movies come in many forms and colors to portray people, worlds, and time, to speak to us, and to reach out.

Movies aren’t discovered but they are rather created in time. Of course, movie diversity itself cannot be free from life’s change, conflict, and confusion. So movie diversity starts from question of “who makes what.” There are variables of diversity in “when, where, and how produces movies are distributed and consumed.” Just like other cultural arts, movies can function differently depending on the viewpoint, values, and emotions of the person watching them. Needless to say, a film’s diversity must be able to narrate all such factors.

What is a Movie?

Movie is ○○

Movies can be defined in different ways depending on the movie itself and sociocultural viewpoints.

- Movies are fake. Movies started off motion pictures, but evolved into a world of fiction and imagination. They may portray and record facts, but even these are combined with fiction as they undergo formatting (narrative), and processes of selection (editing), exaggeration (special effects), and manipulation (production). The biggest reason that movies moved towards the world of fiction and imagination is because of popular entertainment. Movies provide vicarious satisfaction and catharsis through the fantasy of visual language rather than reality by fulfilling desires that cannot be fulfilled in reality. Virtual experiences of an unexperienced world. This wondrous stimulation is what makes movies so powerful.

- Movies are the reality and the future. Imagination and fiction in movies are created based on reality and come from reality. Even the world of ghosts and distant futures emerge from the knowledge and values of the human world. This is why movies are a “window” into reality. Just like in *Avatar* and *Inception*, imagination will one day become reality.
- Movies are fun. Fun is their life force. And this fun is not simply stimulating or pleasurable. If movies simply focused on and repeated the creation of fun, they would not have been able to develop into an industry and an art form. Movies went a step further and pursued different types of fun including the roller coaster of emotions, joy of discovery, enlightenment, confirmation of universal values, vicarious experience, recall of memory, embodiment of imagination, and more to create appropriate bowls (genres).
- Movies are communication. The popularity of movies was achieved not merely by combining

the cultural arts – formerly the privilege of the few – into a single form and expanding it for the general public. It maximizes “communication” through delivery of the most universal values, simultaneity and repeatability beyond the space of the theater and space-time, and various elements of expression. So a theater is not simply a physical space to watch movies in a majestic and realistic manner. It is a type of a “plaza.” Movies secretly seduce the audience with narratives, images, camera perspectives, and stars(actors) to strengthen the persuasiveness and sympathy for the message being delivered. Some people even consider the moment when the lights in a theater go out right before the movie is screened as a form of ritual. Watching the same movie in a single location allows people to share silent communication and consciousness while conversing continuously with the movie. Movies can actually become an incorporeal force through such communication.

- So movies are political. They are similar to politics and include political attributes. Movies are a part of

a large cultural re-enactment system, maintaining the psychological tendencies and social systems that form social reality in a certain direction, and creating sensible insight into what this world is and what it should be.¹ The re-enactment here is not constructed to simply re-enact reality, but to re-enact it in the direction intended by the movie. This is how the movie becomes² political. As you can see in gang movies and mafia movies, conflicts in movies are the same as power struggles and political objectives.

Movies can turn truth into fiction, and fiction into fact to re-enact a certain message or a political image through human consciousness and behavior. As we see in movies from socialist countries, Hollywood movies symbolized by the “American flag” and “freedom,” and political movies released in Korea time and time again, movies can be utilized as a tool to rationalize and justify political values through their images.

Politicality of Korean Movies³



▲ <The Attorney> on the left <Ode to My Father> on the right.

They may incorporate imagination and fiction, but as a mirror of reality, movies are bound to embody “politics.” Movies make the audience recognize the issues of reality through artistic expression of politics, and make them dream for a better future. But as of late, Korean movies are being produced for the purpose of “political intentions” rather than “politicality” as a component for artistic completeness and reality. Many movies agree with the mood of the times and governmental changes to expand the movies’ cultural power and to commercialize the partisan logic and ideological conflict in our society. During a conservative administration, General Sun-sin Yi and General MacArthur were resurrected in the films “Roaring Currents” and “Operation Chromite,” and former President Moo-hyun Roh was resurrected on screen in “Our President” just as the Jae-in Moon administration was set to begin. Movies involved

in political interpretation and controversies since 2012 include “The Battleship Island,” “Operation Chromite,” “Roaring Currents,” “The Attorney,” “Inside Men,” “Assassination,” “Kundo: Age of the Rampant,” “Ode to My Father,” “A Taxi Driver,” “Northern Limit Line,” “1987” and “In the Name of the Son.”

On the positive side, these movies revisit and re-evaluate historical facts or individuals. But they also undeniably combine the atmosphere of the times and psychology and emotions of the audience to create highly political and ideological material to achieve commercial success along with cultural and political influence. The problem with explicitly political movies is that they make audiences consider even movies a means of political expression or political consent rather than vehicles of emotion and sympathy as entertainment and cultural experience. Of course, the primary fault for this phenomenon lies with the movie producers (producer, film maker, director) who are engaging in blunt partisanship, expression of political beliefs, and pursuit of commercial profits to compete for vested interests. Also, the fault lies with those in power for agreeing and cooperating with them to utilize movies as political propaganda and expansions of hegemony.

Movies are ‘Obvious’?

There are no new stories in this world. This also means that life is the same regardless of time and location. Regardless of the era and place, the universal values pursued by people remain the same. So even

if movies are the product of entertainment, fun, and imagination, and even if they thrive far from reality, they have to eventually come back to earth where people live. In such repetition of narrative and format, movies must provide imagination and insight while also maximizing their advantage, namely, as visual language art.

All movies are obvious in the end. However, while the term “obvious” may be negative when used in a conventional sense, it is positive when used in an archetypical sense. “Conventional” generally expresses something old and depersonalized that offers little story and is restricted as a special cultural experience. Its content and format will be poor. This term is applicable to formula films and imitative films. On the other hand, “archetypical” is an expression that contains individualistic and unique cultural characteristic after deducing universal human experience from substantiation of reality. This stimulates humanistic knowledge and emotion to make us discover our human nature.

Let’s consider why the film “Masquerade,” which reminds us of the characters and the narrative structure featured in Mark Twain’s *The Prince and the Pauper*

and Japanese film *Kagemusha*, has achieved massive commercial success with 12 million admissions. This movie portrays a very imaginative story of the 15-day regime of Prince Gwanghae in a way far removed from historical reality, but it also portrays a leader who has the eyes and heart to communicate and share pain with the people through realistic substantiation. Many movies have portrayed idealistic leaders as desired by the people, but this was a new approach.

Movie Diversity

Why is Movie Diversity Necessary?

Movies are a cultural art of expression. Life of expression comes from freedom and individuality, and art can have diversity through free and individualistic expressions. Movies are also an industry, so they could secure diversity through distribution and consumption, but as they are not simple industrial product, things are a bit more complicated.

Movies provide various values, reality perception, and imagination to people as they make lives richer

and fun. Movie diversity is the diversity of life and cultural diversity. Cultural diversity is not the differentiation of “like” and “dislike,” or “high” and “low,” but rather of “unfamiliar” and “different.” The reinforcement and disintegration of such boundaries depend on cultural preferences. We need diverse consumers, and consumption diversity accepting of diverse movies, as much as we need diverse movies.

The growth of cultural preferences – the capacity to enjoy culture – expands knowledge, culture, thoughts, and values, and allow us to explore deeper and have perspectives about people and the world. A person who only insists on a single genre can never enjoy beauty and joy in movies of other genres. Only when a person decides to break through their own barrier of preferences, they will be able to see movies of various colors, and movies become their own. Excessive political interpretation and judgment of a movie out of partisanship could also be an obstacle to expansion of preferences. You must tear down prejudices and biases, and open your heart and eyes to encounter and feel diverse movies.

Movie Diversity: Money and Technology?

Movies are an expensive form of art. Without profits following expenses, a film cannot enjoy long-term continuity. Even if auteur film directors make movies only to express their own world of art regardless of box office success, movies need as large an audience as possible for their repetition and growth.⁹ Another condition for diversity in movie production lies in diverse capital. Capital that only pursues box office success fears adventure. What's fortunate is that over time, movie capital is increasingly dispersing to different investment funds rather than focusing solely on major corporations. This change is partly due to changes in perception on the part of movie investors and producers who have experienced a reduction in profit diversification coming from repetition of similar films. But also at play are complex factors such as consumers (audiences) trying to more broadly accept production environments, technological innovation, distribution innovation, and diversity.

Movies are commercial art and a high-cost industry, which naturally limits diversity in production. The

excessive focus on commercial films for profit in movie production results in an imbalanced cultural diet. In order to prevent this, public capital is invested in movies. Support from the central governments and local governments for production and distribution of independent films, low budget films, artistic films and the like would help grow movie diversity.

But this is not enough. Digital technology innovation was the primary catalyst for significant changes and diversity in movie production. Movies are a product of technology, and continuous combination with new technology allowed movies to be able to express topics and stories that weren't possible to express in the past. Using digital projectors instead of expensive films lowered production cost. Now, we can use smartphones as projectors. Blockbusters are still the preserve of major movie companies, but low budget artistic movies, which have less box office pressure, are being produced by countless producers. And even the capital for such films, which mostly came from the movie industry in the past, is now flowing in from other industries aiming to break barriers and pursue business diversification, which in turn promotes scale

and diversification in movie production.

Other catalysts are globalization and differentiation. The formula of Hollywood movies being made by American investors and movie companies, while Korean movies made by Korean investors and movie companies, with respective movies being distributed and screened only in certain regions, is no longer true. Also, the compulsion that all movies should be consumed in all regions and countries has disappeared. Diversification of movie production is overlapping with diversification of distribution (distribution and screening) due to digital innovation. Production has changed distribution, and distribution has changed production, and even created a new movie format to make the idea that “movies are watched in theaters” obsolete. Emergence of movie platform OTT (Over-the-top media services), and online video services have changed movies consumption audience from groups to individuals, and unilateral viewing to selective viewing, and changed one-time showing of a small movie into a repeated showing spanning time and space. In particular, OTT became a window of safe movie consumption amid the unavoidable social

distancing of the COVID-19 pandemic.

It's not as if there were no previous attempts to diversify movie screening. In Korea, small theaters in the 1990s, achieved a bit of success by importing and screening European movies for audiences thirsting for artistic movies and movies from other countries. But they failed to maintain continuity by failing to differentiate from existing commercial movies in marketing and distribution, and due to the small audience base.

What followed afterwards were the many international film festivals that began with Busan in 1996. Many film festivals held in Korea are criticized as promotional vehicles for local governments, and for their consumption-heavy atmosphere, but they have played a positive role in diversification of movie screening, at least to some extent.⁴ Hundreds of movies produced worldwide are screened at once, and hundreds of thousands of movie fans gather together,⁵ but questions still remain as to whether these film festivals have substantively contributed to diversification in movie screening. Most films are screened only during the film festival period, and

while some popular films open at theaters after the festivals, most are ignored by audiences.

Power of OTT

OTT are growing rapidly, and have launched a new era of movie distribution and screening beyond all previous limitations. They are building an environment where anyone can view any movie they want at low cost without restrictions in economics, convenience, repeatability, individuality, and region. The audience now no longer has to go to theaters to watch released movies, or has to own the film as a file, and producers and distributors no longer have to make movies worried about how movie theaters will react. The opposition shown by movie theaters when *Okja* by director Joon-ho Bong was released on Netflix, and opposition from the Cannes Film Festival for movies produced and screened by OTT, have become a thing of the past.

Director Je-kyoon Yoon of *Ode to My Father* said, “OTT are influencing various areas. Whether this is natural or forced, the distribution method

of OTT is bringing changes not only to the market and consumption but also to production, genre, and format. You can now make short films such as 20 films running 30 minutes each, or 10 films running 1 hour each, instead of only making 2-hour feature films for movie theaters.”⁶

That’s not all. The worldwide success of *Parasite* from director Joon-ho Bong was due to the completeness of the film and its global subject, namely, the gap between rich and poor resulting from neoliberalism. But OTT also contributed to its success. As Netflix emerged and platforms diversified, it became easier for Korean movies to be exported to the global market, language barriers were lowered, and interest in and assessments of Korean actors are changing. Such changes are also relevant to actress Yuh-jung Youn of *Minari* winning the Academy Award for Best Actress in a Supporting Role, a first for a Korean actress.

There were concerns that diversification could decrease in the role of movie theaters and theater releases backed by large capital as movie screenings and viewing grew online due to the protracted COVID-19 pandemic. However, director Je-gyu Kang

expressed doubt about this at the rescreening of his *Taegukgi: Brotherhood of War* 17 years after its initial release. He said although distribution is important for movies, movie theaters will naturally recover when the COVID-19 pandemic subsides because movies are content. Director Joon-ho Bong, too, noted that everyone said all movies would become 3D movies after the release of *Avatar*, but this did not happen, and was firm in his opinion that not all movies would be distributed through OTT in the future.

This would make movie theaters and OTT a positive-sum game rather than a zero-sum game. Director Je-kyoon Yoon stated that regardless of the COVID-19 pandemic, OTT will promote consumption and diversification of movies as they establish themselves as a privately owned space individuals need to watch movies. And it is true that OTT are bifurcating movie consumption patterns and expanding markets. All small-scale movies around the world are flowing into OTT.

The era when people couldn't watch movies no longer playing in movie theaters or VOD has long passed. People no longer have to search here

and there for movies of specific genres, topics, or countries. The platform algorithm even prepares an assortment of movies from genres, topics, stories, countries, directors, and actors you prefer and watch frequently. All we have to do is consume.

There's no reason for all movies to screen in movie theaters – even for just a few days – for promotion and publicity before being released online. Millions of viewers are already waiting in the virtual theater of OTT. There are already 240 million Netflix subscribers, and Disney+ had already achieved 100 million subscribers while servicing only 59 countries as of March 2021, which was only a year and four months since its launch.

All we have to do is make choices. Do we want to watch only the movies we like? Or do we wish to broaden our scope and watch a diversity of movies instead of relying on the platform algorithm? “How” are we going to watch movies? “What” will be encounter in movies?

How to View Movies

Like all creative works of cultural art, the significance and value of movies depends on the viewer. People find different things in the same movie, and find the same things in different movies. The same applies to “fun” and “boring.” Movies are viewed from individual perspectives, and movies become “your own” through such perspectives. Of course, movies are constructed in a direction intended by the director through conventions such as conclusion of narrative, image continuity, non-reflective camera work, fixed identity of characters, main screen filming, frame balance and factual clarity. But we do not have to follow suit.

Writers often say this in the postscript of their novels. “This work is now yours.” Movie directors also say this frequently. Director Joon-ho Bong said, “Movies should be interpreted by the viewer however they wish”, and director Lee Isaac Chung said, “My movies are an open ‘table’ so anyone can eat however they wish.” Movies become fun, entertaining, meaningful, and new depending on how we view them. You will find diverse interpretations and meanings in movies

when you discover the many “codes” in a movie from your own experience and perspective rather than just following the intent, values, images, and imagination of the movie intended by the director.

The Three Eyes

There are three eyes in movies. One is the camera, another is the actor, and the last is “me,” the audience. Movies seem to provide visual experiences similar to the real world. But just like our viewpoint, a movie’s viewpoint is always intentional. It’s identical in the sense that we are interested in choosing what to see, and judging by what we see. The audience also mistakes the movie’s viewpoint as their own, trusting and accepting the movie’s images. But the movie’s viewpoint, or the camera, is the eye of the director. The director matches what they intend to show to the camera, brings the camera closer, and assigns images and emotions to the subject through various forms of camera work (long takes, handheld, jump cuts, etc.). Though this, directors emphasize a certain stance or viewpoint, and hide the artificial symbols in movies to

trap the audience in their own perspectives,

Let's take a look at war movies. In most war movies, cameras serve as the eyes for the director for the side that the director has chosen, and serve as the eyes of the weapons of the soldiers as they gaze upon and attack the enemy. As the audience follows the camera, the enemy on screen becomes the enemy of the audience, and the audience becomes one with the director. In the movie *Dunkirk*, the weapons become the eyes of the camera as they fly through the sky and attack the enemy. But just chasing the eyes of the camera would make you miss the significance and emotion of different symbols and elements in the movie. This is because we think the movie's viewpoint is transparent, so only look through the eyes of the camera.

What about the actor's viewpoint? Actors never face the audience. They rarely face the camera (director). When they do look towards the audience viewing through the camera or screen, the subsequent cut quickly shows that this viewpoint is from a space in the movie or another actor. The moment the actor follows the eyes of the camera and meets the eyes the audience, the audience

I am the Enemy to Them

<Flags of Our Fathers> vs <Letters from Iwo Jima>



▲ <Flags of Our Fathers>(Left) <Letters from Iwo Jima>(Right)

These are two different war movies filmed by actor and director Clint Eastwood in 2007, that were shot on the same location but detail opposing perspectives. These movies portrayed a battle between Japanese and American forces that took place in February of 1945 at Iwo Jima, a small island in the south Pacific. In the battle that lasted over 35 days, there were over 6,800 casualties and 20,000 wounded for the 70,000 American troops, while only a 1,000 survived among the 22,000 Japanese troops.

In the <Flags of Our Fathers>, the camera serves as the eyes of the American troops in the American base, and in the <Letters from Iwo Jima>, the camera serves as the eyes of the Japanese troops in the Japanese base. In such simple change of perspective, the allies and the enemies, and the good and the evil in the battlefield are reversed. Through these movies, the director emphasizes the fact that allies and enemies are ultimately human beings, that life and death, love for one's family, and the weight of fear and tragedy are the same for all, that wars do not differentiate between friends and foes.

recognizes their space, and the audience recognizes their position, thus destroying the fabrication.

This viewpoint of the actor is to protect the illusionism of the movie. Illusionism distracts the audience from the fact that the method of viewing incidents and characters in movies can differ from reality, and creates the most convincing conditions (fabrications) for the audience, who wish to believe that the images visible in the movie to be true, to give perceptual satisfaction to the audience by absorbing them into world within the movie as they forget their current reality.⁷ Lastly, there is 'my' viewpoint. Generally, 'my' viewpoint attempts to follow the machine (camera) combined with another person's (director's) viewpoint. This manual participation makes it easier for you to fall into the world within the movie, and makes you comfortable and joyful. But this cannot make a movie your own. It remains the director's.

Watching a Movie with 'My' Eyes

To make a movie your own, you must have your own viewpoint. If you obsess over your preferences,

and accept only what's familiar with your schema, then your viewpoint will become narrower and simpler. To have diverse viewpoints, you must first open your "heart." Sensitive emotions and sharp eyes can find universality and homogeneity in unfamiliar and awkward movies, making them appear different. Catharsis for another person could be enlightenment for you.

In 2010, *Áo lụa Hà Đông* (*The White Silk Dress*) became – after many ups and downs – the first commercial film made with purely Vietnamese technology, director and actors to debut in Korea. But the audience criticized its lack of completeness and technology, and shunned Vietnamese movies. It was the greatest box office hit in Vietnam at the time with 500,000 admissions, and it won the Audience Award at the Busan International Film Festival, but it lasted less than a week in theaters with only 6,000 admissions.

This movie emotionally portrayed a family's tragedy and hope, and a mother's devoted love for her children in the historical chaos of the 1950s, and I was able to find homogeneity between their history and lives with our own history and lives. What we should have seen

in this movie was the “world,” not the “technology.” This is because multiculturalism and cultural diversity refer to “accepting, understanding, and enjoying diverse cultures as we find common ground with our culture, and maximizing the advantages of a different culture within our own culture and their culture.”⁸

Once we eliminate prejudice and bias, and have diverse perspectives, there are no bad movies in this world. Even conventional movies portray at least a bit of beautiful, good, new or warm scenery. You can find and expand it with your knowledge and emotion to turn the movie into a good one, at least for you. If you see the world from the eyes of the enemy, you can sympathize somewhat with Commodus, who tries to kill the war hero Maximus in the movie *Gladiator*. And through such reasons and exploration, the movie becomes history rather than an “obvious” tale of revenge.

If “a movie only has one story, and the story should conclude following the path suggested by the movie,” then a movie should be the same for everyone. But even if the destination for the movie is the same, the paths can vary. Movie diversity lies in such paths.

Iranian director Abbas Kiarostami confirms this in a conversation between the main character, a broadcast station producer, and a boy from a village in his movie, *Bad ma ra khahad bord*:

“Where is your school?”

“This way and that way.”

“You go to two schools?”

“No, there are two ways to get to the school.”

There is more than one path to a destination. Two paths do not mean there should be two destinations. Just like in life, there are multiple paths in movies. So in life, and in movies, and in the hearts of the people watching the movies, there is diversity. So let's take the path we wish, and see from the eyes we wish to see from. Even if this is more difficult and others think it strange. Because there are things that only you can see.

But this doesn't mean you should insist only on your own perspective in all movies. This would be another “standardization” and “compulsion.” This is more so for “successful” movies. Audiences are no fools.

There is clearly a special reason why over 10 million people watch and sympathize with a movie. Movies may be simple entertainment but there are hidden social and psychological elements. When we connect them to reality, movies become a part of reality, and they meet our eyes.

Movies satirize and criticize contradictions and inhumanity in our world with ruthless and sharp eyes (*Inside Men, Unbowed*), or search for ideal leaders desired by history and era (*Masquerade, Roaring Currents*), or even change the world (*Wajda, Deux Hommes dans la ville*).

Social perspectives in movies sometimes portray lives of individuals. They ponder the value of existence as a human rather than as a wife or a woman (*The Wife, Kim Ji-young: Born 1982*), shed light on the sad life of outcasted elderlies (*The Father, Late Blossom*), and think of the value of life through the choices of people facing death (*The Bucket List, Wonderful Life*(ワンダフルライフ)).

But movies don't only view the world from realistic perspectives. They explore the meaning of identity through the existence of another 'me' (*Avatar, The Island*), or they portray new perspectives on the human condition through conflict with non-human entities

(*Bicentennial Man*, *Planet of the Apes*), or portray the most basic human desires through fantasy (*Shaolin Soccer*(*少林足球*), *Harry Potter series*).

Movies offer imagination and worlds from different perspectives, and we encounter movies with different eyes and hearts. In such encounters, we discover differences and similarities in various peoples and histories, lives and societies, cultures and philosophies, and faiths and good wills. These feelings naturally connect to the lives of “I,” “you,” and “us.”

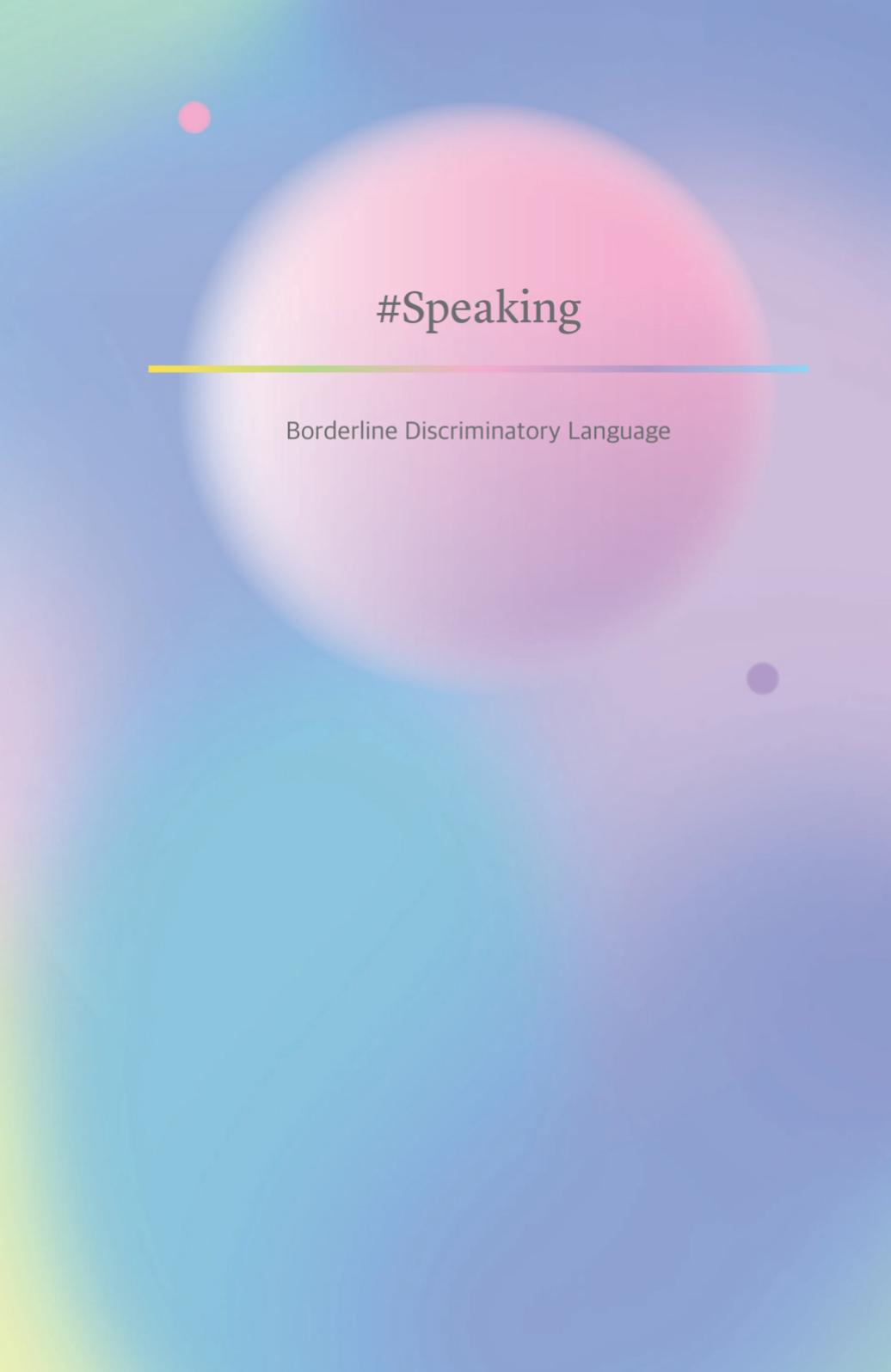
There is “one” destination intended by countless movies featuring so many topics and stories in their own forms. It’s the dream of a better world. In order to achieve this, movies never abandon “universal human values and experiences.” They tell the lives of different people for the good, love, friendship, family, community, sharing, death, soul and dreams, and embed themselves in culture, history, and religion across time and space. And they wish to sympathize with other people and even with the thoughts and hearts of animals, nature and unknown lifeforms.

The worlds you can encounter through movies are as infinite as the number of movies in existence, and

there are as many paths in these movies as the paths you choose in life. This diversity is also the diversity of the world and people.

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- 1 Michael Ryan·Douglas Kellner, translated by Mun-im Baek·Mahn-yeong Cho, 『Camera Politica: The Politics and Ideology of Contemporary Hollywood Film』, Perspective and Language, 1996.
- 2 Jong-seong Park, 『Politics and Movie』, Human Love, 1999.
- 3 Dae-hyun Lee, 『Study on Partisanship of Movie Coverage Discussion in Korean Newspapers 』, doctoral thesis, Kookmin University, 2019.
- 4 Dae-hyun Lee, 『Seeing the World Through Movies at Age 17』, Dahal Media, 2010.
- 5 According to the statistics from the Busan International Film Festival, from its 1st festival (1996) until the 24th festival (2020) before the COVID-19 pandemic, 165,000 to 227,000 people have watched movies every year.
- 6 『Daesan Chodaeseok: I Wish to Make Ideological Films Where Everyone is Harmonious and Happy 』, 『Daesan Culture』2021 Summer Issue (No. 80).
- 7 Thomas Sobchack·Vivian Sobchack, translated by Chang-gyu Joo et al., 『An Introduction to Film』, Georeum, 1998.
- 8 Dae-hyun Lee, 『There is No Cinema Heaven for Us 』, Dahal Media, 2010.



#Speaking

Borderline Discriminatory Language

The Most Habitual and Subtle
Discrimination in the Korean Language

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In our society, there are still various forms of discrimination. We can easily think of a few: discriminations based on an individual's sex, disability, education, appearance, race, age, regionalism, against foreigners, and etc. But what is the most common and widespread discrimination within our society?

This discrimination is something we are so used to that we often do not even recognize that it is discrimination. Everyone experiences this discrimination but it is considered to be natural to the point that it becomes difficult to perceive it as discrimination. It is reinforced through the daily uses of our language that numb our awareness. And these make it the most formidable discrimination. The more alarming fact is that everyone gains more of the vested rights to assert this discrimination over time, making it is extremely difficult to eliminate. And such is why we should pay more attention to it.

It is 'age discrimination.'

As a Korean linguist, the reason why I wanted to focus on age discrimination is because this

discrimination is deeply connected to the Korean language. The language created, solidified, and routinized this discrimination within our society, thus it is difficult for us to realize its problem. Consequently, if not conscious of it in every moment, anyone who uses the Korean language can easily become an age discriminator.

Some may say such thought is too excessive and extreme. But if you really think about it, there is no reason for an older person to be the superior, the senior, or the one at a higher position, and there is equally no reason for a younger person to be the subordinate, the junior, or the one at a lower position. Our society teaches us to prioritize equality where there is no high or low, or superior or inferior among people, that we should fight against inequality and discrimination. However, our language unintentionally makes us 'innocent' age discriminators, and this is because we accept age discrimination as something natural and reinforce it through our language uses.

To understand this issue, we will take a look at a few themes related to 'age' and reflect on our perspectives. Then we will look at how our thoughts and behaviors

are expressed and reinforced through language. We will especially discuss age discrimination apparent in our language, and how power of age exists, as well as various issues that stem from it. Furthermore, we will discuss how age discrimination dominates our consciousness through words. Let us first discuss four themes.

Four Themes Related to Age

Theme 1: Why is 'Age' as Important as Name?

It was a few years ago. With a professor at the University of Oxford, I planned a workshop on Korean-English / English-Korean translation, and was able to receive an aid from the Ministry of Education. The aim was to select students interested in translation studies, conduct related research, and visit Oxford for a workshop with students at the University of Oxford.

During the first meeting between the students from the two schools, our university's students took turns to introduce themselves first, and one of the students

told the others his name and age, adding that he was the youngest from the group. At that moment, this format of self-introduction that I was well familiar with suddenly felt strange. This student was not the only one though; other students who had introduced themselves earlier also stated their age or year of study. The reason why this student's introduction stood out more was probably because of the emphasis on being the 'youngest'.

If this was Seoul instead of Oxford, and the language being spoken was Korean instead of English, then such self-introduction may not have felt so strange. But hearing it in English in Oxford made it seem so unusual. As I became aware of it, I came to notice that age was mentioned in every subsequent self-introductions from other students. Students stated their age or year of study.

In contrast, British students introduced themselves differently. They stated their names, their native language, other languages they are fluent in, their major, and their interests. No student spoke of their age or year of study. This brought up a question in my mind, 'Why do our students think that they must state

their age as they introduce themselves?’

Then I thought back to when I studied in the UK. I almost never spoke of age with the British people I met. Even my closest friends in the UK, I could not remember their exact ages and whether they were older or younger than me. Things were different with the people I met in Korea. I did not remember their exact ages but I was able to at least remember if they were older or younger than me, especially for those close to me.

So why do we think that it is important to introduce ourselves with our age, as much as our name?

Theme 2: We are Curious About Age

One of the strangest and uncomfortable things that people unfamiliar with Korean culture encounter in Korea is people they just met asking them their age. They say that they do not understand why Koreans ask about age when they meet for the first time, that it is very strange or even rude. A way for us to see how common for us it is to ask age, is to observe what children do when they first meet each other.

Two children would greet each other, then tell each other their names and how old they are. And if the other kid does not reveal their age, they are asked for it, and the kid very naturally tells his or her age.

Even from childhood, we do not hesitate to ask and tell each other's age. This shows that age is just as important information as name when we first meet people. But if we take a closer look, not everyone seems to be curious about other people's age. People ask the question to some people, and do not to some people. Also, asking someone their age is not always acceptable. There are times when asking for age is considered disrespectful.

For example, when a child meets another child and asks, "How old are you?", or, "What grade are you in?", it is very natural. The same applies for adults. When people in the similar age group first meet, they ask each other's age. People mostly tend to approach it indirectly rather than directly, but asking someone their age is in general not considered odd or rude.

However, let us pretend a 10-year-old kid meets an adult in his 30's for the first time and asks, "How old are you?" The adult asked such question from a child

would be caught off guard or burst into laughter. On the other hand, an adult asking a child how old they are seems almost like a reflex. How about when a man in his 30's meets a man in his 50's for the first time? In such case, either of them randomly asking "How old are you?" to the other person most likely would not seem that respectful. In particular, a younger person asking such question to an older person would be chided for being impolite and rude.

When the age difference is clearly apparent, or in predefined relationships, asking for age becomes rude or silly. In such instances, people rarely ask each other their age. Of course, as mentioned earlier, an adult may begin a conversation with a child with such silly question. It is also true when people in the similar age group meet for the first time without any information about each other, asking for age is not considered to be rude or impolite.

But why are we curious about each other's age when we meet our peers? Why do we think that age is an information that is as important as name? Are there people who are more interested in and sensitive about age than Koreans are?

Theme 3: East Asian Age, International Age, Year Age: How Old Am I?

We are not only sensitive about age but live in a country where there are three types of age. We would take the first place in the world for it. The most widely used ages in Korea are the East Asian age, international age, and year age.

East Asian age is an age system where a baby is born aged one, and turns a year older every January 1st. International age is an age system where age increases by one after each birthday. Year age is similar to East Asian age but it is an age system where a baby is born zero years old, and turns a year older every January 1st. For example, if a baby was born on December 31st, they would be 1 year old in East Asian age, and 0 years old in international age and year age. But just a day later, on January 1st of the following year, the baby's age changes completely depending on the age counting method. They would be 2 years old in East Asian age, 0 years old in international age, and 1 year old in year age.

The age that is most widely used in our society is East Asian age. When we say "I am xx years old",

we generally mean our East Asian age. Our common belief is that once we have the rice cake soup on the New Year's Day, we get a year older. Since we use East Asian age as the standard when we disclose our age, it is generally what we associate with age.

East Asian age was the age counting method commonly used in societies within the Chinese character sphere or East Asian cultural sphere. Countries such as China, Japan, Vietnam, and etc. had the tradition of counting East Asian age based on lunar calendar. But most of these countries accepted the Gregorian or solar calendar in modern times, eliminated East Asian age, and adopted international age as the age counting system. As a result, Korean language speakers are the only ones in the world that still actively use the East Asian age system. As for North Korea, although difficult to verify, the statements made by North Korean defectors suggest that international age is the official age counting method, but East Asian age is still used unofficially.

In fact, the international age counting system is the official standard for us as well. This means that all ages specified in laws refer to international age. However,

under such system, when a person turns a year older is different for everyone because of different birthdays. Consequently, the concept of year age was invented. Year age can be easily calculated once you know a person's year of birth, so instead of using international age where everyone's age varies depending on their birthday, some laws use year age as the standard for convenience. In 2001, year age was first implemented when the Juvenile Protection Act was amended. Year age is identical to East Asian age in the sense that it considers a person born in the same year to be of the same age, but it differs from the fact that it counts a person to be 0 years old in the year of birth.

Most countries use international age. Even China, the once regional power in the East Asian cultural sphere, used East Asian age in the past but now uses international age. Former members of the East Asian cultural sphere such as Japan, Mongolia, Manchuria, and Vietnam all used East Asian age in the past, but now use international age.

So why does Korea still use East Asian age? Why does East Asian age continue to stand firm despite the fact that legal standards use international age?

Theme 4: The Origin of Being ‘Born Early’

I was first fascinated when I heard the expression of being ‘born early’ in a broadcast. A celebrity in his 20’s in an idol group used this expression as he talked about his experiences in the entertainment industry. This singer started school early so he was actually a year younger than his friends at school. But when he was a trainee, one of the other trainees was furious at him for lying about his age. He was dumbfounded because he never lied about his age and he never even told how old he was to that trainee.

The reason why this trainee was furious was as follows. There was a high school friend of this idol singer in the company. This other trainee saw the idol singer speaking informally with his friend, and since this friend was a year older than him, he figured that this idol singer was a year older than him. As a result, this trainee used the honorific form of speech with this idol singer ever since, not knowing that they were actually of the same age. The trainee was infuriated that he had to speak formally to the idol singer for quite some time, because he did not reveal that he was ‘born early’. After this incident, the idol singer

came to always reveal that he was 'born early' to avoid such misunderstanding.

The facial expression of this idol singer was quite serious as he told this story. He said he felt frustrated by such misunderstanding, that he simply started school early because he was born in January (or February). He also added that he thought it was ridiculous how people assumed and got angry all on their own, when he never intended to lie in the first place.

In high school, students in the same year of study do not care much about each other's age. They assume that they are all of the same age if they are in the year, so they speak informally and call each other by their name. The problem rises once they graduate and are thrown into the society. In the case of the idol singer, he was able to learn the need of revealing being 'born early' much quicker than an average young adult, since he entered the real world much earlier.

It is difficult to accurately determine when the expression of being 'born early' was first used. The first known use of this expression found on internet was October 2002. An internet user used the expression 'born early in year xxxx' as he asked why people born in January and February start school a year earlier.

'Born early in year xxxx' is an expression mainly used by those in their 20's and 30's who started school a year earlier or when they were 7 years old in East Asian age. The concept of being born early, however, disappeared after 2002. With the amendment of the Enforcement Decree of the Elementary and Secondary Education Act on March 1, 2008, students who were born in January and February and starting school in 2009 were no longer permitted to start 'early' unless they were admitted to school through early admissions. Despite this, there are still many people born in January or February before 2002 who feel the need to use the expression of being 'born early'. The reason why they need this expression is simple. It is to inform the others that they are actually a year younger than their peers that started school in the same year. It is their desperation to appeal to the people that they did not lie about their age.

So these people who were born early tend to have a type of obsession. They become aware of the fact that they have used informal speech with their peers in school even though they were actually a year younger, and realize that they could be misunderstood or criticized as intentionally having withheld their age

and pretended to be a year older, to be treated more respectfully. In other words, this expression is a way for these people to protect themselves.

The difference is only a few months, but why is our society obsessed with age to the point of creating the expression of being ‘born early’?

Mechanism of Korean Honorifics

These familiar yet strange questions are all related to language. The reason why we are so sensitive about age and interested in other people’s age, the reason why we are the only country in the world that consistently uses East Asian age, the reason why we are so sensitive to even a difference of a mere month or two thus create the expression of being ‘born early’, and the asymmetrical linguistic hierarchy based on age, all come from practice and reinforcement of certain language uses.

Now, let us take a closer look at how language functions as a mechanism of age discrimination in our society. The biggest contributor to making Korean language speakers ‘innocent’ age discriminators is the

‘honorific speech’ in the Korean language. Through the hierarchy inherent in the language, honorific speech in the Korean language plays the role of teaching people the hierarchy of individuals and stabilizes the concept. Furthermore, it makes us react sensitively toward elements that determine the hierarchy of words necessary for us to speak appropriately.

Korean honorifics are very sophisticated. There are three main types of honorifics in the Korean language: subject honorification, object honorification, and addressee honorification.

Subject honorification is where we question the relationship between the subject person and ourselves. If the subject of the sentence is an older person, we use ‘ggaeseo(께서)’ instead of ‘yi/ga(이/가)’ and attach ‘-si(-시-)’ to the predicate. Some predicates need to be changed entirely. For example, rather than saying that “선생님이 과일을 먹고 있어요(The teacher is eating fruit)”, it would be more appropriate to say “선생님께서 과일을 드시고 계세요(The teacher is eating fruit).”

Next is the object honorification. Object honorification questions the relationship between the person used as the object or adverb of the sentence and ourselves.

If the object or adverb of the sentence features an older person, we would have to change ‘aegae(에게)’ to ‘ggae(께)’ to express honorification for the object, and change some of the predicates. So Korean language speakers think that rather than saying, “선생님에게 우산을 주었다(I gave the umbrella to the teacher)”, it is more appropriate to say, “선생님께 우산을 드렸다(I gave the umbrella to the teacher).”

Lastly, there is the addressee honorification. Addressee honorification questions the relationship between the addressee and ourselves, and we indicate honorification by how we refer to them and how we end the sentence. So when we listen to Korean sentences, we can immediately know the relationship between the speaker and the addressee. For example, we can determine the relationship of the speaker and the addressee by “야, 이리로 와(Hey, come over here)” or “선생님, 이리로 오세요(Teacher, please come here).” The “Hey”, or “Come here”, we can tell that the speaker is addressing a subordinate or a younger person, and by “Teacher” and “Please come here”, we can tell that the speaker is addressing a superior or an older person. The addressee honorification in Korean language expresses honorification by how we refer to a person (title) and how we finish the sentence (sentence ending).

The most important of Korean honorification is the addressee honorification. People in subject honorification and object honorification could be someone who exists right in front of us or not. But the addressee who is the subject of the addressee honorification is a person that is conversing with us in real life. Thus, it is all the more important. Also, how a sentence is ended is crucial. Addressee honorifics must be used in sentence endings. You cannot just mumble on the end of the sentence.

In other words, the addressee honorification expresses the relationship between the addressee and ourselves. However, incorrect uses of addressee honorification can make the addressee feel offended or uncomfortable. It is difficult to maintain a relationship with another person unless you use appropriate honorifics. The question is, then, what should we consider when establishing the relationship between the addressee and ourselves through words?

The most crucial factor to consider in appropriately using addressee honorification is age. If someone is older than us, we must use honorifics, and if the addressee is of the same age or younger, we can use informal speech. That is the unspoken rule among

Korean language speakers and is the rule of the Korean language. Of course, age is not the only factor to consider. Positional difference or friendliness between the speaker and the addressee are also important factors, along with speaking environment (formal or informal environment), and contribute to our choice in the use of appropriate addressee honorification.

Shadow of Age Discrimination Rooted in Language

The real reason why Koreans are curious of other people's age and sensitive about age is because it is a key information needed to speak appropriately. When we determine how we refer to the other person, or when we select the appropriate expression to end the sentence, age serves as an important factor.

The Reason Why We Can't Forfeit East Asian age

In Korean, it is crucial to know the other person's age to speak appropriately. But what if the other person's age is constantly changing? It would be very

difficult to speak appropriately in that case.

International age is a system where age is based on an individual's birthday. Instead of everyone getting older by a year on the same day, everyone ages based on their birthdays. Therefore, a specific day could be when only I become older or only someone else gets older. Two people born in the same year but on different days can sometimes be of the same age or sometimes be of a different age. If you do not remember each other's birthday, then it would be very confusing because you would not know whether to speak in honorific speech or informal speech to the other person.

However, it is different for the East Asian age system. Everyone becomes older on the same day, so the age gap between you and the other person never changes. As you get older by a year, so does the other person. There is no instance where only you age and the other person does not. This is why East Asian age is the most appropriate age counting system for the Korean language speakers who require information on age.

The East Asian age system was the common tradition through the East Asian cultural regions, including

China, Japan, Vietnam, etc. However, all other countries except for Korea have eliminated the East Asian age system and adopted the international age system. This is because age is not the key component in other languages, unlike the Korean language.

Birth of 'I Was Born Early'

The expression of being born early was created entirely because of the grammatical nature of the Korean language. Until you start school, the standard for the way you speak is based on the other person's age. However, between elementary school and the end of high school, your word choices revolve around year of study instead of age. Unless the age differences among peers are significant, you refer to each other by name and speak informally as long as you are in the same year, because it is naturally assumed that the same year of study equates to the same age. Thus this makes those 'born early' as 'hierarchy disruptors', because their actual age differs from what is expected from the year of study they belong to. Because they started school a year earlier, their peers are a year older than them, despite the informal way they speak

with their classmates. If they were not classmates, the use of informal speech between them would normally be inappropriate due to the age difference.

Such is why those born early often end up in awkward triangular relationships when they are thrown into the real world. For example, person A becomes friendly with Person B, who is a year older and joined the company in the same year, and refers to him as a big brother. One day, Person B introduces Person C as his friend. However, Person C, who is a friend of B, was actually a high school classmate of A. With all three of them in the same room, referring to each other becomes awkward. A would be speaking in honorific speech to B referring him as ‘big brother’, while both A and B speak informally with C, referring to him by his name. This results in an awkward situation where A, who is a year younger than both B and C, refers to one person as a ‘big brother’ while referring to another person by his name.

Thus, although unintended, the ‘early born’ people are sometimes branded as troublesome beings that dismantle the sacred hierarchy of age. Consequently, they came up with the expression ‘born early in year xxxx’, for a quick and easy way of introducing

themselves to their peers. Instead of explaining in detail of how “they started school early but they are actually a year younger”, they can simply state ‘born early in year xxxx’. But this expression will soon become an expression of the past. With the abolishment of early elementary school enrollments at the age of seven in 2008, no one born after 2003 can be categorized as having ‘born early’.

Age Hierarchy Substitutes Class Hierarchy

Our sensitivity to the concept of age, how we treat age as a hierarchy of individuals, how we consider age as sacred power, and how age discrimination is common in our daily lives, all revolve around the ‘honorifications’ of the Korean language. If we speak without honorifications, we fail to follow the correct grammatical rules, which makes it an incorrect way to speak Korean. If a child speaks informally to an adult during their initial encounter, then this is a problem because the child has failed to uphold the rule established and observed by the Korean language and the Korean language speaking communities.

However, the Korean language's grammatical rules can be modified anytime by its users. In fact, it has changed over time through agreements between those who practice the language. Language is not a golden rule or a sacred area. It is just a social agreement. Language can change or not change dependent on the consensus of the speakers. Therefore, by looking at the changes the Korean language have gone through over time, you can understand which shifts in consensus brought on those changes in the language, as well as how the philosophies of Korean speakers have changed over time.

For example, back when the class system was in effect, social class was the most important factor in determining honorifications. A person of higher class spoke in informal speech to a person of lower class, and a person of lower class had to use honorifics when speaking to a person of higher class. No matter how old an individual was, honorifics had to be used when speaking to those of higher class. Also, no matter how young a person was, they used informal speech toward, and were addressed with honorifics by those of lower class. This was the rule of the Korean language back then.

After the class system was abolished, however, the Korean language speakers proceeded to make changes, as their perspectives of the world changed. Such change did not take place overnight; the shadow of the class system persisted for quite a long time even after the abolishment.

And we can verify this through old newspaper articles or literary works published during such eras. People of nobility continued to think that they should be addressed in honorific speech regardless of age if they met a person of common class, despite the fact that the class system was no longer in effect. They turned furious if they were not addressed with honorifics as expected, scolded others for their rudeness, and even went as far as using violence.

126 Years after the Gabo Reform that abolished the class system, it now seems strange that the use of honorifications was determined by the different classes individuals were born into. If the Korean language grammar changes in the distant future and age is no longer the criteria for honorification, future generations may perhaps come to regard the current rules of the Korean language as strange.

What Needs to Change?

There is no longer class discrimination in the Korean language. However, age discrimination persists as the substitute. An older person expects and considers it natural to be addressed in honorific speech by a younger person. They talk down to younger people thinking that they can use informal speech. On the other hand, a younger person considers it natural for them to use honorific speech and to hear informal speech from an older person. They have to use honorific speech as they are required to be polite. If they do not use honorification or do not act polite as required, the 'higher person' being talked to is displeased and scolds them for being rude.

People say honorification is a characteristic of the Korean language. They claim that expressions of respectful and polite attitude toward others is the positive function of honorification. However, this is an interpretation that focuses on the concept of 'honor' in honorification. In reality, honorification of the Korean language serves to express honor but at the same time serves to speak down.

Such discriminatory thinking is exposed when

explaining the concept of honorification. As we explain honorification, we use the expression of 'superior and subordinate', 'higher rank and lower rank', and 'senior and junior'. For example, regarding the addressee honorification, we generally explain it as a way 'to question the relationship between the speaker and the addressee, for a subordinate or a lower rank person to address a superior or a higher rank person in honorific speech, and for a superior or a higher rank person to speak in informal speech to a subordinate or a lower rank person'. I have also used the same description in previous explanations.

Korean language speakers learn that an older person is the superior, higher rank, and senior person while a younger person is the subordinate, lower rank, and junior person, during the process of learning the Korean language, and reinforce such concept through daily uses of Korean. And this is why the Korean language speakers have a very special sensitivity toward 'age' compared to other language speakers. And they become age discriminators without even realizing it.

The age discriminating thoughts originating from honorification of the Korean language is what we

learn as we acquire the language, and they become familiar and common. This makes it very difficult for us to perceive them as a problem. The hierarchy of honorification and informal speech creates a power dynamic between the people who must use honorification and people who use informal speech, and establishes an unequal relationship. Yet we teach our children that there is no one person better than another, and there is no one person worse than another, or that the value of 'equality' is what we pursue. Everyone agrees that this value should be passed on to future generations. Despite this, Korean language speakers consistently confirm that there are people who are superior to the others, and people who are inferior to the others, through the daily uses of the language.

The Korean language in its present form fails to materialize the ideology its speakers pursue, and turns us unknowingly into age discriminators. Language, which is supposed to be a tool to express our thoughts, is failing to.

If our language cannot reflect our changing philosophies, should we change our language or our thoughts?

Typography and Diversity

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There are five discussions on diversity in typography, which could be summarized as the following:

- ① Diversity of World Scripts;
- ② Cultural Diversity in Typography;
- ③ Typography for Vulnerable and Alienated Peoples;
- ④ Collaboration of Typography and Various Fields;
- ⑤ Issue of Diversity and Discrimination Among People in the Same Field.

Among these discussions, ④ and ⑤ will be omitted since they are applicable to areas besides typography, so ①, ②, and ③ will be discussed instead. First, I would like to introduce the field of typography, which may seem somewhat unfamiliar to readers. Typography deals with the shape of scripts. Scripts carry meaning, sounds, and shapes. Their meanings, sounds, and shapes affect each other, but what typography pays special attention to is the shape.

Scripts are largely divided into ‘character’ and ‘type/font’. For the metal type era, we use the term ‘type,’ and

for the digital era, we use the term 'font'. A character is a script written individually by hand, and a type/font is a script that requires machinery. Machinery carries the presumption of duplication and mass production for an unspecified number of characters. For example, a diary or a letter written by hand falls under the area of characters, while a book printed by type falls under the area of typography. You need machines such as computers or mobile devices to upload writing on social media, and you must type on a keyboard to enter the text, and a single post can be viewed by many people. And this is essentially typographical behavior. Characters written by hand fall under fine arts or craftwork as calligraphy, and type/font written by machine fall under design as typography. Characters and type/font may have significant impact on one another, and it can be said that typography deals with scripts in their entirety.

If delivering meaning by 'word' is verbal communication, 'script' is a form of visual communication that delivers meaning to the eye. Just as how nuance and emotion change with the tone of verbal speech to result in different meanings, even if the words them-

selves are the same, typography is the visual tone for the eye, and thus can be functional and emotional as a form of ‘tone.’ A lot information and emotions are exchanged in non-linguistic layers, too.

‘① Diversity of World Scripts’ relates to the biological aspect of the human body reacting to scripts, or to the environmental or anthropological aspects of the respective cultural region. ‘② Cultural Diversity in Typography’ relates to the different histories, life habits, values, and technological engineering aspects surrounding the world’s script civilization. And ‘③ Typography for tVulnerable and Alienated Peoples’ has psychological and social aspects.

Diversity of World Script

Multilingual typography has steadily risen as one of the most significant international topics in typography since the 2000’s. After 2010, understanding of this concept by the Latin script region and other script cultural regions has matured over time. Multilingual typography uses the term, ‘Non-Latin.’ ‘Latin’ refers

to the Latin alphabet or the Roman alphabet. And assigning a special position only to the Roman alphabet among the many script systems in the world, while grouping the rest as 'Non-Latin,' seems rather unfair. As recently as the early 2010's, when issues were raised at international conferences regarding this terminology, most users in the Latin script zone didn't really see the problem. A European designer stated that the term was reasonable since it arose from the 'non-Latin' category as the last category in font sample books when categorizing Serif and Sans-Serif fonts for Latin script. Just like how there are people who lack gender sensitivity, this was an instance where people lacked multi-cultural sensitivity. This attitude of people failing to understand the established viewpoint of this term and strongly defending such failure came from a lack of empathy for other cultures. And if we apply this attitude to countless script systems around the world that do not fall under the Latin script system, then the standards will always be based on Latin script, and people will only insist on their standards, and all other complex and inevitable circumstances that do not conform to these standards will be considered

‘barbaric’ or ‘inferior’.

Regarding the issue of multilingual typography, after 2012, I have suggested the concept of ‘interlocality’ which is bidirectional and counteracts against ‘globality’, which leans on Western scripts. In the academic journal of the Korean Society of Typography “Font 11,” I conducted a discussion titled, ‘The Typewriter’s Perspective Awakening the Potential of the Insider: Interlocality Against Globality’. And the Indian typographer and professor at the Indian Institute of Technology Guwahati, Udaya Kumar, said the following about designing font in Tamil script, his area of expertise in the complex language and script environment of India:

“India is a multi-script nation. Some characters are completely different while some are similar. (...) For the Tamil script that I’m familiar with, application of Latin script design principles results in many incompatibilities with the Tamil script. The most challenging part was that the measurement units and systems were different.”

He expressed the following concern regarding

the situation in India, where English's influence is much greater than in Korea, and where the media environment is led by technology from the Latin script zone:

“Most young people in India do not use their mother language. There are a couple reasons for this. One of the main reasons is that people are in classes taught in English from elementary school through college. This is even more true in urban regions. This is the result of British imperialism. Schools using respective regional languages are mostly limited to schools in the rural areas. This is also another reason why prospective jobs are heavily dependent on English. So parents wish to send their children to schools using English.

The reason why India's native language was able to prevent rapid change despite English's influence was because it's a language with abundant cultural heritage and literature. There are many people who still live in rural areas that use the regional languages as their means of communication. But this scenario is changing because of technological advancement largely based on Latin script. Regional languages in India still have not

yet caught up with digital media such as mobile phones, smartphones, tablet PCs, and computers.

And it's our responsibility as designers to include regional languages in such digital devices and to guarantee that regional languages can perform major functions. But until this is achieved, we will continue being consumed by globalization. And this is not what I want to see happen. Of course, there are advantages to globalization but the native culture and daily life cannot be sacrificed for it. I hope we can achieve harmony between both sides."

So what do these distant Indian scripts mean for us? Script systems are an intellectual legacy of humanity. Letters reflect not only the natural environment, lifestyle habits, and behavior patterns, but also language, ways of thinking, social norms, and the values of the region. Scripts are already built in to numerous systems of meaning, including religion and ideology, in the cultural region, and a strict technical approach without understanding the general state in cultural regions using other scripts would make people in these cultural regions feel something is awkward or

unnatural.

A geologist stated the following in “National Geographic.” “We see a section exposed on the ground to infer, imagine, and understand what the Earth looks like on the inside.” As such, scripts are primitive traces and tracks. If 13.8 billion years of the universe leaves behind the stars in the night sky as its traces, and if 3.8 billion years of Earth leaves behind geological features as its traces, then humans have left unique traces in letters and pictures, and behind such traces, there are enormous societies, cultures, and histories. Scripts should be for many people to use, not just a specific person, so they reflect efficient body movements; human behavior and movement carry human universality and cultural characteristics. They vary depending on the natural environment and lifestyles in each cultural region. Easily accessible writing tools also vary depending on the cultural region.

If all of mankind used only a single script, we could predict that people would focus on and familiarize themselves with only narrow perspective, excluding so many other possibilities. It is difficult to specifically

predict all changes to come in a future where change is a constant. It is therefore more likely for us to find more appropriate measures in new situations if we have people who behave in diverse ways. If everyone behaves the same, we would be helpless before certain changes. Brain science claims that letting children be curious, play, and experience different things would allow them to flexibly respond to difficulties in the future. More experiences would improve the ability to adapt to changes. It is easy to distort a subject if only a single attitude and way of thinking is applied towards a subject.

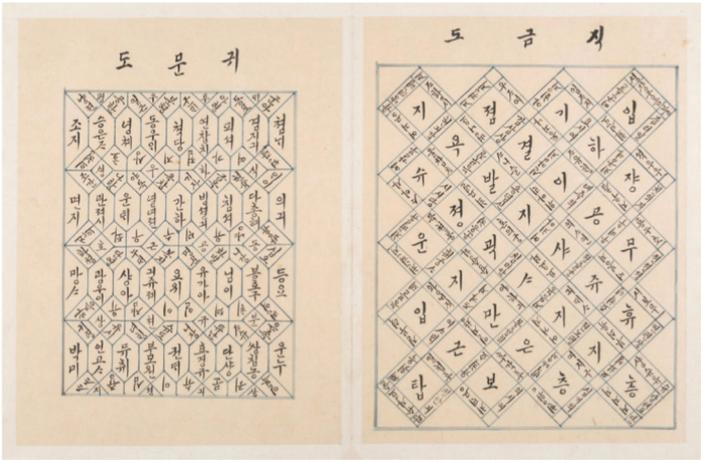
With a diversity of differences, attitudes towards reflecting and handling difference becomes more mature. The work of examining multiple scripts also helps us break out of stereotypes that were binding us to a single language region or script region. And other scripts allow us to re-examine our scripts and ourselves. It allows us to see situations from diverse perspectives.

The monopoly of the Latin script is an issue that we should be aware of as script users in the sense that it dissuades us from correctly examining the

diversity of world scripts, it fails to protect minority scripts in digital media technology, and it narrows the possibilities of human thinking to understand and express occurrences and truth. We should all listen closely to the song of difference sung by the many scripts around the world.

Cultural Diversity in Typography

Typography is the work of understanding existing script and designing new scripts, but it is also the work of deducing new meaning by rearranging pre-designed scripts within time and space. Although metal type was first invented in the Goryeo era on the Korean Peninsula, Korea's traditional copper type was replaced by Western printing after the modern printing institution Palmungak was established in 1883 and new lead type was imported from Japan. The traditional East Asian metal type printing that spanned from the Goryeo era to the Joseon era differs in mechanism and even its fine details from the Gutenberg metal type printing from Europe. Since



▲ 〈Gwimundo〉 (Left) and 〈Jikgeumdo〉 (Right) of 『Ikjonggancheop』
 Source: Seoul National University Kyujanggak Institute for Korean Studies

inheriting the Gutenberg mechanism in the modern era, we use Korean script and Korean language in machinery and software based on technology from the Latin script region.

The space where the Korean script, Hangeul, was created was a space of East Asian traditional printing, lifestyle, awareness, and causes. Even for the same Hangeul, the system, unit, alignment, and mechanisms differed within the spaces created before and after the modern era. If Korean script is uncomfortable in terms of use or viewing compared to Latin script on devices

and certain digital technology environments today, it's because Korean script is dressed in clothing that doesn't suit it. We should all be aware and understand this as a Korean script user.

Let's take a look at <Gwuimundo> and <Jikgeumdo> as an example. The figure above shows two pages in [Ikkjonggancheop], which lists a letter sent by Crown Prince Hyomyeong, son of King Sunjo, to his younger sister Princess Myeongon. It's a hanji editorial design and typography by Crown Prince Hyomyeong, and it wasn't entirely created by him but there were other precedents in China's [Soyaranjikgeumdo], etc. It's a typography with entertainment purposes like a decryption game.

If you take a closer look at the small characters, there are inverted characters. Even without supplementary symbols such as arrows, you can rotate the paper to read in a certain direction. The alignment shape and form of the characters give us such non-linguistic clues. If we use such alignment in a design through a computer today, the computer will unwittingly write these characters from top to bottom and indicate direction through arrows, etc. The person who

wrote this document would have rotated this paper in circles as the characters were written. Unlike the fixed direction of documents today where characters only go from top to bottom and left to right, this document generates multiple directions and points with omnidirectional properties.

When we read long text in documents and books, our bodies seem to be fixed and suspended but our eyes move and we simulate the sound even if we are reading in silence. Both the person creating the document and the person deciphering the meaning in the document engage in reading with their bodies. But the old documents in the west and East Asia do not only use different languages and scripts but also use different alignments and different methods in engaging our bodies.

The western Latin script starts in a one-dimensional linear format and it is aligned in a single line. Meanwhile, Chinese and Korean feature basic module with a rectangle with syllable units so it has omnidirectional expandability. Due to such different spatial property of the scripts, East Asians of traditional society had different methods to process

information and recognize objects than the present society. The mathematical approach for time and space recognition between East Asia and Europe was also different. Similar approximate values are derived for similar problems but the solution method and body movement for solution were fundamentally different. After the modern era, we learn Korean script and Korean language but the education methodology is western, and the traditional mathematical knowledge of East Asia feels rather strange to us in the present day. Furthermore, the omnidirectional and multi-perspective movement seems to share aesthetic values with Chi-Yun-Sheng-Tung.

Once, I created a computer graphic where letters were placed in a radial shape like on a traditional East Asian paper instead of aligning the letters from top to bottom or left to right like we always do. If you physically apply theory in practice, you gain new insight. People don't know how tiresome it is to create a document like this using a modern computer software. It's also difficult to fix any typing errors found in inverted letters. It's easy and vividly entertaining for the viewers but the efficiency suffers

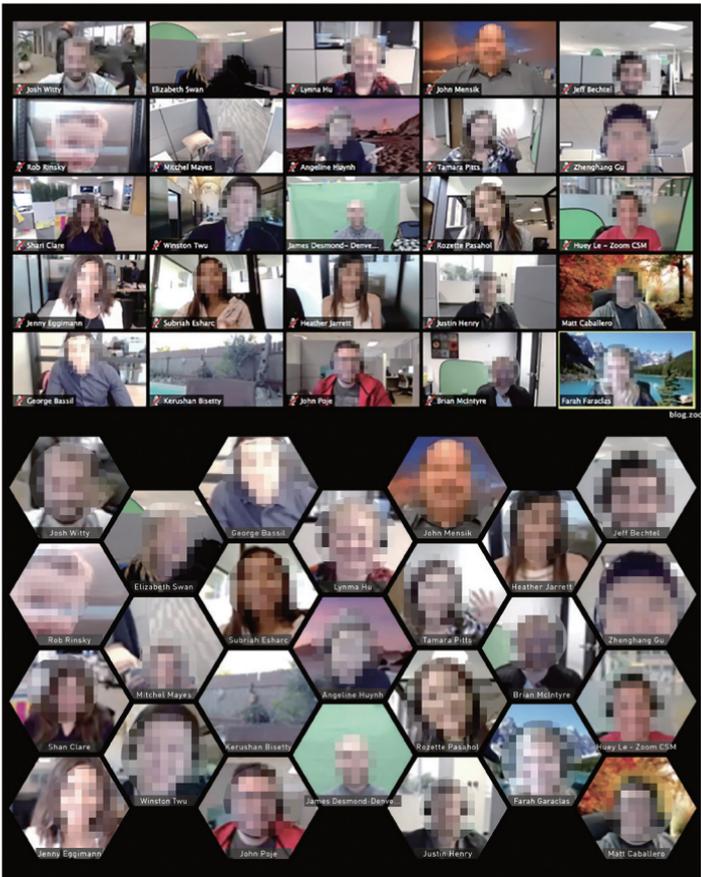
for the creators. We think that humans actually control the computers but computers also apply restrictions to human body.

Why did our ancestors create a document that requires us to rotate to read whether it was printed or handwritten after printing was invented? They wouldn't have gone through such discomfort if it was that inconvenient for the creators. And this is what I have learned at this juncture. The living space for Koreans in a traditional society was a culture where people sat on the floor so this kind of method was actually convenient for them. When we work on computers today, the posture is fixed and the monitor is fixed vertically. But if you look down at a low table while sitting on the floor, there is the viewpoint of looking down below, and it's easier to rotate the paper. Because they worked on a small table that is mobile and easily movable rather than large furniture, they rotated the table or the paper or moved their body here and there, and a document featuring such text alignment was created as a result. If you place heavy furniture in stand-up space, the function of the space is fixed but a space where you sit on the floor can

have a room be a bedroom, a study, a dining room, or a living room. Such flexible use of space and lifestyle habits affect the spacing of letters.

Such flexibility could provide various ideas adapting to changes in the era utilizing letters in digital screen space. There are well-known examples we are familiar with where the old media spatial format is trending again. When we read a long passage on the internet, we scroll. This scroll came from the old form of paper scroll. Paper scroll was replaced by the codex-format books, a hexagonal space, around the 1st Century in Europe and 7~8th Century in East Asia but paper scroll returned to us as we began reading long passages on the internet.

Let's take a look at <Gwimundo> and <Jikgeumdo> again. You can see not just the multi-directional, multi-point spacing instead of linear spacing, but also the right angle and angles that aren't its multipliers, or the 'hexagon' instead of a rectangle, and a 'rectangle diagonally tilted 45 degrees'. Using angles that aren't right angles in paper medium results in significant waste of cost. In a process standardized for mass production, loss is minimized by following rectangular



▲ Video Conference Software Zoom Participant Gallery Screen (Top). Screen Suggested by the Author (Bottom). You Can Let People Choose Between Several Options Instead of a Single Fixed Method.

paper specifications based on the metric system. But the digital screen is rather free from such issue.

Video Conference Software Zoom Participant Gallery Screen (Top). Screen Suggested by the Author (Bottom). You Can Let People Choose Between Several Options Instead of a Single Fixed Method.

Let's take a look at the gallery screen in video conference software Zoom, which we have grown accustomed to due to prolonged COVID-19 pandemic, as an example. It's not optimized for human perception to display people in a layout that is comfortable for viewing but it's rather a mere horizontal and vertical partitioning of the monitor. Since I encounter alignment methods in various cultures outside the standard specifications of the present times, I come to think that a hexagonal beehive form would be advantageous in this situation. So I created a Zoom gallery screen based on this idea as I changed the alignment form. It reduces the private living space that is unnecessary to be displayed compared to horizontally elongated rectangle, and hexagon shape focuses more on the face which improves viewer's attentiveness. Also, the hexagon is more balanced in terms of placement and

attentiveness, and it is more comfortable for the user to see everyone in the screen. We could also add a function that enlarges the hexagon of the speaker and reducing the hexagons around the speaker. Of course, this method wouldn't be the best and there may be weaknesses. Perhaps the emphasis of face would be unnerving or inability to decipher the message coming from hand movement, etc. could be inconvenient. But the digital video communication is still in its infancy state with incomplete spatial format so we could try various things. Experiencing and applying methods from various cultural regions would serve as inspiration for space alignment in digital media.

Typography for the Vulnerable and Alienated People

Standards to determine normalcy are diverse between societies and change by era. If we only consider a certain property to be normal and mandate people to comply to such property, then our society would be full of abnormal people and it would subsequently

lead to accumulation of unreasonableness, rage, and contempt. Typography could also result in despair for other people outside of the average criteria if its standards are only based on the concepts of the majority and the average instead of focusing on its purpose of communication.

In Korea today, the standards of normalcy present a physically healthy adult male living in Seoul. These standards are based on gender, age, region, physical health, etc. For region, there are regional residents. For physical condition, there are patients and disabled people. For gender, there are women. For age, there are elderlies and children whom are defined as the vulnerable and minorities outside of the norm. But they all make up a significant portion of our society. When people are excluded from the standards of normalcy, there is great discomfort for the people not conforming to the standards, and the discomforts within society will be interconnected to one another.

To examine physical conditions that vary depending on gender, age, etc., we must establish new standards. In order to revise existing rules, we must first examine the existing standards that such rules were applied

to. First, let's take a look at the standards that were considered to be the average. Typography design targets unspecified number of users. So every design requires its own standards to make or select an appropriate font. There are three standards for this: visibility, readability, and legibility.

'Visibility' is the power to catch the eye, 'readability' is the power to allow users to quickly read different characters, and 'legibility' is the power to make users feel less fatigue when reading a long text. In fashion, visibility would be the high-heels that allow a person to stand out even if it's not comfortable, and readability would be the marathon shoes that allow a person to finish the race over 42.195 km. Just like how you would be able to tell if the design was well-made after wearing the marathon shoes and running to determine how well the shoes were made, a font with high readability would also require reading for a long period of time to determine if its functionality was well-designed.

Visibility falls under the domain of large letters, titles, and short words, while readability falls under the domain of small letters and long texts. Our eyes have

more difficulty in seeing the detail in smaller letters so the beautiful letters in big size and functional letters in small size fall under different domains. Letters will move from 'seeing' to 'reading' and 'visual' to 'optical' domains as they get smaller in size, and functionality becomes more important.

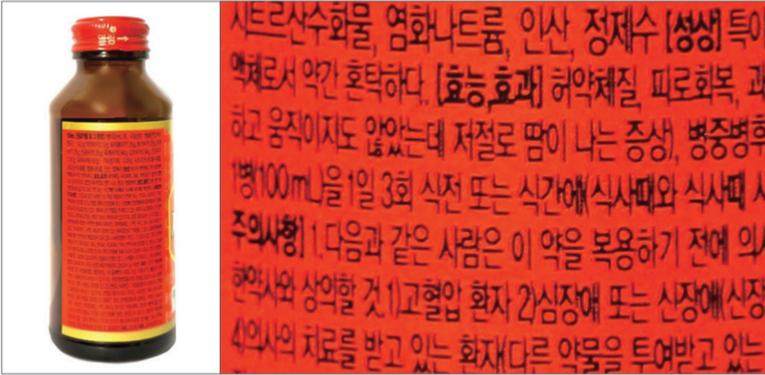
If visibility is not in effect, aesthetic pleasure will decrease, and if readability is not in effect, it would be difficult to read accurate information, and if legibility is not in effect, it would result in significant fatigue for the eye and body. In other words, if the design is not functioning properly in the domain of daily life, then unspecified number of members in the society will be overlooked more and it would further lead to social fatigue and contempt.

If the standards for this unspecified number of users were focused on healthy adult male body until now, then typography must now establish new standards for the minorities such as elderlies, children, left-handed people, people with autism, etc. and revise its rules for such minorities.

Reading for the Elderly

In Korea, the awareness of typography is low, and there is much fatigue in readability. For drug related products or instruction manuals, there is not even the fundamental consideration for the eyes to the point that you can't even see what the letters are. In an example of a pharmaceutical, the details on dosage reading, "3 times per day for an adult", and caution reading, "Heat but do not use a microwave" should be clearly differentiated from rather insignificant details for general users such as "citric acid monohydrate". But for someone to understand these two pieces of information, a young person with good sight needs to search for the information for a while as they rub their eyes from brightness of the light. This would be much more inconvenient for the elderlies who have poor eyesight.

But typography for the elderlies isn't just simply enlarging the font. There are changes to your body when you get older. Regarding the font, it's not just the change in eyesight but also the change in your cognition method. If children react to movement



▲ Example of Typography that is Difficult to Read for Korean Users in Daily Life. It Does Not Even Prioritize Important Information that Users Must Know. Right Side Shows Zoomed Image of the Text.

and new things, then the elderlies react to stationary and familiarity. This can be explained by evolution. Children have to newly adapt to the future ahead while the elderlies utilize their accumulated experience and wisdom. In the era where technology and society did not change rapidly, this is how humans adapted as they aged. In a society where the society is changing rapidly, we must understand that it is difficult for the elderlies to adapt to new things. The reason why they seem stubborn also comes from this.

But active designers in the field are mostly in their 20's or 30's, and design decision makers are often in their 40's or 50's. If they have not experienced the

body and cognition of elderlies yet, they need to scientifically deduce by observing them closely. They also need the realization that their design may be excluding someone. New and brilliant devices may attract the eyes of children and young people but elderlies would feel fatigued and easily give up adapting to the new. We must make them feel familiarity and stability.

It's easy to think that larger font size is better but there is always limitation to paper or screen surface area, and there is always an appropriate limit since the font size, quantity of words and message to be delivered, and area of space have functional relation. If the font size becomes too large, it could seem emotionally aggressive. But there is need to be cautious enough to have a rather larger font size than the average font size of a long text that younger eyes can easily adapt to.

Let's take a look at the picture by typographer Sofie Beier that graphically expressed the eye tracking study by cognitive psychologist and visual cognition expert Keith Rayner. Human eyes do not read text by each letter (l, t, o, o, k...) but it rather read in lumps.

Reading pattern with eye-tracking

Longer saccades / More regressions / Longer fixations

Older readers (70-92 years)

I took a tour of a famous building while I was on holiday.

The diagram shows the sentence "I took a tour of a famous building while I was on holiday." with three green circles marking fixations on the words "tour", "building", and "holiday". Dotted lines represent saccades between these points. The saccades are long, and the fixations are also long, indicating a slower reading pace.

Younger readers (18-34 years)

I took a tour of a famous building while I was on holiday.

The diagram shows the same sentence with five green circles marking fixations on the words "a", "of", "a", "while", and "on". The saccades between these points are much shorter and more frequent than those of the older readers, indicating a faster reading pace.

Rayner et al., 2006

- ▲ Eye-Tracking for the Elderly. Academic Presentation Screen Made by
Typography Researcher Sofie Beier Based on a Thesis Written by Keith Rayner.
Source: Age-related Deficits and Their Effects on Reading, Sofie Beier, ATypl 2019, Tokyo, Japan.

This is referred to as the 'saccade'. There is significant difference in saccade between young readers and readers above age 70. While the eyes of the elderly stay fixed for a long time and the saccadic distance is longer due to abundance of information to process, but the saccadic momentum is low. And then there is frequent retracement reverting backwards. This would result in difficulty in determining the content if the font size becomes too large. If line replacement occurs

frequently due to excessively large font, then it would be a huge obstacle to cognition and memory.

It helps to ease the eyes by having enough blank space around the letters, lines, and texts. This space is referred to as the 'white space'. More white space makes it more comfortable to read for young people. But reading may become easier but there is the weakness of the overall text seeming loose thus resulting in the design appearing rather less tight or sophisticated. Magazines pursuing aesthetics of design or newspapers that must appear passionate by including a lot of information in a single page, tend to use less white space in a given space.

Considering such aspects help us understand what kind of inconveniences the common readable typography in our daily lives cause like we have seen in the aforementioned pharmaceutical instruction manual. Older people often have to refer to the pharmaceutical instruction manual but the information spacing is even more dense than a newspaper. If the surface area of the paper is insufficient, we could at least summarize the important information and differentiate it to make it stand out for their convenience.

Writing for the Children

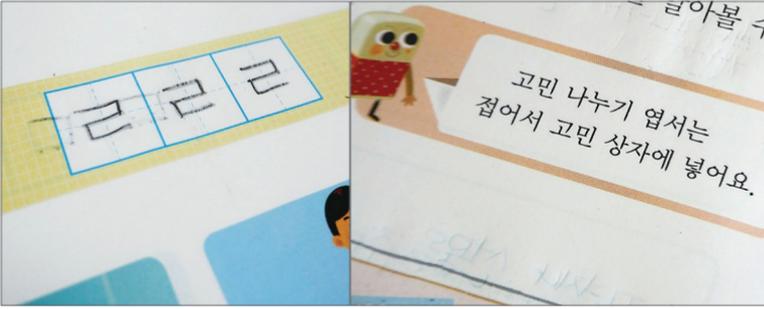
Adults were all children once. And that's why it's easy to think that we know them and understand them well when we deal with children compared to elderlies. Children have much more difficulties in expressing themselves and accomplishing their intent through language compared to adults. It is difficult to translate what children go through in children's language.

As I wrote the textbook study report < Suggestion of Typography in Korean Language Textbook Based on Elementary School Growth Phase: Writing Behavior Patterns and Reading Sensibility and Recognition Patterns > in 2019, I observed the lectures in first, third, and fifth grade classrooms in elementary school. As a result of directly observing the education environment as a typography expert, I noticed several factors that aren't being examined in the children's perspective in the current Korean language textbooks used in elementary schools.

Children have small and weak bodies, and their cognition is not yet mature so this requires application of standards different from adults in various aspects

aside from font size. For reading, issue of readability should be more attended to compared to legibility for children who only just start getting familiar with letters. As I conducted the study, I was able to learn that there are very few studies and references considering the body and movement of children compared to their mindset and psyche in Korea. In the report, I included a few general suggestions, and I will refer to just the following two improvements I mentioned in the ‘writing behavior patterns’: ‘paper’ and ‘font for writing education’.

First, for ‘paper’, we must understand the fact that a textbook is a special medium that is both a book and a notebook where children write on. A book is a reading space and a notebook is a writing space. But there are aspects that overlooked the function for writing of a notebook because the textbooks were too focused on their function as a book. In order to build a pleasant environment for human body and mind, we need appropriate physical conditions such as materials and properties. The user environment for writing is the condition of paper. Different papers are selected depending on purpose such as books, notebooks,



▲ Paper and Pencil Tracing in Current First Grade and Fifth Grade Textbooks.

drawing books, etc. As a book, clarity of graphics and picture color are important for textbooks but it's also equally important for users to be able to comfortably write without using excessive force as a notebook. But the current Korean language textbooks have only considered the visual effects and omitted the body-friendliness for children that they should have.

Writing is an interaction between paper, writing tool, and human body. When we write, the human body wrestles against writing tools and paper. The writing tool mostly recommended for elementary school students is pencil. Pencil is a writing tool that requires being grinded against rough surface to leave traces. But we use coated paper in textbooks today. And this force to be exerted on the paper is imposed on children

with growing bodies and it results being a burden to the children. Coated paper must have been selected since the textbooks prioritized better printing quality with better appearance and color for fancy graphics. But this would make children not only hate writing but also require excessive force. A more appropriate paper material should be used as a replacement. What we should consider in selecting paper is the fact that this paper is the living space where our children's bodies remain active throughout the day.

Paper in textbooks should serve as a notebook and it should not be damp and have the rigidity for crisp writing, but also provide a pleasant writing environment with surface texture to reproduce the color of pencil stably and vividly without excessive force, soft texture for the area where the hand holding the pencil makes contact with paper, material that allows balanced color distribution without the pencil slipping, easy erasing without the pencil powder smudging over the paper even if some pencil powder gets on the hand, etc. Textbooks are also a book for reading so it also needs white color comfortable for the eye.

Second, the 'font for writing education' in the

Korean textbooks are lacking in two aspects. One aspect is that the writing tools do not match since the script is written in pen unlike pencils that are used by elementary school students. Since the 5th Curriculum in 1987, pen writing has been used in textbooks instead of pencil writing. For children who just started learning how to write, it would feel too difficult and complex if they are trying to emulate adult's handwriting with force and speed of a brush used in calligraphy like shown below. If this was piano education, it's like playing Chopin before you even learn Beyer and Czerny. Adoption of such font seems to be rather the result of conservative custom determined from adult perspective rather than scientific reasoning.

Therefore, there is necessity to develop a Korean font for writing education which is simplified and entertaining for children suitable for their physical development. Germany has recognized the need to develop script for children learning how to write since the early 20th Century. Through many studies, they studied the small hands and insufficient grip of children, and even the rhythm of the physical movement of children where their hands move up

자	유	반	쪽	작	관	촬	아
자	유	반	쪽	작	관	촬	아
자	유	반	쪽	작	관	촬	아
자	유	반	쪽	작	관	촬	아
자	유	반	쪽	작	관	촬	아

2. 위의 그림에 맞게 이어주는 말을 사용하여 원인과 결과가 드러나도록 문장을 써 보세요.

독서를 열심히 했습니다. 그래서 독서왕 상장을 받았습니다.

3. 2번에서 쓴 문장을 원인과 결과의 위치를 바꾸어서 문장을 한번 더 써 보세요.
(2번에서 결과가 뒤에 나왔으면 이번에는 결과가 앞에 나오도록 이어주는 말을 사용하여 문장을 완성하세요)

나는 독서왕 상장을 받았습니다.
 왜냐하면 독서를 잘했기 때문입니다.

▲ Sample of Tracing by Children (Top) and Model Example of Writing by a Third Grader (Bottom).

and down as well as unrefined fine motor skills to develop a font for children, and this was consistently reflected in the field of elementary school education. In reality, the font in the official elementary textbooks of Germany is much simpler than the font for adults, and it has the characteristic as an intermediate phase



독일식 글씨체(쿠르트, 1900년 경)



독일식 글씨체를 단순화한 위대한 학교교과용글씨체(1914년)



위대한 자민식 글씨체

현행 독일 초등학교 교과서에 적용되는 네 종류 글씨체

ABCDEFGHIJKL
MNOPQRST
UVWXYZ
XyZ AOU
abcdefghijklmnopqrstuvwxyz
äöü ß
1 2 3 4 5 6 7 8 9 0

① 학교교과용글씨체, SAS(가스), 1968

ABCDEFGHIJKL
MNOPQRSTU
VWXYZ AOU
abcdefghijklmnopqrstuvwxyz
äöü ß
Ququ St d t ysch

② 단순화한 교과용글씨체, VA(마우어), 1972

ABCDEFGHIJKL
MNOPQRSTU
VWXYZ AOU
abcdefghijklmnopqrstuvwxyz

③ 자민식글씨체, LA(델머), 1953

ABCDEFGHIJKLMN
OPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
opqrstuvwxyzß

④ 기초글씨체(Grundschrift), 2011

▲ Writing Style in German Elementary School Textbook for Children First Learning How to Write. Studies Were Conducted Throughout the 20th Century.

before children move onto fonts for adults.

If you observe relatively exemplary and neatly written letters in writing by elementary school students, you can see that the form of phoneme for initial, middle, and final consonants are rather simple. It would be ideal to research and implement the rhythm convenient for the children's body exhibited in such forms, and to develop a novice font for children to be able to mature into proficient adult font in phases.

Textbooks and teaching materials provide typographic space environment of scripts that children practice writing and reading. Securing teaching materials with attributes suitable for good typography is meaningful in terms of education and society in the sense that it examines the body and mind of children, encourages children's learning abilities, recovers sensibility and protects their self-esteem. Also, it could contribute to reducing any negative discomfort children may have consciously and unconsciously in activities related to scripts.

Social epidemiologist Seung-sup Kim claimed that the way of thinking considering an adult male body as the standard body type has resulted in several issues, and applying measurements based on men with 'standardized body' has resulted in inflicting harm on women, and other age groups that aren't yet adults.¹ We may not recognize or remember experiences that do not suit our body and subsequently cause pain but our bodies remember, and our bodies will remember the wounds that we failed to speak of or recognize. Children will feel discomfort but may not recognize or express it. This would build up social suffering, pain,

rage, and contempt.

Children are socially vulnerable. When treating such vulnerable entities, we must question the ‘general knowledge’ we consider to be ‘neutral and objective’ for adult men in traditional sense. There is a necessity to match the physical circumstances of the elementary school students by age with the environment surrounding characters and fonts in elementary school’s Korean language text books.

Conclusion

As mentioned earlier, typography falling under the area of design targets unspecified number of characters for duplication and mass production in public domain. This single area essentially includes attributes of visual arts, business administration, and engineering. Therefore, cost issues inevitably surface for the typography measures for minority scripts and minorities. And the basis for response to this issue is ‘diversity’. Even the people who are outside of the norms in various criteria are members of our society.

Inconvenience of these members are interconnected, and they should not be treated as mere issues for specific groups since they will come back to us. World scripts should pursue an ecosystem where such members can coexist. The power to counteract the logic of the capitalistic force lies in diversity.

Diversity can be supported by efficiency but it has an independent value from efficiency. There are times when you forfeit efficiency but protect diversity with courageous decision. The direction for all humans and the direction to reduce pain for all life should be the forward direction of human civilization. If we neglect and sacrifice the weak and the minorities, we would refer to such act as 'savagery' regardless of its justification.

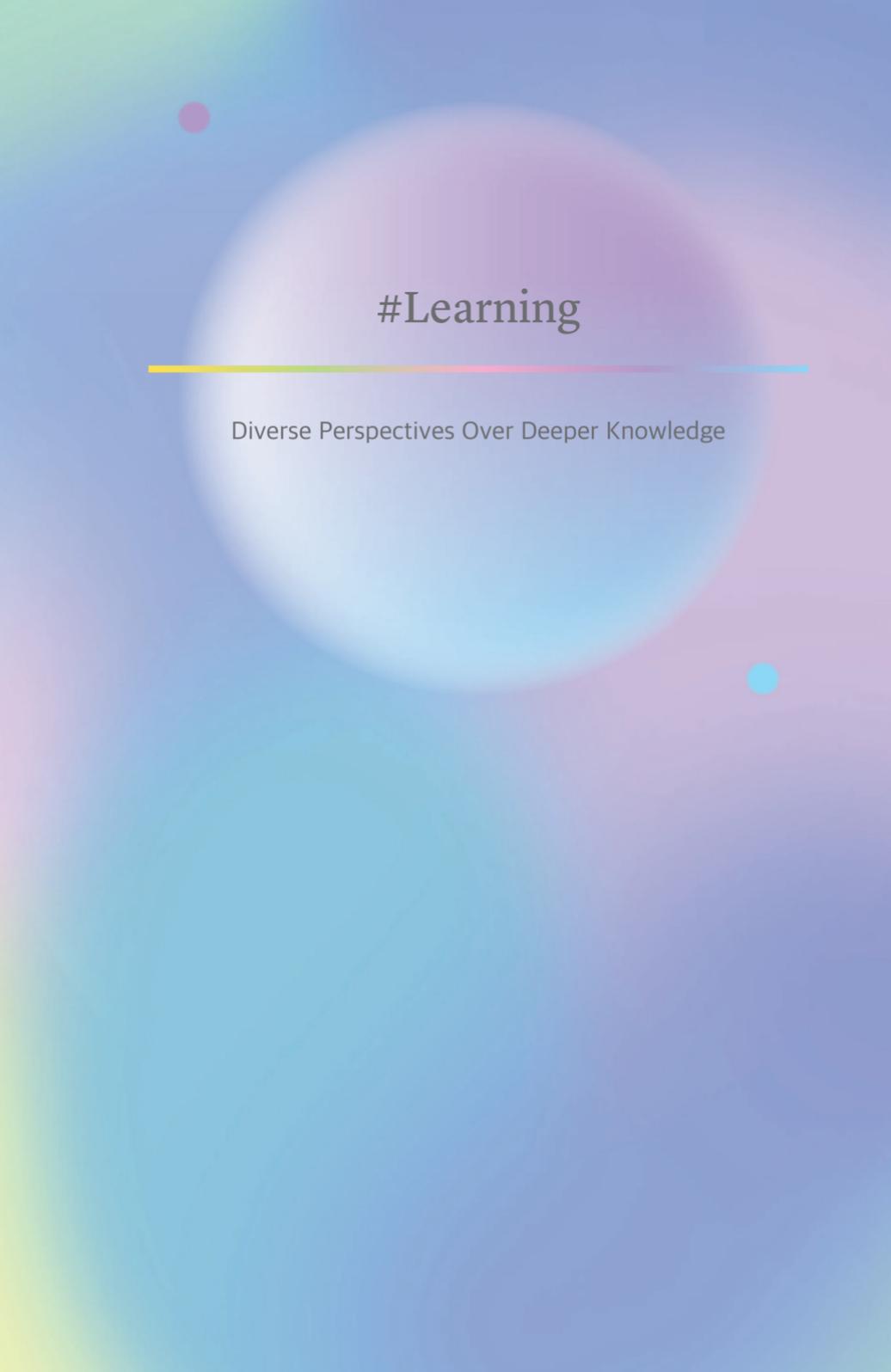
All individuals should be respected. They should be respected as different entities. Likewise, all world scripts should be respected. The spacing, which serves as the clothing and housing for the script, as well as the cultural and technological environments for the scripts should all be respected. Also, all people using the script should be respected. They should be respected regardless of age, gender, region, and

physical conditions.

I pray for the people using the Sinhala script, and Tamil script to be as comfortable and joyfully engage in their script life as the people using the Latin script. I hope that the method of operating unique and traditional space in Korean, Chinese, Tibet, and Arabic scripts provide new perception and insight for new methods, and clues for problem solving in the media of the new era. And I hope these diverse methods spread among script users around the world to deliver more joy and convenience in writing lives of even more people. Even the elderlies whose eyesight and cognitive styles have changed over time, children who are just getting familiar with their mother language characters, left-handed people, and people with autism or other various physical ailments, I hope that no one sheds a tear from having difficulties in writing and learning script. This is what typography must do for diversity.

F

- 1 Seung-seop Kim, "If Our Bodies are the World: Social History of Knowledge on Our Bodies Through Struggle, Competition, and Toppling," East-Asia, 2018.



#Learning

Diverse Perspectives Over Deeper Knowledge

Building a Learning Environment That Respects Diversity

Bo-ra Lee Professor (Korea University)





This was when I was in the US for a Ph.D. Seminar courses conducted in English were really challenging for me because English was not my native language. I had to read materials that were difficult to comprehend even for a native speaker, understand what other students were discussing, and deliver my thoughts in English during seminars. What was most difficult was that the students talked really fast; before I could even understand what the speaker has said, another student would already be chiming in, so I was busy enough just listening to them. As a result, I rarely ended up participating in the discussions. Consequently, in a freshmen evaluation meeting conducted by professors at the end of the first semester, I was assessed as a ‘quiet student’. As he was telling me what were discussed in the meeting, my advisor said, “You should actively participate in discussions more often.”

I wanted to be a ‘good student’, so I vowed to follow my advisor’s feedback and actively participate in discussions the following semester. Things did not get better though. Course materials were still difficult,

as was keeping up with the fast pace of other students' conversations. So I asked the professor teaching the course for an individual meeting to discuss my issues. I told him, "English is not my native language so I'm a bit slower in understanding and keeping up with the discussions compared to other students. But I do want to actively participate. So I will sometimes raise my hand and add my thoughts, but it may be about a topic that is no longer being discussed. This may seem odd or out of context, but I hope you understand." After the meeting, the professor showed a small change in his behavior. Around the time a discussion on a topic is about to conclude, he would always ask me, "What do you think?" Sometimes, he asked me regarding cultural contexts of Korea, "Could you tell us what is happening in Korea?" I think he asked such question with the thought that it could be beneficial to other students as well. He also often asked similar questions to another student who was from China.

That experience was a great deal of support for me. First, I was able to gain more experience in speaking up during discussions. From then on, I became a student who could actively engage in discussions

‘without someone’s assistance’. Also, I was able to experience having my words paid attention to. Aware of the importance of diverse cultural contexts, the professor invited students to speak up and created new educational contents from their participations. Also, by doing so, he helped the students who almost became bystanders to become focal participants.

In a learning environment, instructors may serve as role models for students, and have the power to lead the learning atmosphere in a certain direction. If the instructors are able to utilize such power efficiently, both students and instructors could expand their learning opportunities, and open up opportunities for significant growth. Now, let us take a look at various factors that may impact students, and what instructors could do in a learning environment.

Instructor’s Stereotypes Can Limit a Student’s Display of Ability

There is a quite famous study in the field of education. It is the study conducted by Claude M. Steele and his

peers, which suggested the concept of stereotype threat.¹ The researchers carried out an experiment with a hypothesis that the lower academic performances of Black students relative to Caucasian students was due to the stereotype, “Black people lack intellectual capacity.” This study was conducted in the mid-90’s in the following methods. First, Black and Caucasian participants were recruited in similar numbers and randomly assigned to two types of test conditions. For each condition, the number of Black and Caucasian participants was similar, and they were required to solve standardized test problems. However, under one of the conditions, participants were given an instruction with stereotype threat stating, “This is to test your intellectual capacity”, and under another condition, an instruction without stereotype threat stating, “This is a problem solving assignment.” The results supported the hypothesis. Under the condition with stereotype threat, Black participants scored lower than Caucasian participants. However, under the condition without stereotype threat, there was no difference observed in scores between Black and Caucasian participants. Among the Black participants,

those not under stereotype threat scored higher than those under stereotype threat. Such study was replicated with slightly altered testing methods (different instructions, utilization of physiological measurement values, etc.), study participants, the standard for comparison (gender difference instead of racial difference, etc.), and others, and yielded similar results. The current general conclusion is that although it is difficult to say that stereotype itself impacts performance, but anxiety caused by stereotype could impact performance results.

Such study results give instructors an opportunity for introspection. Because they are humans too, instructors have certain stereotypes. Instructors may have stereotypes of students from certain backgrounds based on their own experiences (their personal big data or possibly biased data), such as “Male students are more proactive than female student”, “Female students are more detail-oriented”, “Students from special-purpose high schools perform better”, “Students from outside the capital study harder”, etc. Not all stereotypes are like these, but most are related to demographic characteristics of a person. It is not right or wrong to have stereotypes based on gender, school,

hometown, age, major, religion, etc. Humans tend to think economically and stereotypes are very useful in quickly processing a vast amount of information. However, if certain students cannot maximize their potentials due to stereotypes, then can we say that instructors are fulfilling their roles well? If instructors' stereotypes unconsciously exclude or ignore certain student(s) in the learning process, it would not only be unideal, but it would also prevent them from achieving important learning objectives.

Instructors' prejudices also change the interaction between instructors and students in classrooms. According to a research conducted on teachers and students in primary and secondary education, teachers in general give more opportunities to speak up to male students over female students. Teachers make more comments regarding appearance to female students ("Your clothes look pretty today") and tend to discipline male students more than female students.² As in this example, instructors unconsciously engage in prejudiced behaviors as they interact with their students. Female students commonly tend to be quieter than male students, and we need to critically

think about whether this is a simple gender difference or a characteristic reinforced by the classroom environment the instructor created. The study result mentioned here was regarding gender difference but expandable to various other aspects. There are individual differences such as active students and passive students, quick learners and slow learners, and etc., thus it is worthwhile for an instructor to reflect on whether they are providing the same opportunities to these students.

When asked directly, instructors claim that they treat their students without gender biases, but their actual behaviors are often contradicting. They firmly believe that their thought is reflected in their behavior and fail to recognize their actual behavior. However, what is encouraging is that giving instructors who consider themselves equitable the task of giving lectures about gender stereotypes and prejudices, and afterward showing them their behaviors that were recorded, have proven to be effective in allowing the instructors to objectively observe their own behaviors, realize their biases, and make changes to their behaviors. For students to have equal learning opportunities in

a classroom, instructors must make an effort, as this effort could change the classroom environment and ultimately change education.

Instructors are humans thus they have stereotypes. This fact cannot be criticized. However, an instructor should be able to recognize and acknowledge their stereotype or prejudice, and must understand that such stereotypes could be wrong. Instructors should think about the consequences (their speech and behavior during class) of their stereotypes and observe their behaviors. Also, it is important for them to continuously think on how they could be wrong at any given moment, and reflect on their thoughts, speeches, and behaviors. Then, they should think and implement revisions when planning their next lesson. Nobody is perfect. Humans have many flaws and it is impossible to be completely flawless. But just like a graph that does not reach an absolute 0 but converges closely to 0, you can strive to reduce your flaws.

Everyone Around the Student Can Serve as a Role Model in a Learning Environment

Instructor as a Role Model

When I was appointed as a new faculty member, new professors were mandated to receive a microteaching training session at least once to improve their teaching competency. Microteaching consisted of filming your lecture for 15~20 minutes and watching this session with an education expert to objectively review your teaching style. This was conducted with professors of similar experience levels, and it was beneficial in that the professors exchanged feedback on respective teaching styles. However, it was also very embarrassing to watch myself teaching. After withstanding the embarrassment and awkwardness of watching myself teach, I received several feedback. The most memorable one was that I was a good role model for the students. I was confused so I asked what that meant. They said that when I ask students a question, I would actively try to listen to the response of a student that raises their hand and responds to my

question. If the student is sitting in the back, I would walk toward the back, if I cannot hear them well, I would ask them to repeat, and make good eye contacts with the students giving responses. As a person who learned counseling, using such technique was nothing new for me. Making eye contact with a person and asking to repeat if necessary, after attentively listening to them in a conversation, is a basic skill taught in counseling. I like talking with people to begin with, so I try to make eye contact if possible, and make an effort to understand what the other person is saying. But I could not understand how that makes me a role model. The expert's explanation was as follows. Seeing how an 'influential entity (instructor)' behaves toward the student speaking would lead the other students to think 'Is that student saying something important? Why is the professor going over there?' and become more active listeners. Students also consciously or unconsciously emulate such behavior in talking with other students in class. Furthermore, students get the impression, 'Ah, that professor wants to hear what their student says', and recognize that their thoughts are being respected and treated importantly, thus their

learning motivation is strengthened.

To be honest, If I read this in a book, I would have thought, 'Of course!' But having my behaviors directly observed and receiving such feedback was eye-opening. Through the experience, I realized that my words and behaviors as an instructor in classrooms could have significant impacts on students. Ever since then, I have become more cautious with even the smallest behavior(which can be exhausting!). I have come to make preparations in advance before the start of each lecture (my courses are mostly for education department students, so I need to be more conscious about the possible impacts I may have on future teachers), and pay close attention to even the way I speak and the tone I use when conversing with students.

What do students learn in a learning environment? On the surface, they obtain various knowledge and techniques. For example, in a statistics class, students gain knowledge and skills related to the uses of statistics. In counseling-related subjects that I teach mostly, students learn various theories related to counseling and how to utilize them in practice. Most courses aim to teach subject-related knowledge, but

that is not the only thing that the students learn. Students also create their own problems and solve them, and learn self-discipline and self-management skills during the learning process. Moreover, they learn how to cooperate with their peers, how to resolve conflicts, and other skills pertaining to relationships. In other words, although not subject-related, they develop crucial competencies necessary for life. When designing a class, an instructor can take into account and integrate such aspects. For example, if cooperation skills are deemed as an important competency, the instructor could assign a cooperative assignment, or implement activities where students are asked to explain a concept to their peers after hearing the instructor's explanation of it.

However, what an instructor easily overlooks is the part that is not intentionally implemented. Students develop various knowledge, technique, attitude, competency, etc. in class, but they also learn through the instructor. Psychologist Albert Bandura and his colleagues discovered that humans learn through observation and modeling, through the well-known Bobo doll experiment.⁵ The Bobo doll experiment was

conducted on children. The children observed an adult (researcher) hitting the Bobo doll (a type of large roly-poly toy that rises back up after being hit) with a hammer, which afterward children imitated by hitting the Bobo doll with a hammer. The imitation effect was greater when the gender of the adult was identical to the gender of the child. Through this experiment, it was discovered that humans naturally learn speech or behavior of other people similar to them, and this tendency was stronger with closer relationship between the people involved.

According to Bandura's theory, students should observe anyone around them and learn through them. In particular, instructors are significantly important. To most students, an instructor is someone with extensive knowledge or someone who oversees a class, which is influential in itself. Not all students are the same, but most wish to have a good relationship with their instructor. Due to this, students would unknowingly observe and imitate the instructor's behavior, and even utilize such behavior as the standard for an ideal behavior. Therefore, if we exhibit ideal behaviors and speech as instructors, that alone can provide a good learning experience to students.

Characters in Books, Examples, And other Materials

The people we see in front of us are not the only ones who can become our role models. People in books can also have significant influences. For example, let us look at the app 'Lessons in Herstory', a mobile application developed to tackle the issue of 'how the ratio of women appearing in US history books is only 11%'. If you take a phone with this application installed and scan a portrait of a man in a history book, it shows women who were active during the same era. A similar issue has long been recognized in the field of education as well. A criticism was drawn that if most of the people in textbooks are men, then it could lower female students' learning or career motivations. This issue was discussed and studied especially in the STEM field (abbreviation for science, technology, engineering, math, a term that collectively refers to the natural sciences and engineering field).⁴ Think back to your own experience. How many of the scientists we learned about in Middle and High Schools were female scientists? Things may be different today, but the people who went to schools

around my time would have difficulties in thinking of female role models among scientists, aside from Marie Curie and Jane Goodall. This is because most of the science textbooks from our times mostly mentioned male scientists.

There are a few studies conducted in Korea that also focused on representations in textbooks. Not only gender but roles displayed in textbook illustrations were assessed, and it was shown that men appear more than women in science or math textbooks.⁵ Men also mostly appear more than women in ethics and Korean language textbooks, and men are depicted to engage more in outdoor activities, while women are depicted more often in engaging in household activities.⁶ Recently, there was a study that analyzed illustrations from a multi-cultural perspective due to a recent increase in multi-cultural families in Korea, but the frequency of appearance of characters from a multi-cultural background or characters with disabilities is very low.⁷ It is difficult to claim that textbook illustrations have causal relationship with students' lives ,but based on Bandura's explanation, they could have some influence. If no one with similar

characteristics as themselves appears in textbooks, students may doubt themselves, thinking, 'Would I be able to make it?' The positive outlook is that textbooks are consistently changing due to assessments like the abovementioned studies, albeit at a slow pace.

Although the above studies focused on primary and secondary education, the same can be said about post-secondary education. You could be surprised if you critically inspect what kinds of people appear in textbooks and audiovisual materials utilized in college courses. I frequently use portraits in my presentation slides, and I was surprised to find out that I myself have been frequently using illustrations of Caucasians. Even in contents regarding family, most illustrations depicted the traditional family concept (male and female adult parents with one or two children). However, families are becoming more diverse these days (single-parent families, grandparent-headed families, etc.), so I have to be mindful of such illustrations being viewed as a message stating that someone's family is an 'abnormal family'. In career counseling courses as well, I have to pay attention to the backgrounds of people appearing in the counseling cases we look at, as it could be perceived that only

people of certain gender or background have career issues. I also try to diversify the characters mentioned in lectures or on exams, by using not only Korean names (Professor Kim), but also various foreign names (Professor Gonzalez, Professor Wang, etc.). These are because I believe that doing so would help students naturally become more accepting toward people from diverse cultures.

Learning Effectiveness Increases When Diverse Thoughts Are Shared with Diverse People

To create a classroom where diversity is respected, ultimately it is important to create an environment to exchange diverse thoughts and opinions. One of the important functions of higher education institutions is the pursuit of truth. In the process of pursuing the truth, it is more advantageous to exchange as many opinions as possible.⁸ If you look at the process though which historically important theories are discovered, they often start from discussions or oppositions concerning an existing theory. If an opposing thought

could not be freely expressed or accepted, then the level of development for academic knowledge could have been different. For a higher education institution to at least not interfere with the pursuit of truth, it should create an environment where its members can exchange various opinions during the process of pursuing the truth. Let us take a look at some of the methods to build an environment for students that promotes exchanges of diverse ideas.

Utilizing Questions Effectively

Any educator would wish for their students to discuss their opinions and share their thoughts. But, when a professor asks a question during lecture, students quite often become silent. Is this because students do not have any thoughts? I do not think so. An adult in college would have some sort of thought. Not all students would, but at least some students would come up with their own answers to the given question. Then it is the instructor's job to bring out the responses and making it possible for students to speak up. In order to do so, it is first required to build

a class environment that encourages the expression of thoughts, and it is important to achieve this early in a semester.

It is better to ask questions without right answers in the beginning of a semester. If you ask questions with definite answers, students may become very cautious because they get concerned about giving wrong answers, and often refrain from giving responses. There is nothing wrong with giving out wrong answers, but students wish to perform well in a learning environment thus they may refrain from giving answers if they even have a slight doubt in them. Of course, if trust is well-established among students, then they are more likely to confidently discuss their responses even if they think they are wrong. (or ideally, without thinking about whether their answer is right or wrong). However, everyone is unfamiliar with each other early in the semester, so it is more effective to ask questions without answers to build trust. If you must ask questions with fixed answers due to the nature of the subject being discussed, then it is more effective to ask a question that has multiple answers, rather than a question with a single answer. From a

student's perspective, they can become proactive after learning that there is not much risk involved in answering the questions the instructor asks. Once such atmosphere is established, diverse thoughts are exchanged and creative ideas are brought out.

When you interact with students, it is good to frequently utilize open questions. Questions starting with 'why', 'how', 'what', and questions such as "Why do you think this happened?" and "What could resolve this problem?" have a high degree of freedom in their answers. In contrast, closed questions can be answered by "Yes/No" or have fixed answers, such as the question "Is this method effective?", or, "XYZ theory is such a nonsense, isn't it?" This does not mean open questions are absolutely better and closed questions are bad. What is more important is to ask questions according to the situation and context. If students are asked closed questions too often early on, then students may feel restricted in terms of the degree of freedom in giving answers and refrain from giving answers due to the pressure to produce the right answers. This would interfere with creating an environment for students to freely participate,

which in turn makes it difficult to bring out diverse perspectives.

If you are frequently asking closed questions, you should think about whether you have too many stereotypes or prejudices. If you frequently ask a question like “You will get married after graduation, right?”, “Doesn’t doing ABC make you upset?”, or “I don’t think male students would understand this”, then you may have a stereotype or prejudice of ‘you must get married after graduation’, or ‘male students can’t empathize with my thoughts since I’m a woman’. If you are really curious about someone else’s thought, ask questions such as “What will you do after graduating?”, to give power to the other person to talk, instead of deciding their thought or emotion. By repeating such process, you can create an atmosphere where students can honestly and freely discuss their thoughts and emotions.

Responding to What Students Say

In order to build an environment for free exchanges of thoughts, you must not only ask good questions

but also react appropriately to students when they speak on their thoughts during class. This does not mean you should agree to all responses. If students give inappropriate responses or stray from the given topic, then you must correct them. However, it is crucial to reinforce students for speaking on their opinions. For example, if the instructor asks a question and a student responds, it is important to encourage that student by saying, “So that’s what you think”, “That’s indeed different from what we’ve discussed so far”, “That’s a very refreshing perspective”. This would show the student that their participation is a valuable contribution to the discussion, regardless of whether what they suggested is correct or not, and it could motivate the student to continue to proactively participate. Also, seeing such interaction would allow other students to feel more encouraged to contribute new perspectives to the discussion.

The instructor’s response to students’ questions is also important. Students tend to hesitate before asking questions in the beginning of a semester, but some do manage to pull up the courage to ask questions. The classroom atmosphere can heavily depend on how

the instructor responds to the student asking the first question. The type of question does not matter. Even if it is a very simple question, you should encourage and reinforce the student. To a question asking, “Professor, when is the deadline for the assignment you mentioned before?”, scolding the student with the response “I said it before, what were you doing instead of paying attention?” is a blaming-type statement. Such response insinuates the instructor’s irritation, and students can see through it all. Hearing such response would very likely lead students to refrain from asking questions again, to avoid embarrassing themselves or irritating the instructor. In such situation, you should instead respond to the student like this: “That could have been confusing. It’s due on December 7th. It’s also on the syllabus, so you can take a look at that as well.” If you wish to further encourage students, you can say, “It might have been confusing to other students as well, so thank you for asking this question.”

Increasing Opportunities to Interact with Peers

The teaching method of utilizing discussion and debate is nothing new. Nonetheless, it is an excellent method for the purpose of building a learning environment where diverse opinions are respected and accepted. A class where the instructor mostly speaks would be limiting, even if students' opinions are surveyed through various questions. Frequent small group discussions and debates help students to share their thoughts or opinions with other peers, naturally giving them the opportunities to learn diverse perspectives.

Elective courses in a higher education setting are especially a great opportunity for students to listen to their peers' thoughts. When students coming from different majors discuss a single topic, they can learn that everyone has their own perspectives. If such opportunity is underutilized and students only listen to the instructor's lecture, students may obtain new knowledge but they would not be able to hear and learn various ideas. Adding a 10~15-minute activity asking students to discuss their thoughts with their nearby peers to a few points within a lecture would

allow students to be exposed to various perspectives, not just that of the instructor. It is thus ideal to consider such elements when designing a class.

For courses requiring group projects, one of the methods that could be used is to include diverse group members in each group. Depending on the nature of the assignment or subject, it may be necessary to build groups consisting of similar people. In contrast, if it is an assignment aimed at deriving new ideas, it may be helpful to have groups of diverse members working together. The more diverse the members are, the longer it may take for them to agree on decisions and the more possibility there may be for a conflict to arise between students. However, this is also a part of learning. The real world is not homogeneous. When you graduate from school and get a job, you will end up working with people who are very different from you regardless of your desire. Then, it would be better to practice such scenarios while in school! You may experience frustrations as you talk with people whose thoughts are completely opposite to yours, yet remain friends with them despite it all, and learn to resolve conflicts. These are learning process as well! In order

to make such experience educationally meaningful, however, there is something to be mindful of. If you only evaluate the 'result' of a group project, you may overlook things that were learned during the 'process'. Thus, it is ideal to take into account the process, along with the result, in your evaluation of a group project. How much each member contributed to the project can be an important criteria, but it is equally important to consider how cooperative the students were in working with each other and how attentive and accepting they were to others' opinions. It is therefore recommended to systemically design and integrate such elements in teaching plans.

Instructor's Effort to Build a Classroom Respecting Diversity

An instructor's stereotypes or prejudices are reflected in their class contents, teaching methods, attitudes, and other aspects. In order to minimize their negative impacts on students and to build a classroom where diversity is respected, instructors must continuously

examine themselves. There is a possibility of change with introspection, but a change cannot occur if you fail to recognize your own problem. So should you reflect on yourself?

Recognizing the Possibility of Exclusion in Language

Language itself is abstract by nature, and it is something that communicates a rather complex concept by condensing it into a single word or two. For example, the term ‘썸 (read as “some” (equates to there is something between us in English))’, which came up a few years ago, was created to express an awkward relationship between two people that are not dating but are not exactly friends either. Like this, language reflects what people think, but language sometimes has the power to influence our thoughts instead. We do not use it much these days, but until about 20 years ago, the term ‘normal person(정상인)’ was often used in contrast to a disabled person. Most people used it casually, but it was a discriminatory expression to some. The use of the term ‘normal person’ was criticized for implicitly implying that a disabled person is abnormal, thus

nowadays, the term ‘non-disabled person’ is used to refer to a person without disability.

There are also many implicit assumptions in the spoken and written words we use in our daily lives. For example, during lecture, when discussing how genetics are one of the many ways parents affect children, I sometimes explained saying, “Because children have similar genetic makeup as their parents...” If you notice a problem with this sentence, you probably have a high sensitivity to diversity. The implicit assumption here is that the ‘children’ are biological children. However, parent-child relationships can form outside of biological relationships. For example, when a person adopts a child or when a person with child gets married, a parent-child relationship is formed even if there is no biological relationship. A person belonging to such forms of family is significantly more likely these days, as families have become very diverse in recent years. Therefore, when we discuss genetic similarity between parent and child, we specifically point out that we are referring to ‘biological children’. Another example is the term ‘non-married(비혼)’. The term ‘unmarried(미혼)’

as in meaning ‘not yet married’, implies the assumption of ‘marriage’ being a must, thus the term ‘non-married’ is used instead. This was a change brought on by critical examinations of the (discriminatory) assumptions integrated in daily language.

In writing a thesis in social science, the APA (American Psychological Association) format is frequently used. The most recent 7th APA format that followed by the 6th APA format also recommends the use of bias-free language. The guideline discusses biases in language for various aspects, such as age, disability, gender, gender identity, racial or ethnic identity, socioeconomic status, etc. For example, when referring to an old person, rather than using the term ‘elderly’ or ‘senior’, it is recommended that the term ‘older adults’ be used. When referring to Asians, rather than ‘Orientals’, the term ‘Asians’ is recommended, to prevent uses of expressions that originated from degrading and/or inaccurate descriptions of certain groups, and to promote uses of neutral language.⁹ Because the APA format is an English guideline for the field of social science, it may not be entirely compatible with our contexts in Korea, but the effort of establishing such guidelines is exemplary.

Receiving Feedback from Students, Experts, and Self

Experts recommend instructors to develop a questionnaire on how receptive their courses were and to receive direct feedback from their students. Just like how a product or service provider asks for consumer opinions to improve their products and services, an educator should ask for students' opinions, who are the end-recipients in education. It is also a good idea to prepare a class journal. After every lecture, recording in the journal whether the lecture excluded certain students, or whether the class materials you used included as many diverse examples as possible, would help you better prepare for the next lecture. Of course, the problems will not be resolved over just a day or two, but there will be a significant difference between a person who reflects on their teaching every time and a person who does not.

At least within the classroom you administer, you should strive to design and manage a learning structure inclusive to all participants. Most university institutions these days have Centers for Teaching and Learning (names could vary depending on school). In these places, there

are experts on teaching and learning methods who can provide you with various consultations concerning your lecture plan. You can learn about class design, lecture plan preparation, and other various techniques to utilize in class through such services, thus making full use of such resources will be beneficial. It would be great if there were many workshops on the specific topic of 'diversity', such as 'how to grow sensibility for diversity' and 'classrooms accepting diverse members', but opportunities vary depending on institutions. Therefore, even if they are not on the specific topic of 'diverse teaching and learning methods', take the opportunities to learn various teaching and learning methods, as they will help you determine which aspects need to be focused on from a perspective of 'diversity'.

You can also learn teaching and learning methods through other fellow instructors or internet lecture materials. For example, you can regularly meet with peer instructors to share diverse teaching methods and know-hows. Or, you can utilize the vast amount of teaching resources on the internet to research the relevant materials and teach yourself. You can also

listen to special lectures in topics you are interested in, and assess whether the lecturer's speech and behavior could be problematic from a diversity perspective and learn from your analysis. If you are willing as an instructor, there are many ways to improve your teaching and learning methods. If you do not try, you will have less opportunities for self-introspections, and building a classroom that respects diversity becomes something of a fantasy.

Lastly, instructors should continue to meet and interact with people possessing different attributes. If direct interaction is difficult, you need to try to understand various people through indirect experiences (through books or other mediums). We tend to feel more at ease when meeting people similar to ourselves, thus prefer to interact with similar people. Doing so is not bad or wrong. However, interacting with a limited scope of people can make you easily forget that you live in a society with other various types of people. So you need to take interest in people living in your world and in different worlds, and diligently strive to understand them. This is not only an effort of an instructor to build a learning environment where diversity is respected,

but also an opportunity for self-development to widen the spectrum of one's understanding of others. There is no better education for students than the self-improvements their instructors achieve.

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- 1 Steele, C. M. & Aronson, J.. "Stereotype threat and the intellectual test performance of African-Americans." *Journal of Personality and Social Psychology*, 69, 797-811. 1995.
- 2 Koch, J.. "Gender issues in the classroom." In W. M. Reynolds & G. E. Miller(Eds.), *Handbook of psychology: Educational psychology*, Vol. 7(pp. 259-281). Hoboken, NJ: John Wiley & Sons. 2003.
- 3 Bandura, A., Ross, D. & Ross, S. A.. "Transmission of aggression through imitation of aggressive models." *The Journal of Abnormal and Social Psychology*, 63(3), 575- 582. 1961.
- 4 Good, J. J., Woodzicka, J. A. & Wingfield, L. C.. "The effects of gender stereotypic and counter-stereotypic textbook images on science performance." *The Journal of Social Psychology*, 150(2), 132-147. 2010.
- 5 Jeong-ho Cha, So-yeon Kim, Tae-hee Noh, 「An Analysis of Illustrations from Secondary Science Textbooks Developed under the 7th National Curriculum in Aspect of Gender-Role Stereotyping」, 《Journal of the Korean Association for Science Education》, 24(6), 1181-1188, 2004.
- 6 Ji-lli Jung, 「Gender Representation in Middle School Moral Education Textbooks in South Korea, 1973-2019」, 《Journal of Moral & Ethics Education》, 64, 241-270, 2019.
- 7 Bo-ra Youm, Sung-ho Ahn, 「An Analysis of Tacit Cultural Assumptions in Current 'High School English I ' Textbooks: From the Perspective of Multiculturalism」, 《Multicultural Education Studies》, 3(2), 71-96, 2010; Moon-jung Yoon, Yun-hee Seung, 「A Comparative Analysis of Elementary Music Textbook Composition and Illustrations from the Perspective of Educational-Paradigm Change According to the Curriculum Transition」, 《Korean Journal of Arts Education》, 11(3), 43-63, 2013.
- 8 Stewart, A. & Valian, V.. *Inclusive academy: Achieving diversity and excellence*. MA: MIT Press. 2018.
- 9 <https://apastyle.apa.org/style-grammar-guidelines/bias-free-language>

Dualistic Implications of Diversity in Korean Education

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The word 'diversity' has a very positive meaning in education just like in other fields. There aren't many instances where people oppose to implementing various forms of education. Assuming that diversity is a term with positive meaning, then uniformity would be the opposite term. There would be almost no one who would agree with uniform education. But diversity in education is not that simple. If diversity is accepted as a type of discrimination or is understood as meaning of complexity, then negative implication in society could be quite significant.

The reason why the student transcript college admission track was criticized as the 'blind admission track' was because diversity was being understood as meaning of complexity. Compared to the times when a certain score on the standardized test was the admission criteria, the current college admission features too many complex early admission tracks and it could seem too difficult to understand. Complexity results in gap in college admission information understanding and this is converted into fear that there

would be actual gap in college admission results.

Diversity in education is very necessary and there is no reason for it to be rejected normally but there are realistic situations that cause such negative attitude towards diversity. The problem lies in the contradiction existing in society being projected onto education rather than the education where grievances against such realistic situations exist.

As a teacher in the field, I intend to examine the integration process of diversity in 21st Century education and its negative perception, and the process leading up to subsequent reaction or repeal. Furthermore, we will examine how to protect and develop the value of diversity in Korean education in connection to my personal experiences.

2002: Beginning of the 7th Curriculum

When I first got my teaching position, it was 2002 when the miracle of Korea making it to semifinals of the World Cup. Then and now, in order to stand on a teacher's podium in a public school, you had

to pass an open competitive exam known as the teacher recruitment examination. Back then, internet lectures were not yet popularized and I had to go to the academies in Noryangjin to listen to education major lectures to prepare for the exams. I studied with hundreds of students crammed into a tiny classroom like a cage. The future teachers were being developed in a traditional examination culture where lecturers explain and students diligently take notes individually. It was a place where future teachers to teach students of the 21st Century were preparing for examination but the uniformity of the 20th Century was still the mainstream in teacher appointment culture.

There was still the aftershock of the IMF crisis at the time and it wasn't long after the 21st Century began. There was an upcoming election for a new president and upcoming global festivals when the new 7th Curriculum was implemented for high schools. The contents of the 7th Curriculum were included the teacher recruitment examination, and it emphasized the constructivism education philosophy, self-directed learning, selective curriculum, etc. The atmosphere in the classrooms at the academies where students prepared for the teacher

recruitment examination and the contents of the new curriculum did not match in reality.

Fortunately, I passed the exam and I was appointed as a teacher in the following March. What was fortunate for me personally, was the 'July 20 Educational Condition Improvement Plan' announced by President Dae-jung Kim. There were various contents but what was practically most impactful in the education field was limiting the number of students per class to 35 students. When you were in lower grades, you had two-shift lectures, and had classrooms filled with more than 60 students per class back in the day. But the schools were changing when I have finally returned after many years away. This resulted in more teachers being appointed, and this story on how the exam applicants at the time benefited significantly from this plan was retold for many years.

But the greater change was taking place somewhere else. It was the 7th Curriculum. The 7th Curriculum implemented selective curriculum in high schools for the second and third year students in high school. At the time, electives in high school seemed like a system that would be operating in developed countries in

the west. There were many oppositions to operating electives as this was still the times where students all grew bean sprouts in their classrooms. Limiting the number of students per class to 35 students probably was related to implementation of the 7th Curriculum in high schools. This was because the new curriculum would result in massive increase in traffic of students going from class to class.

The reason why I mention the 7th Curriculum in discussing diversity in education is because diversity in subjects began during this time for high schools.

The following table summarizes the electives for social science in the 7th Curriculum overview. The reason why social science was chosen as an example is because it had significant increase in number of subjects and it showed the clear effects from implementation of selective curriculum. In the

Selective Curriculum for High School Social Studies

Category	National Curriculum	Electives	
		General Electives	Advanced Electives
Ethics/ Social Studies	Ethics (2), Social Studies (10), National History (4)	Civic Ethics (4), Human Society and Environment (4)	Ethics and Thoughts (4), Traditional Ethics (4), Korean Geography (8), World Geography (8), Economic Geography (6), Korean Modern History (8), World History (8), Law and Society (6), Politics (8), Economics (6), Socioculture (8)

geography curriculum, 'economic geography' subject was newly established, and under general society, 'law and society', and under history, 'Korean modern history' emerged as new electives.

There were some electives such as second language courses in the 6th Curriculum but the full-scale diversification of subjects and implementation of student electives began with the 7th Curriculum. Until then, choice was for the school and there weren't many choices for individual students.

Changes from Implementation of Selective Curriculum

As the selective curriculum was implemented in education, there were several changes in high schools. The biggest change occurred in class composition. Previously, class composition in high school focused on dividing students between liberal arts and science tracks when students finished the first year and were going into their second year. After dividing students between liberal arts and science tracks, you just had

to organize classes in the hierarchy of grades as done previously. Traditionally, when there were 10 classes, 1st place student was assigned to class 1, 2nd place student was assigned to class 2, and followed suit until the 10th place student being assigned to class 10, and then the 11th place student being assigned to class 10, and then following reverse suit.

In order to minimize student movement between classes, you had to group students with similar electives together. So you can no longer apply grades which were the only criteria in organizing classes previously. Schools organized classes based on electives as much as possible, and then if there were other elective groups within the same class, they grouped two or three classes together for movement between classes. The past method of staying in one classroom all day was no longer valid.

What was even more important than such change on the surface was the cultural change. The class performance which was used as the quantitative teacher evaluation criteria in the school bureaucratic system was no longer valid. The older generation probably remembers how their teachers were often concerned

with class average score. In a teaching society where quantitative evaluation was not possible, class average score was the only way to exert pressure on teachers. The myths of teacher with lowest class score average being summoned to the principal's office was the product of such culture.

But the class performance was no longer effective as a method for the school administrator to pressure the teacher. Without identical starting points, it was impossible to compare class average scores, and class composition by electives made this system obsolete. There were times when an administrator who failed to understand the new curriculum attempting to rank classes by class average score but it was difficult to be effective since it was a standard that was no longer agreed upon by the members of the school. It brought the effect of fundamentally erasing a signature evaluation criterion operating in the school society.

Change in curriculum subsequently brought change to college admission. The College Scholastic Ability Test (CSAT) was first implemented in 1994 and it was a systemic change following the transformation of curriculum but it still maintained the method

of announcing total score as performance. It only changed the writing of exam questions and the grade calculation method was not much different from the previous college aptitude test, where total score was determined out of 340 points maximum with minimum scores being established for each college department.

Combination of the CSAT and the 7th Curriculum resulted in a dramatic turning point for examination. It was impossible to administer an exam to rank all students from first place to last place nationwide based on total score for the same subject. It was difficult to administer a uniform exam since students learned different subjects. So this required selective subjects in college admission to be permitted as a result.

Since the 7th Curriculum was sequentially implemented from first year students in high school in 2002, raw score for the CSAT was no longer disclosed starting with the 2005 CSAT taking place in 2004 when these students reaching third year in high school. Instead, a CSAT report only listing percentile rank, standardized score, and rank was issued. From then on, selecting more advantageous electives became a crucial factor in college admission.

Originally, we thought that students will naturally mix by selecting subjects that suit them. Relative evaluation of these students was expected to result in average score of the student's aptitude statistically. It basically assumed that there would be no deviation between students who opted for physics and biology in science subjects.

The problem results from the system predicated on diversity but uniformity in values pursued in society, which unintentionally impaired the value pursued by diversity. Regardless of which college was being targeted, many will agree that a student who wishes to enroll in economy major would be recommended to select the economics subject in the social science curriculum. But recently, even students who wish to enroll in economy major are frequently opting to take other subjects for CSAT out of fear of disadvantage in the rank system as they apply for economy schools. This is where diversity of system fails to guarantee diversity of choices. This could be seen as a problem in design of education system or college admission system but it should be fundamentally interpreted as the harmful effect from excessive focus of students on advantages and disadvantages in college admission.

On the other hand, the improved problem

management skills of students resulted in a new issue. As student scores improved, excessive questions to differentiate students are being written onto exams. This resulted in the side effect where students can no longer achieve high score without uniform training in problem solving.

There were many opinions advocating for making exams from question pools for college admission exams. It was probably from the intent to measure basic aptitude without students obsessing over score. But the reason that this is difficult is due to existence of Korean context. Korea is the perfect country for a nationwide uniform examination. The land isn't big enough to spread across a continent like the US, and the country is unified under a single standard time thus making it optimal for administering standardized test. The cultural tradition of civil service examination from Joseon period served as a background to deepen the understanding of such standardized testing.

It is more efficient and easier to accept determining your fate with a single test instead of taking several tests based on the question pool system. In the early days of CSAT, two exams were administered in the same academic year to give multiple testing

opportunities but this was repealed not long after. This was because it was difficult to make the different questions of same difficulty for different exams being administered in different periods. It also would have entailed significant test administration issues.

The reason why it is difficult to write up questions with a question pool system was due to existence of private education that is highly competitive. Existence of private education specialized for college admission is likely to make a question pool system obsolete. In a place where score improvement through improving adaptability to questions would make test questions from question pools seem rather similar. The reason why Korean people score high in various qualification exams administered in the US can be inferred as Korean people exhibiting high adaptability to the question pool system.

Changes in Educational Administration from Direct Election of Superintendent

We will review the issue of diversity in education and college admission at the end once more but let's take

a look at the school bureaucracy culture and issue of diversity in schools.

The bureaucratic system is often referred to as the organization system that opposes diversity. Bureaucratic system is understood as an organization appropriate for the era of mass production in less variety. From the aspect of modern history of Korea, the bureaucratic system probably worked very efficiently to motivate all citizens to strive for a single goal in a rapid growth phase in the 60's.

The same applied for the system and administration of education. The iconic education culture portrayed in the movie <Once Upon a Time in High School> is closely related to such social atmosphere. This movie portraying the high school landscape in the 70's was released in 2004. This lines up exactly with the period when the 7th Curriculum was being implemented in full-scale. It was a period of time when the message of the past education method being no longer valid was dominating in cultural aspect. This led to production of a movie strongly criticizing the school culture of the 20th Century.

But the changes in the school bureaucratic society were very slow to emerge. There were changes in the curriculum and college admission prioritizing

student's choices but the structure of the teacher society to back these changes was not yet changing. There were several reasons but the biggest of them all was the preservation of the existing promotion system and lack of change in leadership.

But there were signs of fracture eventually. Self-government of education was in place for each metropolitan council under the local autonomy system at the time. The Office of Education was instructed to administer education internally but the central government's influence was significant, and the indirect election system for the superintendent was lacking in terms of bringing change. The indirect election system participated by school steering committee members, etc. was a structure where the influence of the bureaucratic line established within each city and provincial Offices of Education was significant. There were many criticisms that the superintendent positions were being shuffled around the factions in the local education system.

What brought fundamental change was the direct election system of superintendents. Some expressed negative opinion regarding the direct election system of superintendents on grounds of education becoming

political but it was a change that could be very positive from the aspect that the power lines within the education system has been demolished.

From diversity aspect, we could take diversification in composition of superintendents. The press focused on the appointment of progressive superintendent in some regions. If progressive faction exists somewhere regardless of faction aspect, it is only right for education system to recognize their place in the system. Education needs to be based on social changes, and there is imperativeness to achieve change as social changes take place. Even if there is identity of education, education is still something that exists within society and it is a product of society.

In May 2009, Professor Sang-gon Kim, who served as the chairman of the National University Faculty Association, was elected as the superintendent in Gyeonggi-do for democratization. This was a huge shock in the bureaucratic society of education. Parts responsible for educational administration was mostly conservative but this election was an indicator for significant waves of change.

The timing could be a bit off in terms of politics, and this is because the progressive regime for the

past 10 years in the central government has ended and President Myung-bak Lee was elected. But this doesn't mean that especially progressive agendas were established in education when there was the first parallel regime change from the ruling party to the opposition party in 1997. The government under President Dae-jung Kim legalized the Korean Teachers & Educational Workers' Union upon regime change but it didn't result in education policy that is differentiated on the level of Sunshine Policy introduced in the policy towards North Korea.

The aforementioned 'July 20 Educational Condition Improvement Plan' led to several political controversies but the content itself was not something that should have caused political conflict. There was no reason for some sort of political conflict for reducing the number of students per class to 35 students. At most, it should have resulted in controversy surrounding its implementation method or speed of its implementation but these were all secondary from the fundamental aspect of education.

Its base framework was somewhat based on the 'May 31 Education Reform Plan' in 1995 under President Young-sam Kim's regime, and it can be said

that the future regimes almost inherited this plan as is. The Korean Teachers & Educational Workers' Union criticized this as a neoliberalism education reform plan but no government was free from such criticisms. The overall flow itself did not change much. It was mostly changes in policy technicality and there weren't any real significant changes in ideology of education.

But the emergence of a progress superintendent was very different. This established the stepping stone for liberalization of student life such as repeal of the hair code, restriction of physical punishment, repeal of compulsory evening study hall, etc. Physical punishments that is unimaginable in present day were quite frequent just 10 years ago. It was a daily routine for high school students to go to school early in the morning and studying until around 10 in the evening.

And the direct election system of superintendents was what fractured such monotonous school culture. Diversification only discussed in college admission system and curriculum began to emerge in the school culture. Compulsory evening study hall did not provide diversity of learning experience to students, and hair code was a measure to restrict diversity in lifestyle. Physical punishment was a control mechanism to

make such compulsory environment possible. All of these were changed just by the direct election system of superintendents. This would not have been possible if it was a bureaucratic superintendent elected through the previous indirect election system.

The direct election system of superintendents also brought diversification to the bureaucratic society of education. It established a new path in teacher promotion, and there were two previously existing paths. One path was being promoted by accumulating points over a long period of time. It's a system where a teacher goes through being a homeroom teacher for some years, department head for some years, and accumulating some points in research, some points through working in rural areas and other less desirable regions and being selected for promotion based on score to get on track of becoming vice principal and principal. This was one of the traditional methods in a bureaucratic society, and it was a fundamentally limited structure that is difficult to appoint a person with creativity and flexibility.

Another path was becoming a school commissioner. A school commissioner is appointed through an open competitive exam like the teacher recruitment

examination. The biggest issue in promotion exam unlike the recruitment exam is that the exam was not appropriate for verifying advanced capabilities in the system. It could be necessary to measure quantitative capability in certain knowledge when appointing a teacher to be responsible for education but using an exam as the method to appoint even a leader who plans the overall education and leads the school could lead to further reinforcing uniformity in recruiting.

As the principal open recruitment system was implemented, a system to elect the school commissioner through reputation survey or interview was implemented. Those who prepared for the promotion over a long period of time under the existing system expressed grievances but it is a positive change in the sense that a new recruitment format is included in the promotion tracks.

From personal experience, I always felt that the tendency of people in the promotion line was leaning heavily on one side. I mean that people who were loyal to the hierarchy filled the positions for more diverse pool of talent. Of course, the bureaucratic system needs to operate stably to guarantee stability but it also results in that much rigidity and lack of creativity.

To some people, such change was perceived as an act of harming stability in teacher society. And it was met with some fierce resistance. It especially led to a huge conflict going up against a political faction. And the combination of conservative central government and progressive superintendent amplified such situations.

The conflict surrounding the internal principal recruitment system currently ongoing within the education system is an extent of such conflict. It's a rebellion against the system that appoints regular teachers as principals who have not yet accumulated promotion points. The conservative education system including the Korean Federation of Teachers' Associations claim such principals to be unqualified, and the faction pushing for expansion of internal recruitment system defends the existing system in the aspect that it diversifies education officials.

Diversification of High Schools

The policy that was strongly promoted by the conservative faction of education on grounds of diversity was diversification of high schools. There

were many controversies surrounding the limits to how much diversity can be permitted in primary and secondary education. If this part is connected to ideological differences, the controversy would be amplified and the conflict would be intensified. The title of the book [Diversification Beyond Equalization] by former-minister Joo-ho Lee is pretty significant. The title portrays how diversification and equalization are in conflict, and that he is officially opposing the equalization policy through this book.

There were many ups and downs but the high school equalization policy in Korea in present day has been significantly demolished. Third year students in middle school are pondering which schools to attend among diverse selection of schools. There are high schools with specialized curriculums such as foreign language high schools, international high schools, high schools for gifted students, science high schools, etc., and there are even self-regulated private high schools.

And the strong opposition argument against such diversification is the criticism on whether diversification of high schools has really been achieved. Foreign language high schools should be developing foreign language talent but there were a lot students enrolling

in medical schools for some time, which made them a target of criticism. There should be curriculum for special purposes but the core argument is in asking what these schools do aside from determining which school is better just like how which class is better for students to be admitted into better universities.

From this aspect, it is difficult for self-regulated private high schools to escape criticism concerning diversification of curriculums. One high school was mocked as being a medical force academy. Sometimes, such mockery promotes the school. This is because such schools could be recognized as a path for students studying natural sciences who wish to enroll in a medical school.

The policy that started out as diversification of high schools meeting strong resistance is due to the social structure that fails to guarantee diversity. It's in the same context as the social issue of heavy private education cost to enter foreign language high schools for some time previously. There can't be that many foreign language students, and this issue came from the choices of high school that were advantageous or disadvantageous for college admission. The pure route of enrolling in foreign language school because students taking interest in

foreign language was not valid. This was in the same context as the aforementioned side effect surrounding the implementation of elective system in CSAT. In a situation where social structure doesn't permit diversity, various attempts at diversity based on virtuous function of education merely continue to become vicious cycles that fall into the trap of uniformity.

And education itself also plays a role in not being evaluated as education itself. The preference of special-purpose high schools resulted in students focusing on college admission performance rather than the special purpose of education itself, and it resulted in these schools leaning heavily towards student acceptance rather than education. The attempt to divide superior schools and inferior schools based on a single standard itself harms diversity. Special-purpose high schools failed to realize market value, and failed to achieve intended purpose of education due to the self-promoting snob effect and focus on selection effect. The college admission performance itself only leads its purpose of existence to become a private power station.

Such situation leaves a lot to be desired from the aspect that it harms the intended purpose of

diversification. Schools for foreign language students and self-regulating private high schools, etc. to achieve special educational purpose are necessary, but the side effects overshadow such matters. The newly implemented high school system from diversity aspect is the self-regulating public high schools. The system of only granting autonomy to private high schools could be a reverse discrimination against public high schools so the new public high school system was implemented accordingly.

From the aspect of selection effect, it was quite successful. You can invite capable principals through an internal recruitment system, and employ capable teachers through invitation. Instead of appointing teachers in a general human resource system in public schools, there is a system where the principal invites a capable teacher. This is referred to as the teacher invitation system, and a greater number of invited teacher personnel is often assigned to self-regulating public high schools compared to general high schools.

Just like the two sides of a coin, there is a problem here. It's the issue of concentrated pool of outstanding teachers at self-regulating public high schools. And these schools will enjoy their benefits from the selection

effect followed by the snob effect. It could result in a side effect where packaging competition extends within public high schools instead of qualitative competition of education.

Value of Diversity in Education

But the issue of education in Korea lies in the issue of college admission. The admission officer track implemented ambitiously by President Myung-bak Lee's regime resulted in unintended side effects. It was a good intent for admission officers to evaluate various competencies of students to utilize for college admission but it faced the pressure of becoming a new type of uniformity, and led to excessive competition. Some students even prepared a whole box of materials to showcase their performance. It would be fine if such materials all portrayed the student's competency but this was not the case most of the time. I have even see a student notarize a photocopy of a newspaper article. It was proof of newspaper article he has scrapped. It was a student trying to implement a standardized measure in a college admission system

seeking creative students. Of course, this wouldn't lead to qualification but complaints from infinite competition were inevitable.

After such side effect, the admission officer system was changed into the transcript admission system. This was because the competition among students have reached infinity to the point where students begged their parents to engage in activities outside of school such as going on volunteer activities overseas, etc. And this later became a catalyst in grievances of the people as such exorbitant expenditure of parents' financial resources were buying college admission.

As the transcript admission system established itself in substitution of the admission officer system in Korea, the workload of teachers grew explosively. And students individually came to have some grievances in this transcript admission system, but this was changed to positive perception eventually and this was because of the response from universities. Universities seem to implement this system with encouragement from the government but universities at some point started to voluntarily expand the transcript admission track. The transcript admission track was evolving as a system to recruit students that fit the character the universities

seek accordingly.

I worked in the rural area when the transcript admission track was just expanding. There was regional inconvenience compared to urban areas, but there were students who were performing well in college admission surprisingly. Students were admitted to good schools through the transcript admission track beyond my expectations. The transcript admission system was having positive impact. But there were some who criticized the other aspect of this system. And this was the criticism referred to as 'blind admission track'. CSAT score hierarchy is the easiest to simplify the standards. What is more certain compared to the CSAT tier system or percentile score would be the total score system under the college admission aptitude test.

As more definitive standards to determine superiority are suggested, the degree of uniformity would only become severe. The fact that there is a definitive standard means standardization of evaluation. The word 'blind' carries the meaning of complexity. Compared to the times of college aptitude test, college admission seems to have become more complex. In my times, my friends at the university consisted

of students who had similar scores. Whether the minimum score requirement was high or low, it was certain that students in similar score range were recruited collectively.

Such clarity is difficult to exist in college admission today. College admission is not only divided between early admissions and regular admissions but there are also numerous tracks just within early admissions. But something like an essay admission track can be inferred as a college admission track through writing even if you aren't knowledgeable in college admission based on common sense, but people would feel that a transcript admission track is more complex. When various complexities aren't understood as purpose of diversity but rather as unfairness, then the reaction against the system becomes more severe.

Furthermore, the high school education in Korea is facing another upcoming change. This is the high school GPA system. The 7th Curriculum is a system that qualitatively and quantitatively implements the selective curriculum system. In contrast, high schools are expanding the classrooms for different subjects. They are making numerous classrooms titled as social science classrooms, science classrooms, Korean

language classrooms, etc. This was implemented for the purpose of acknowledging the diverse intellectual growth and processes of students but the voices of concern have grown just like when the selective curriculum was first implemented by the 7th Curriculum.

What's better than the times when the 7th Curriculum was implemented is that the number of students per class has decreased to around low 20's per class due to the effect of low birth rate. This is astonishing considering the criticism against aggressively reducing the maximum number of students to 35 students per class in 2002. But there are reactions to this as well. There is still the issue of college admission. The policy direction was determined to expand the regular admission system based on CSAT, which cannot go along with the high school GPA system. With the college admission system remaining the same, it is likely that the high school GPA system would become obsolete. The CSAT system underwent significant changes through full-scale implementation of the 7th Curriculum, but there is still yet no blueprint regarding the future of CSAT in the era of high school GPA system.

There are many objections against the selective

education system coming mostly from some students majoring in natural sciences and engineering. They claim that many students are being admitted without properly building the knowledge they should have obtained through high school. But this is only half of the truth. This is because what is necessary for students enrolling in natural sciences and engineering majors at top universities are not the same for other students. Just because students aiming to enroll in natural sciences and engineering majors at top universities require studying all subjects in physics or mathematics, you can't mandate it for other students who don't need it. Students their own curriculums suited to their preferences and abilities but trying to standardize to resolve this would only result in other side effects.

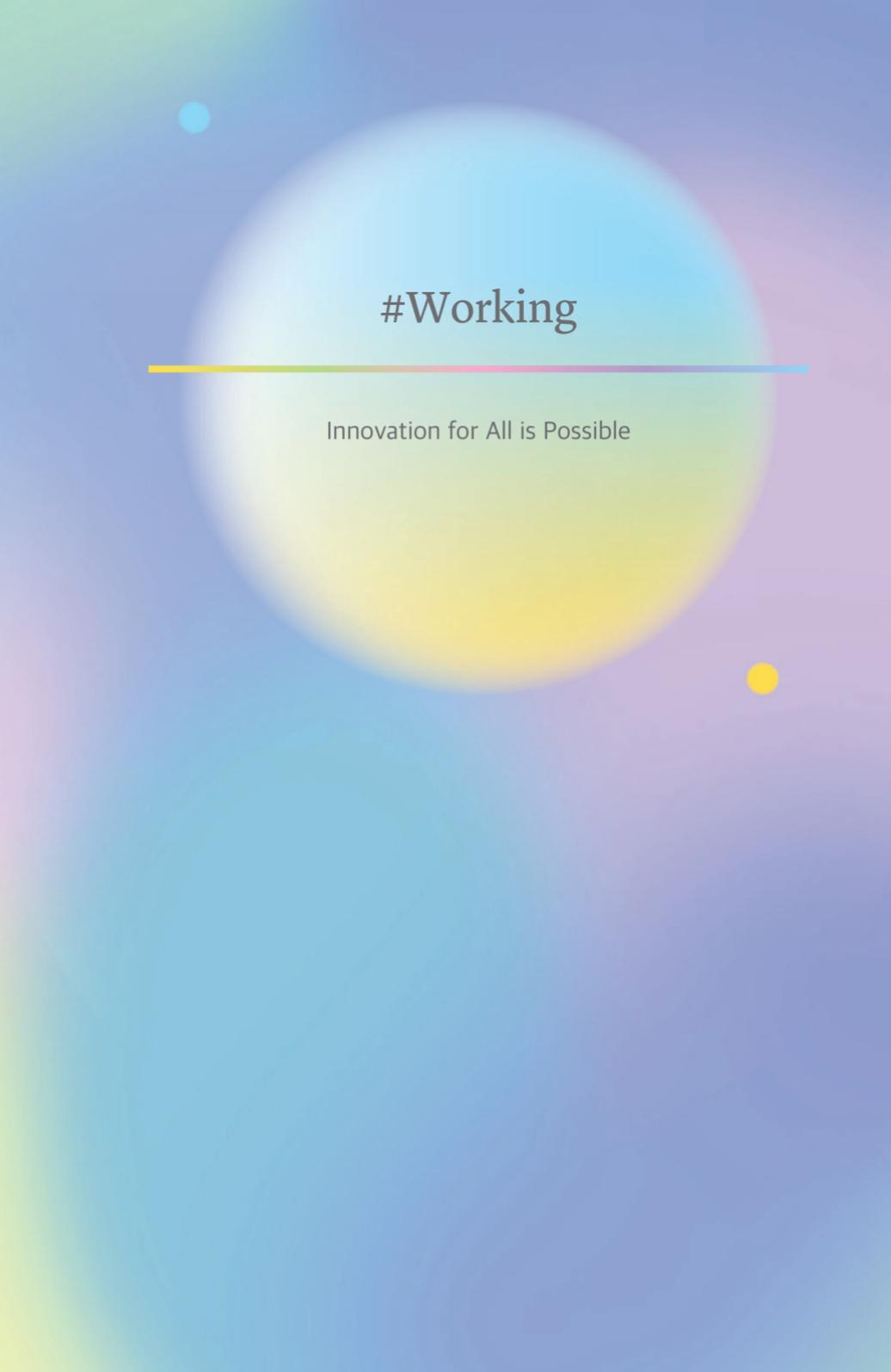
Diversity in education is acknowledging existence of various students. And groups with louder voice tend to be students from top ranked universities, and they tend to make error as they use themselves as the standard for all knowledge.

The tier you need to be admitted to 'InSeoul' universities is tier 2 or higher on average. Tier 2 indicates top 11% and it's certainly not a lot of students. Also, if you limit the pool to top-ranked universities,

it becomes an extremely small pool within top 5%. Knowledge itself pursues the edge of cognition so it becomes a mechanism mandating standardization of a differently constructed world into their own. Diversity is overcoming such restriction of cognition and acknowledging differences, and it is needed in the field of education.

Just like all policies, the good purpose itself does not guarantee its realization. Attempts of diversity in education policy met many side effects and oppositions. But we cannot give up on diversity itself due to such oppositions and difficulties. Education of Korea has slowly changed from diversity aspect and it has also gradually advanced.

It's not easy to implement what's appropriate in education. Education is a public asset but it's also a method of status ascension for individuals. Both the education experts and participants are responsible for handling such complex mechanism and achieving public interests. Our society desperately needs the effort to understand complexity for diversity, and to overcome lower dimension of fairness to achieve higher dimension of fairness.



#Working

Innovation for All is Possible

Why Do Science and Technology Need More Women?

So-yeon Leem Professor (Dong-A University)





“29.3%”, “20.0%”, “10.0%”, “6.6%.”

These numbers are all related to women in the fields of science and technology. What do each number and the order of the numbers mean? Starting from the first number, these four numbers, reported in 2018, respectively indicate the ratio of women among incoming freshmen in Natural Sciences and Engineering schools, among personnel in the fields of science and technology Research and Development (R&D), among managers in the fields, and among directors for research projects with budgets above 1 billion won.¹

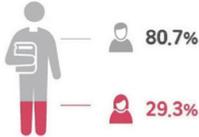
These numbers present three important facts about women in the fields of science and technology. First, assuming that at least a bachelor’s degree is required to join the science and technology R&D workforce, the figure of 29.3 shows that not even a third of the people that aspire for a career in science and technology are women. Second, this figure of 29.3 becoming 20, and then 10 along the process of building experience within the science and technology R&D workforce

여성 과학기술인력 양성



입학

자연·공학계열 입학생 성별비율



자연·공학계열 입학생 중 성별비율



졸업 직후
취업

자연공학계열 전공자 졸업직후 취업률

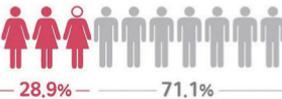


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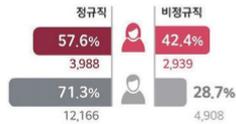


신규채용

과학기술연구개발인력 성별 신규채용 비율

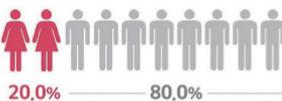


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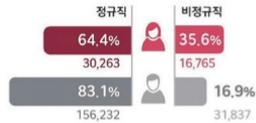


고용현황

과학기술연구개발인력 성별 고용비율



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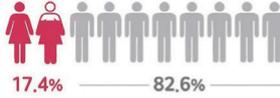


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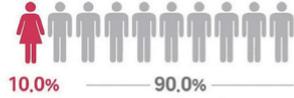


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과학기술연구개발인력 승진자 성별비율

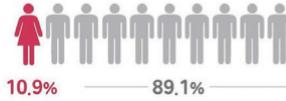


과학기술연구개발인력 관리자 성별비율



연구과제
책임자

연구과제책임자 성별비율



10억원 이상 연구과제책임자 성별비율



자연공학계열 전공자 성별 연령별 경제활동참가율



일-가정 양립 지원 제도 운영 현황



Source : <2009-2018 Gender-based Scientific Technology Workforce Status>, Korea Foundation for Women In Science, Engineering and Technology, 2019.

shows that women are consistently withdrawing from the fields, rather than staying. Just like how water leaks through cracks in pipes, the female labor force is lost. Third, the figure of 6.6, which represents the ratio of women among directors supervising large scale research projects, shows that the science and technology fields are comprised of a structure that is difficult for women to maximize their excellent abilities, or in other words, implicates the existence of a 'glass ceiling'. Ultimately, the reason why there are so little female scientists and engineers is because of the gender discriminatory structure rampant in the fields of science and technology, in universities, corporations, national research institutions, and many others.

Of course, some may interpret these numbers differently. For example, some may view this as a natural result of women lacking the qualification and ability as science and technology researchers or managers compared to men. Could it perhaps be that women do not choose natural sciences and engineering as their undergraduate majors, and even if they do and manage to get into the workforce, they quit, because the fields simply do not suit their aptitudes? The female

talent pool itself is not too big to begin with, so it only seems natural that the ratio of women decreases upward in the fields. Also, the reason that the ratio of women becomes extremely small in promotions and large projects could simply be a result of official evaluation procedures. Who discriminates women for being women these days? And especially in the fields of science and technology where solid results such as thesis, patent, and others majorly determine one's work performance, instances of women not being able to become professors or secure research budgets just because they are women are improbable. From such perspective, the aforementioned interpretation of the science and technology fields as being sexist is a distortion of the reality. Women simply need to choose the natural sciences and engineering majors more and hone their abilities more. From this perspective, the reason why a high ratio of women is needed in the fields, as well as why there should be policies or institutions for female scientists and engineers, seems rather puzzling. Why are there these two polar opposite interpretations on the same data? And what should we do to close this gap?

Significance and Limitation of Policies and Education For Women²

The support for women, the minority in the fields of science and technology, has been actively discussed and implemented in policies and education. The policy for women in science and technology in Korea began with the enactment of the ‘Act for Development and Support for Women in Science and Technology’ in 2002, and it was executed based on the ‘General Plan for Development and Support of Women Scientists and Engineers’(hereafter termed the General Plan), which has been established every five years since 2004. The 4th General Plan is currently in effect since 2019, and the goals pursued in each plan are as follows:

- 1st General Plan(2004-2008): Building a harmonious science and technology society with women scientists and engineers;
- 2nd General Plan (2009-2013): Building a creative science and technology society led by women scientists and engineers;
- 3rd General Plan(2014-2018): Science and technology

and creative economy led by both genders

- 4th General Plan (2019-2023): Society where potentials of women scientists and engineers are realized

Although the 3rd General Plan mentioned 'both genders', the main focus of the General Plan is women scientists and engineers. The plan was to resolve the issue of the gender ratio imbalance by increasing the number of women scientists and engineers. Consequently, many initiatives with the aim of increasing recruitment of women scientists and engineers and preventing career interruptions were implemented. For example, there were projects that focused on mentoring for female students, work-family balance, expansion of childcare benefits to prevent career interruptions, supports for women returning to work or seeking re-employment, and many others. As a result of such efforts, the ratio of women in the science and technology R&D workforce increased twofold, from 10% in 2000 to 20% in 2018. At this rate, would it be possible for the ratio of women to reach 50% someday, and for the ratio of

those with over 10-billion won research budgets to be on par with men?

There are some people who think that the gender ratio imbalance in science and technology will be naturally resolved over time. They compare the past and the present, and believe that the future will also be better than the present. Such viewpoint makes sense, but the change will not happen 'naturally'. We must remember that for the 10% of the past to become 20% of the present, new goals had to be developed every five years and various initiatives had to be carried out.

The question is, 'Are establishing special programs on career counseling and competency reinforcement for female students, expanding childcare facilities at work, actively recommending paternity leaves for men, and developing policies to assist women whose career has been interrupted due to pregnancy and childcare with re-employment, enough?'. It does not mean that current efforts are unnecessary or lacking. It is just that after making a quantitative growth through policies on development and support for women scientists and engineers, we should also think about qualitative growth we can achieve.

The core focus of the projects that have supported women scientists and engineers up until now has been on 'women'. Women are at a disadvantageous position compared to men due to the gender discriminatory structure rampant in the society and science and technology, and although there are differences between different fields, they are in general the minority. Such was the reason for the existence of policies supporting women scientists and engineers and policies based on a deficit model regarding women. This deficit model was also acceptable to those who saw women being a minority in science and technology as a natural result of individual preferences and ability-based evaluations. Whether one thought that women face structural discrimination or that women simply do not pursue the natural science and engineering career path, there was almost no reason to justify being opposed to educating and supporting women who were facing more difficulties than men.

However, these women-oriented projects based on the deficit model are not without problems. According to Gyeong-hee Han and others who assessed the leading universities' initiatives on engineering

education for female students,³ projects that only serve female students put them under the spotlight and have an adverse effect of inspiring resistance from both male and female students. Male students view them as special benefits only for female students thus a reverse discrimination, and female students refrain from participating in such projects because they are repulsed by the possibility of being thought of as an inferior entity that requires special considerations.

Similar concerns have also emerged in natural science and engineering education. Gender-sensitive education in natural science and engineering schools try to achieve gender equality in university education by reflecting the characteristics of female students who are numerically and culturally the minority. Natural Sciences and Engineering value scientific abstraction, strict logic, mathematical thinking, and etc, thus they have come to be labeled as impersonal fields of study without flexible thinking or consideration for others. The culture of Natural Sciences and Engineering is also perceived to have masculine attributes that tend to prioritize knowledge and/or logic above relationships. Under such conditions, professors in Natural Sciences

and Engineering have interacted with female students by excessively protecting them or being considerate toward them, or lowering expectations on them relative to those imposed on male students.⁴ In such environment, it is difficult for female students to have confidence in their own abilities.

Most of the recent gender sensibility education focus on understanding the characteristics of female students and developing suitable teaching methods. For example, women prioritize cooperative processes and depend on outside recognition rather than self-affirmation to engage in implicit communications and contextual/direct thinking, while men prioritize competitive outcomes, actively promote themselves, and engage in analytical and logical thinking. Treating both men and women equally despite such differences could thus result in actually excluding women. Therefore, recognizing the existence of the differences between men and women, and developing and implementing teaching methods in consideration of female students who are the cultural minority, are the main points of the existing gender sensibility education.

In such gender sensibility education, how an instructor conducts lectures and treats students are thought to accommodate the differences between men and women and resolve the needs of female students. For example, an instructor needs to refrain from using expressions that differentiate men and women or jokes that discriminate women, understand that female students tend to excessively blame or underestimate themselves when problems arise and help them bring out their abilities, but also needs to remain firm if students get emotional in the process.

This type of gender sensibility education was somewhat educationally successful. The perspective remains that rather than ignoring the realistic differences between men and women and pursuing equality on the surface, such reality should be acknowledged and the existing education should be changed accordingly. However, the gender sensitive teaching method based on such perspective solidifies gender identities, and overlooks the differences between individual students and diversity. Just like how the claim that women scientists are better at science due to their unique maternal instincts and

delicacy derive from stereotyping femininity with maternal instinct, delicacy, etc., education focusing on passive attitudes or low self-esteems of female students has the risk of women perceiving themselves as lacking or inferior compared to men.

Then, is there any way to nurture and develop female scientists and engineers without special benefits or considerations? Is there a way to develop a new form of gender sensibility education that acknowledges the realistic differences between and male and female students, but also does not essentialize the differences as gender identities?

What if Women Are Not the Problem?

Policies based on the deficit model or education based on gender differences are clearly limited in terms of performance. Policies and education focusing on the aspect of 'women' in tackling the gender disparity in the fields of science and technology have revealed several issues, from resistance toward the deficit model and gender essentialism, to the controversy of reverse

discriminations. Then, what different approach to the issue of women in science and technology can we take? If women are not the issue, then what is it? If the issue in science and technology is not women, then what remains is 'science and technology'. What if what we should fix and change is not women, but science and technology?

"You just need skills. No one cares about your gender." This is a common response in conversations regarding the issue of gender disparity in science and technology. The figures such as 29.3%, 20.0%, 10.0%, and 6.6% that drop moving up in tier are not concerning for people who say such things. They are just results based on your skills, so you can either accept it or improve your skills to change the statistics. But do scientists and engineers really only get evaluated based on their abilities and skills?

In the 60's, American science sociologist Robert Merton stated that there are four norms of science: 'communism', 'universalism', 'disinterestedness', and 'organized skepticism'.⁵ Communism is where scientific achievements are not privately owned but shared with the entire community of scientists, and

universalism is where scientific activities are evaluated impersonally based on scientific facts only, without considerations of an individual scientist's unique aspects such as gender, race, rank, philosophy, reputation, and others. Disinterestedness refers to how scientific studies cannot be performed for certain interests or self-interests, and organized skepticism refers to having to undergo strict verifications pursuant to strict standards and deferring any judgments until something is accepted as a fact.

The four norms suggested by Merton were criticized by many scholars. For example, a British science sociologist Michael Mulkay viewed these norms as an ideology self-created and believed by scientists rather than a description of actual scientific activities being performed.⁶ Without finding more examples of such criticism, we can find plenty of counterexamples against these four norms if we think about the fields of science and technology we see, hear, and experience. Nowadays, scientific achievements are privatized through patents, and reputations of scientists impact the evaluations of scientific facts. There are scientists who are put on trial for manipulating research results to

cater to certain interests of corporations, and there are instances of experiments that cannot be reproduced passing peer review and being published in journals. Regardless of the significance of Merton's norms in the scientists community, these norms are actually not kept too well in reality. Thus, claiming that gender does not have any impact on the evaluation of one's scientific performances, based on the Mertonian norm of universalism, does not come off persuasive. Now, let us take a deeper look at the issue of science and technology, with a specific focus on the scientific community's universalism.

Science was far from universalism from the moment of its birth. Historically, science was an invention of Caucasian men in Europe. In fact, every philosopher and natural philosopher before modern science was men. The key distinction of modern science from natural philosophy was the importance of experimentation in forming knowledge. If natural philosophy was aimed at determining the essence of nature and all things through human rationales, the foundation of modern science and technology was to intervene in and manipulate nature artificially

to create facts. Such methodology was referred to as 'experimentation'. Famous British politician and philosopher Francis Bacon who said, "Knowledge is power", was the person who created the new methodology of experimentation for modern science. He is essentially the spiritual pillar of modern science.

There was a rather less known essay written by Bacon that was not published, and its title was "Masculine Birth of Time." In this essay, Bacon portrayed science as a holy matrimony between human reasoning and nature, and allegorized experimentation as an examination of nature. Nature has been portrayed as female since the ancient times, but women of the time were often characterized as goddesses with independent power that could not be controlled or predicted by humans. For example, Isis in the ancient Egyptian myth was the Nile itself and the law of nature for the Nile. However, with the birth of modern science, nature became a subject that could be manipulated through experimentation, and nature was portrayed as a woman revealing their bare skin shyly or erotically through science. In an astronomy book written during the 17th Century, Johannes Hevelius

depicted himself as kneeling in front of a goddess and senior astronomers and offering his astronomical discovery on the altar. In contrast, in a 18th Century chemistry book, the goddess was depicted as having descended from the high altar with her upper body exposed and sitting shyly on a chair as she pointed her finger toward a portrait of a chemist by her side. Both astronomers and chemists continued to be men, but just over a century, nature became a woman waiting for a scientist to unveil her and discover the universal truth, rather than a goddess reigning over scientists that she had been. Of course, no science books today portray nature as a woman. Since the 19th Century, nature is shown strictly as matters in science books and journals. Nonetheless, what still remains true is that the image of a scientist was and is still a man.

Out of the 5,000 drawings of scientists drawn by elementary school students in the US between 1966 until 1977, only 28 of them were of female scientists, 99.4% of all scientists were essentially portrayed as men. It is only after the 2000's that the ratio of female scientists drawn reached around 20%. An interesting point is that the ratio of children drawing female

scientists was significantly higher among girls, and that the ratio of children imagining scientists to be men increased as they grew older. For example, in a survey conducted in 2016, 58% of the drawings by girls depicted female scientists as the main characters. According to a survey in 2018, more than 50% of six-year-old girls drew female scientists, but this ratio was only 20% among 16-year-old girls.⁷

Could all these just be overlooked as past history or children's blissful ignorance? How about when the symbol of female scientists Marie Curie almost lost her candidacy for a Nobel Prize in 1903 for being a woman? What was the reason that Rosalind E. Franklin, a female scientist who succeeded in obtaining the X-ray diffraction pattern of DNA that revealed the double-helix structure of DNA and won a Nobel Prize in 1962, was not known for a long time? A British Nobel laureate that visited Korea a few years ago stated in public that women only date or cry in labs and that he prefers to work with men, which sparked outrage. With the customs and culture of science and technology that have erased women from history and excluded women, can it really be said with certainty

that female students can freely choose natural science and engineering majors and that they will receive equal evaluations and treatments as men out in the real world (even in the face of obstacles like pregnancy, childbirth, childcare, etc.)?

Let us try to guess the answer to this question, through a survey conducted across 160 schools nationwide on third-year high school students that chose their majors for college admissions.⁸ A comparison of the following three groups of going from science specialized field of study to natural sciences and engineering majors, from science to non-natural sciences and engineering majors, and from liberal arts to natural sciences and engineering majors, yielded a surprising result on gender disparity. Among the students going from science to natural sciences and engineering majors, the ratio of male to female students was consistent. Among students going from science to non-natural sciences and engineering majors, the ratio of female students was about 20% higher, and among students going from liberal arts to natural sciences and engineering majors, the ratio of male students was about 20% higher. In other words, the loss of women

in science and technology described with statistics at the beginning of this essay is taking place even before college admissions. What is more significant is that the motivation behind such decisions is more related to prospects for future career paths than the science scores of individual students. The fact that females science students switching to non-science majors and male liberal arts students switching to sciences and engineering majors are influenced not by their present science scores, but prospects for their future careers, reminds us once again that these fields are more favorable toward men than women.

Let's Talk About Science and Technology

But the true problem is elsewhere. The story of science and technology is actually just beginning. If women are the minority in science and technology, the men are the majority. This is not just an issue in the science and technology fields of Korea. Almost universally dominated by men, how do the fields of science and technology look? To be exact, predominantly led

by western Caucasian men, and promoted by men from other countries in pursuit, where are the fields of science and technology today in terms of their advancement? Even without the logic of ecofeminism, we are witnessing the threat that the mankind history built on science and technology faces. From wars, nuclear weapons, wastes, pollutions, plastics, climate crisis, to COVID-19, there are many ongoing threats to the prosperity and existence of mankind. These issues mostly are the result of the transformations and problems brought on by science and technology. An awareness on these issues in science and technology was simultaneously suggested by feminist science studies in the 80's.

Sandra G. Harding⁹ was an iconic feminist scientific philosopher who suggested the issue between science and women as the issue of science, rather than as the issue of women. She claimed that the scientific knowledges formed up until present have excluded women and do not reflect marginalized experiences. Not only women, but perspectives of various groups of different races, classes, and cultures were also not reflected. If life and knowledge cannot be

separated, what we know depends on how we live in a society. Also, all human thinking is only partial, since it is affected by specific history and culture. The universalism claimed by the science community mostly consisting of (western, Caucasian, heterosexual, non-disabled) men thus cannot be considered universal. What has strengthened such weak objectivity over time was the 'knowledge' based on the lives of those who were excluded, including women. Under Harding's logic, increasing diversity in the science community allows science to reach closer to 'strong objectivity'.

Around the same time, Donna J. Haraway, a feminist scientist who is known for writing the [Cyborg Manifesto], also suggested the issue of objectivity in scientific knowledge.¹⁰ Haraway claimed that scientific objectivity is a fiction based on a 'god's eye' view of the world, the view from nowhere. Unless you are a god, no one can actually objectively recreate a subject's true nature. In such context, every knowledge is a 'situated knowledge', and therefore, no experience can have epistemic rights. Objectivity can only be pursued through connections of situated knowledges' partiality. Combining Harding and

Haraway's arguments, objectivity of science starts from humbly acknowledging the male-centricity hidden behind objectivity of the mainstream science, or the partiality of knowledge.

It took over 20 years for the voices of feminist science researchers of the 80's to be heard in the fields of science and technology R&D. What ultimately triggered this were the series of incidents showing how the male-centricity of science could actually harm the health of women. Between 1997 and 2000, the FDA recalled 10 types of pharmaceuticals approved for sale. This was due to the discoveries of fatal side effects. Among them, 8 types were determined to be even more fatal for women than men. How did this happen? This was because the process of developing such drugs mainly involved clinical trials conducted on male animals and male subjects. With further investigation, it was revealed that 75% of the manuscripts published in cellular physiology academic journals did not indicate sex of the analyzed cells, and if it was indicated, 20% were of male while only 5% were of female. In a survey conducted on articles published in <Nature> and other journals, only a fifth of the animals used

in the experiments were female, and women were only 31% of the participants in clinical trials related to cardiovascular diseases. This was despite the fact that the ratio of women was higher in the number of patients and death tolls for cardiovascular diseases. These were symbolic incidents that clearly showed how the epistemological problem of weak objectivity can materialize into actual impacts. Although these incidents involved only a few pharmaceutical products, in the face of such damaging results that derived from the practice of using male body as the standard or only using male animals for higher efficiency, should we not apply 'systemic skepticism' to objectivity of science and technology?

What stemmed from such awareness was a project called 'gendered innovation'. In 2009, a feminist scientific sociologist at Stanford University in the US, Londa Schiebinger, led the gendered innovation project that suggested implementations of sex and gender analysis from the very beginning of R&D, to create new knowledge and to develop new technology. Schiebinger asserted that better performances in science, medicine, and engineering can be achieved,

by eliminating sex and gender biases integrated in the process of R&D. Due to the significant expense and time required in initial stages, such method may seem inefficient. However, considering the social expenses imposed after an issue like the incidents of FDA pharmaceutical approval withdrawal, such procedure may actually improve efficiency. Integrating sex and gender analysis in existing research fields would result in new perspectives and development of new research questions, and allow new areas of research to be discovered. In the US and Europe, the gendered innovation project quickly made impacts in the fields of science and technology. In 2011, the European Committee established a specialist group named 'Innovation Through Gender' and in 2012, the National Science Foundation began participating in the gendered innovation project.

Let us take a look at two cases out of the 20 cases that have been officially published by the gendered innovation project.¹¹ The first case is from the field of machine translation. Machine translation is increasingly becoming important in the globalizing world. The error rate of translators currently in the

market is still high, but the accuracy of machine translation is improving every day. Mistranslation by existing machine translation systems stems from the issues of the basic technology that returns non-progressive solutions, and one of these issues is related to gender. Advanced machine translators such as the Google Translator have exhibited an error of translating personal pronouns in original texts as male pronouns, such as 'he' or 'him', regardless of the context in which the original words were used. This was not only a gender prejudice issue, but also an issue concerning the accuracy and reliability of machine translation. For various dual language texts, the existing translators do not identify the gender of the person mentioned in the original text, and search for translated phrases with the meaning closest to the original text. And various factors such as frequency of use are implemented to search for a single translated phrase to match to the original text. Consequently, machine translations opt for male pronouns more frequently found on the internet. Because male pronouns were predominant in the text materials used in developing the existing translators, male pronouns

appear more in the resulting translations as well.

In July 2012, the gendered innovation project held a workshop to discuss solutions regarding this issue. This issue could not be solved even if the ratio of male pronouns and female pronouns were set to equal in the text materials used. This was because the translator ended up using pronouns randomly, regardless of genders, thus the gender of the person mentioned in the original text could be matched with incorrect pronouns. Therefore, it is important to develop an algorithm that can identify the gender of the person mentioned in the original text, for translators to recognize gender through this algorithm before producing translated copies. Development of such algorithm would prevent the automatic translation to male pronouns, and improve the quality of translation.

The second case of the gendered innovation project is from the videogame industry. Most of the videogame developers, programmers, and users for the past 50 years have been men. Recently, women have become active players as well, but there is still a strong prejudice that videogames are masculine. Because videogames contain strong stories that can

influence an individual's behavior, social values, gender norms, etc., and they have an interactive relationship with the players, the stereotype of videogames is a subject of concern. Up until now, game designers have used two different strategies to develop games for girls. One strategy is to develop games for all regardless of gender. However, these games mostly end up being targeted toward boys who make up the major consumer group in the videogame market. In the end, this strategy encourages girls to develop skills necessary to use games developed for boys. Another strategy is to develop a game targeting girls. Adding a princess character wearing a dress or using a pink-colored theme in videogames are some of the examples. This strategy, however, reinforces the gender stereotypes and gender essentialist philosophies, and may further emphasize gender differences between male and female.

The method suggested by the gendered innovation project is a third strategy that does not fall in either of the aforementioned ideas. It is to develop a game that anyone, regardless of gender, would be interested in, without assuming traditional gender norms. Game

designers using this strategy have analyzed several types of videogames available in the market, and discovered which types of videogames are preferred by both boys and girls. What is interesting is that compared to games only liked by one gender, the games preferred by both boys and girls were the most popular games in the market. The gendered innovation project not only did not necessitate or reinforce gender biases, but also proved that it could yield a technology that is highly profitable.

Scientific and Technological Reasons Why There Should be More Women Scientists and Engineers

This writing began with the goal of persuading those who believe special supports are needed to nurture female scientists and engineers, as well as those who are confused as to why such are necessary and why the gender ratio imbalance simply resulting from preferences and abilities of male and female individuals is an issue. Both viewpoints share the assumption

that the women are at an inferior position compared to men in the fields of science and technology. The former, however, views the women deficit model as the result of structural inequality, which must be improved through policies and education, while the latter views it as the result of gender asymmetries that does not require an artificial intervention. Such distinction is still important, as the latter needs to be further convinced as to why it is a problem that there are less women scientists and engineers.

In response, this writing indirectly showed how the fact that most scientists and engineers are men can have negative impacts on scientific research and technology development. The gendered innovation project demands scientists and engineers to detach themselves from the male-centric customs of R&D, and to consciously consider the biological and sociocultural gender differences. Then, the question is, would that not make the gendered innovation go either way for both men and women? And this is correct. In this aspect, this project can be free from the essentialist assumption of differences between men and women. At the same time, the gendered

innovation is something that can appeal to women who have long been excluded from the fields of science and technology.

As previous studies have shown, male students take interest in the subjects of science and technology themselves, while female students tend to approach science and technology for their usefulness to people and societies.¹² Most of those who doubt and try to improve objectivity in science and technology are ironically women! Scholars like Harding, Haraway, and Schiebinger who highlighted the issue of the male-centricity in science and technology were mostly women. The 2015 discovery of facial recognition AI's failure in recognizing certain faces and the subsequent start of research on gender and racial prejudices of artificial intelligence were also pioneered by a Black woman. Is this because knowledge and life cannot be separated? We can even predict that female scientists and engineers would exhibit superior abilities in a project like the gendered innovation that requires gender sensitivity. When alternative R&D projects such as the gendered innovation become more common, the sources of competitiveness and innovating ideas of

women scientists and engineers would be correlated to their gender sensitivity competency derived from their own lives as women, rather than the female communication abilities and sensibility. Only when intersectionality of women such as women of color, non-western women, disabled women, women from blue-collar backgrounds, and other differences and diversity beside the categories of women and men are included, science and technology would be able to achieve a vibrant universality.

Gendered innovation is ultimately a project pursuing diversity in science and technology. Science and technology are more inclusive, more effective, and more marketable when a non-western, disabled woman of color is accepted, rather than when they are led by non-disabled western Caucasian men. The people who can lead science and technology in such direction are the people who have diverse differences. Diversity is essentially the source of innovation. When more various differences are reflected in science and technology R&D, there will be more incoming female students in the fields of science and technology, more female scientists and engineers, and even more female

researchers being recognized for their excellent capabilities and growing into leaders in science and technology.

The story of women in science and technology is the story of diversity and innovation in science and technology. If we wish to see more women play an active part within the fields, we should change science and technology rather than the women! More female scientists and engineers fulfilling their potentials without facing biases or discriminations is the most definite first step toward innovation and diversity in science and technology.

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- 1 <2009-2018 Gender-based Scientific Technology Workforce Status>, Korea Foundation for Women In Science, Engineering and Technology, 2019. https://www.wiset.or.kr/contents/information01.jsp?sc_type=3&sc_tab=2
- 2 The gender-sensitive teaching method here came from revising an excerpt from 《Professor's Guidebook for Gender-sensitive Engineering Education》(2018) of the Seoul Women's University's Women In Engineering Undergraduate Leading Program.
- 3 Gyeong-hee Han, Joon-hong Park, Ho-jeong Kang, 「Engineering and Gender: How to Deal with It in Engineering Education? - From the Experiences of Women Into Engineering (WIE) Program in Korea -」, 《Journal of Engineering Education Research》, 13(1), 38-51, 2010.
- 4 Moo-suk Min, Jeong-hee Lee, 「Analysis of Educational and Occupational Experiences of Women Studying Engineering」, 《Korean Journal of Sociology of Education》, 15(2), 65-93, 2005.
- 5 Merton, R. K.. *The sociology of science: Theoretical and empirical investigations*. Chicago, IL: University of Chicago Press. 1973.
- 6 Mulkay, M. J.. "Norms and ideology in science." *Social Science Information*, 15(4- 5), 637-656. 1976.
- 7 Terada, Y.. "50 years of children drawing scientists." *Edutopia*. 2019. Retrieved from <https://www.edutopia.org/article/50-years-children-drawing-scientists>
- 8 Min-su Ha, Se-in Shin, Jun-ki Lee, 「Exploring the Motivation for Science Learning of 3rd Year High School Students Who Chose Different College Majors from Their Track」, 《Journal of the Korean Association For Science Education》, 36(2), 317-324, 2016.
- 9 Harding, S. G.. *The science question in feminism*. Ithaca, NY: Cornell University Press. 1986.
- 10 Haraway, D.. "Situated knowledges: The science question in feminism and the privilege of partial perspective." *Feminist studies*, 14(3), 575-599. 1988.
- 11 The 'Gendered Innovations' website was referenced for explanation of the two cases. <http://genderedinnovations.stanford.edu>
- 12 Sible, J. C., Wilhelm, D. E. & Lederman, M.. "Teaching cell and molecular biology for gender equity". *CBE—Life Sciences Education*, 5(3), 227-238. 2006.

Questioning the Lack of Diversity

Seok-won Yoon CEO (Testworks)





After wrapping up my job and school in the US in early 2000's, I joined a Korean conglomerate as a software engineer and encountered the IT ecosystem of Korea, and I have come to discover unusual occurrences that I haven't encountered previously in the US.

First thing I noticed that the ratio of women was comparatively lower. The ratio of female software engineer within the department was less than 10%. It was difficult to even find women executives who came from an engineer background. If I asked other male executives on why they don't prefer to work with female engineers in private gatherings, I heard responses such as "I'm not comfortable with female co-workers", "They won't be able to concentrate on their work due childcare, etc. and they are likely to quit the company", etc.

And the women's participation in software field is actually quite low compared to men. As of 2015,¹ women's college admission rate was 74.6%, which was 7.4% higher than men at 67.3%, and women's

employment rate was 49.9% but only 18.8% of women have obtained software related degrees in Korea. And after graduation, the ratio of women in the software field further decreases to 12.5% due to job change, childbirth, childcare, etc.² This is lower in comparison to other countries such as the US and UK, respectively at 22.9% and 19.1%, and these figures clearly indicate the level of gender diversity in the STEM field in Korea. Also, most of the career-interrupted women in Korea have at least graduated college (75.3% of career-interrupted women in Seoul have at least graduated college).³ When these women inquire institutions operated by local government to return to work, these institutions generally recommend jobs that are irrelevant to their previous career experience such as general office worker, caregiver, cook, nursing teacher, social worker, etc. There aren't many opportunities for highly-educated women to work in their professions after career-interruption.⁴

Second, the invisible barrier and discrimination did not apply only to women. Despite the mandatory disabled person employment system mandated by the country, it was a rare sight to see a disabled person

working in companies in the STEM field. Korea's iconic ICT enterprise, Samsung Electronics was required to employ 2,800 disabled persons in 2017 but they only employed about 1,500 disabled persons, and paid the handicapped employment levy of 42.9 billion won, and it was ranked first place in lack of disabled person employment for five consecutive years.⁵ For government funded research institutes in the STEM field, which should be faithfully employing disabled persons, the disabled person employment rate was at mere 1.65% as of 2017, and this was about only half of the mandatory employment rate of 3.2%.⁶

For a long time, I worked as a software engineer in domestic and overseas conglomerates and attempted to resolve the issue of diversity in the STEM field as a middle manager, but there were clear limitations in achieving change within organizations. First, the conglomerate supervisor even expressed serious opposition to new attempts to secure diversity unless visible performance was guaranteed. Unlike the case of SAP,⁷ where the management has expressed its intent to employ 1% of its software testers and developers with people with development disability, there were

limitations to a middle manager in a conglomerate in promoting various experiments for diversity within the company without management support. And this made me resolve to leave a stable conglomerate job with guaranteed high salary to establish a social enterprise to test and execute diversity in the STEM field.

The hypothesis I wanted to prove as I founded Testworks in 2015 was 'Diverse groups with potential (marginalized groups such as career-interrupted women, disabled persons, etc.) can find appropriate jobs in the STEM field and receive appropriate job training and social adaptation training, they could have quality jobs with potential for sustainable growth'. After encountering social economy to resolve a social issue in a corporate way, I have begun pondering various execution plans to make a successful social enterprise in the STEM field with diversity.

Sustainable Social Enterprise Practicing Diversity: Execution Plan

There are approximately 2,300 social enterprises in Korea and approximately 45,000 workers are employed at these companies. And about 60%, or 28,000 people are the vulnerable social groups such as disabled persons, senior citizens, low-income families, etc. identified by the Ministry of Employment and Labor.⁸ The social enterprise development method, which serves as the basis for social enterprises, focused on its intent to promote employment of vulnerable social groups as an extension of self-support enterprises. But the process of employing and utilizing vulnerable social groups is very complex and takes much time and expense, and most social enterprises end up being concerned for their survival after falling behind in human resource competition. Companies employing vulnerable social groups end up having a structure that is difficult for them to launch competitive products and services due to decrease in labor productivity or failure to reduce costs.

To overcome such limitations of social enterprises,

I defined the target for employment of Testworks as ‘people with potential but weren’t given the opportunity’ rather than ‘vulnerable social groups’, and intended to focus on their strengths rather than their limitations and constraints. Also, in order to grow as a sustainable social enterprise in the STEM field, we established and implemented the execution plan of providing job development and training based on strengths, implementing pilot projects, securing customer satisfaction, and establishing organizational culture prioritizing growth.

Execution Plan 1: Development of Jobs Based on Strengths and Provision of Education

Software Tester The software field in the STEM domain launches products through the process of requirement analysis, design, coding, testing, etc., and larger software scale requires more engineers with different assignments. Microsoft and most other global enterprises categorize the software development related jobs as a project manager (PM), who analyzes requirement and manages

the project for software product development, a software development engineer (SDE), who designs and codes a software to meet the requirements, and a software test engineer (STE), who tests the software from a customer and user perspective to see if the coded software has been developed to meet the requirements. Testworks figured that the software test job was most appropriate for career-interrupted women and disabled persons.

Software test is mostly performed within a short period of time, and it is an objective testing process that requires repetitive execution and system analysis from a user's perspective. Therefore, it requires logic to structurally and systemically understand the product details and requirements, curiosity towards the product, empathy and creativity to discover defect in the product from customer's perspective, and communication ability to persuade the developer and project manager until the defect is fixed. We determined that career-interrupted women have the strength in user-oriented thinking and job responsibility, and that they would be able to perform the job as a software tester.

**Artificial
Intelligence
Data Labeler**

Regarding the job suitability for disabled persons in the software field, we need to examine the case of success for a Danish social enterprise, Specialisterne. Specialisterne has successfully launched a program where people with autism with superior intellect, observation skills, concentration, and love for repetitive work are trained as software testers, and subsequently employed as software testers for SAP. Testworks also focused on the strengths of people with autism and provided software tester development training for employment of people with autism in cooperation with foreign company A. But there were limitations in developing software tester jobs for people with autism in Korea due to security concerns for software testers as they would have to work in the same space with actual developers. Therefore, we searched for another job with high growth potential which maximizes the strengths of people with autism, and the newly discovered job was the artificial intelligence data labeler.

Artificial intelligence data labeling refers to the process of transforming or processing data in various

forms into a form of data that can be learned by artificial intelligence. When a person sees a photograph of a car, said person would be able to easily realize that the object in the photograph is a car. But a computer does not recognize this is a car so this requires work of entering position and size of a car in the photograph, and then labeling this image within entered position and size as a 'car'. This process is referred to as data labeling. Data labeling is not difficult and is often repetitive thus referred to as 'AI doll eye setting', But artificial intelligence learns processed data so accurate data labeling and high-quality data set are essential to improving artificial intelligence learning and performance.

We determined that strengths of a person with autism in accuracy, honesty, and patience to withstand repetitive work would go blend well with the nature of data labeling work, and in 2016, we developed the first data labeler job for people with autism in Korea.

What we also had to simultaneously as we discovered jobs appropriate for career-interrupted women and people with autism, was providing providing appropriate training to them. For career-interrupted

women, most of them were in their 40's or above, and had over 10 years of career interruption, and they often had no prior experience in software area, so we had to repeat teaching simplified basic theories, and practicing the same contents at least 3 times (about 200 hours is required for software test training and over 60% of this consists of practice). Through such repetitive training, they were able to naturally learn even the contents that they couldn't initially understand at all.

For people with autism, it was important to develop job habits through a practice period that was even longer. Aside from theory education, they undergo 3 to 6 months of practice depending on their learning speed, and their training performances were measured by routine clock-in/out times, compliance with work hours and break hours, balanced work, etc. Especially for people with autism, routine life habits affect their job performance so we reviewed the routine life habits involving sleep, eating, exercise, etc. with their parents as well.

Execution Plan 2: Pilot Project and Securing Customer Satisfaction

What was more difficult than developing and training people for their appropriate jobs was securing customers to employ them. I had no experience of working in sales during my time as a conglomerate engineer, and it was not easy to secure customers that will employ vulnerable social groups in actual work instead of fulfilling social contribution mandates as a corporation.

And it was very lucky that I was able to meet a department head from foreign company H at a software test related seminar. He said that one of the biggest difficulties in managing projects is turnover of trained personnel. There were many cases where outsourced testers quit the job within less than 1~2 years, and it was difficult to manage projects consecutively. So I introduced the software tester training for career-interrupted women, and I emphasized the fact that there is high likelihood of long-term service due to their desperation to resume work, and desire to build career experience along with their strong will for re-employment and diligence. As a result, the company

got the opportunity for a 3-month pilot project from Company H for career-interrupted women, and 3 of our trainees participated in this project. The level of job understanding, diligence, and responsibility exhibited by these trainees over 3 months were highly praised, and our company was able to officially enter an agreement with Company H to build software testing teams composed of career-interrupted women.

For the artificial intelligence labeling project, we had various trials and errors during the project because we entered an agreement with the customer right after a short pilot project that lasted over 2 weeks. The president of Company S, our customer, greatly empathized with our company's social value, and the project was contracted with data labeling outsourcing agreement employing people with autism but we were in danger of being terminated due to poor feedback from the PM (project manager) of the client after about 2 months. This was because the data processing results were delivered directly to the client without separate inspection process after this project was started based on job performance of people with autism exhibited during the pilot project period. Quality for results of

data labeling work was inconsistent and the PM of the client ended up re-inspecting the work frequently, which resulted in the client expressing intent to terminate the agreement.

After receiving such complaint from a customer, we realized that securing quality of our work was even more important than our sincerity to pursue and achieve social values. After this incident, our company implemented a task force to review the overall process until the product was delivered to the customer, and then determined improvements to improve quality, and started implementing them. First, we appointed our own PM to communicate with the customer's PM for effective communication. Then we mandated our employees with autism to undergo daily performance management, self-review, peer review, etc. to secure initial quality for labeled data, and implemented the process of quality check performed by an inspector before data was delivered to the customer. Also, we have discovered that job performance of people with autism was closely related to regular lifestyle management, and assigned career-interrupted women employees as administrators for

the data labeling team to work with our employees with autism and assist in their lifestyle management. Strengths of career-interrupted women in outstanding communication skills, and strengths of people with autism in accuracy and high level of concentration in details were essentially combined. Various strengths possessed by career-interrupted women and people with autism were combined within the work system to generate synergy effect, and this improved work productivity. Data quality was also improved to improve customer satisfaction. As a result, Company S, which was unsure about data quality, ended up becoming a long-term customer and we still maintain a cooperative relationship to this day.

Execution Plan 3: Building an Organizational Culture Prioritizing Growth

As the company grew and diversity of employees increased, what was most important was to make sure that our employees clearly understand the meaning and reason for working at Testworks and to share core values of the company for them to fulfill these

What is the mission of your company?

- We provide opportunity to those with potential in despair to prove themselves to feel pride and joy of growth.
- We are a social enterprise based on technology to test and prove ourselves.

What is the purpose of your company?

- We are a company founded to provide (fair) opportunities. We believe that jobs are not simply means to make livelihood (not the only economic compensation mechanism) but an opportunity to live your life, opportunity to prove yourself, opportunity to live a quality life, and opportunity for growth and self-realization. Therefore, we are planning to build a non-discriminatory and fair society through the following virtuous cycle of five opportunities.
 - 1) Discovery: Opportunity to discover expertise/job for your aptitude
 - 2) Preparation: Opportunity for education to prepare realistic competency
 - 3) Experience: Opportunity for paid economic activity
 - 4) Growth: Opportunity for social and professional growth
 - 5) Expansion: Opportunity for proactive and altruistic life

What is your company's code of conduct?

- Cooperation: We build the best teamwork possible to create synergy based on strengths rather than focusing on our weaknesses.
- Impact: We participate in building a better world by generating practical and quantitative impact (social value) for our employees and client companies.
- Change: We do not shy away from difficulties and challenges for our evolution and development.
- Growth: We grow to provide more fair opportunities to even more people.

values. Just like the slogan of Testworks “Growing with Employees, Customers & Society”, we needed empathy and dedication from our employees that they could contribute to building a better society through our organization as an individual’s growth led to customer’s growth, and the customer’s growth led to the company’s growth, and this would in turn continue to improve social values pursued by the company. To achieve this, we established the following company mission, purpose, and code of conduct, and began sharing core values of the company with our employees.

In order to build an organizational culture prioritizing growth as we shared core values of the company, we needed to encourage individual growth of our employees as a company. We suggested a more specific method aside from delivering such message in meetings. For example, we had sessions for employees to prepare their own career vision declarations and think about how to grow as an individual in regular career development workshops, and encouraged our employees to discuss work goals and plans in the period where employees plan their work for the year along with specific ways to fulfill

their individual career visions with managers.

We also actively rewarded and complimented employees who grew and achieved by working harder. We rewarded the employees based on their job performance and competency development speed rather than seniority, and promoted employees with good performance if necessary to allow them to have more authority compared to their years of service in comparison against other companies.

Positive Effect of Practicing Diversity

There were three effects that were proven as we generated employment based on diversity over and implemented our plans to verify the hypothesis initially established when the company was founded over 2 years. First, we have built trust with our initial customers based on successful pilot projects. As mentioned earlier, for Company H in software testing and Company S in artificial intelligence data labeling, the project scales were expanded within the first year of the contract, and the contracts were converted

into long-term contracts. Second, it was the growth in employment of vulnerable social groups which we intended to provide work opportunities. Around 2017, we employed 5 career-interrupted women, 3 disabled persons with developmental disability, and 1 disabled person with hearing impairment, and we doubled our number of employees from vulnerable social groups compared to 2016. Also, we additionally employed 6 people (including 2 female engineers), and 1 specialist to increase our diversity in talent pool. Third, we secured job proficiency through long-term service of our employees. Excluding the employees that resign during the 3 months of probation period, employee retention rate is over 90% for employees coming from vulnerable social groups, and their job proficiency improves as their service period increases, and this leads to higher productivity and quality, which in turn achieve price competitiveness and customer satisfaction.

Even if it is a social enterprise founded to pursue social values and to resolve diversity issues based on technology, it is important to grow economically since it retains the identity as an enterprise. For a social enterprise to be sustainable, it must secure

competitiveness within the market and generate consistent sales through operating activities. Social values can only be improved after achieving such external growth of a company. Testworks is recognized as an iconic social enterprise within Korea that has achieved both social values and economic growth.

Sales of Testworks has been consistently doubling or tripling every year with 250 million won in 2017, 610 million won in 2017, 1.3 billion won in 2018, and 4.5 billion won in 2019, and we have also increased our customer base to approximately 80 companies by 2020. And the artificial intelligence data labeling business is securing stable sales with more than 80% of the customers switching into long-term customers through contract renewals.

Testworks is proving that pursuit of diversity can lead to economic growth as it establishes itself as a social enterprise in the STEM field, but pursuing diversity for improving competitiveness has long been a necessary strategy. Diversity is directly connected to innovation and securing performance. We need the courage and creativity to seek answers by consistently asking questions concerning new

problems for innovation. Group of same kind lacking diversity will likely ask the same question repeatedly every time but a group of diversity would likely seek answers as they ask new questions from various perspectives and viewpoints. A company pursuing diversity could employ more capable employees. In reality, you can see engineers coming from various races in the Silicon Valley, where many global companies reside. Companies such as Apple, Google, and Microsoft have employment programs to secure diversity. And this means that securing diversity leads to competitiveness of a company. According to the McKinsey Report, gender-diverse companies achieve approximately 15% higher performance compared to companies that are not gender-diverse, and ethnically-diverse companies achieve approximately 35% higher performance compared to companies that are not ethnically-diverse.⁹

Seeking Answer Through Diversity

In terms such as career-interrupted women, disabled

persons, and vulnerable social groups, there may be a perception where these groups are considered to be beneficiaries and they are labeled to be relatively inferior. Such label unconsciously makes us think of negative thoughts or bias against them, and categorize them as welfare beneficiaries rather than people we have to work with. The reason why we should pay attention to 'diversity' is because it interprets 'difference' as not 'wrong' or 'impossible' but rather as unique strength and ability that differentiates a person. Some researchers studying autism actually recognize autism as a category of neurodiversity, and rather than pathologically considering people with autism as 'people with malfunctioning brain', they consider them as 'people with special abilities specific to certain objects and analytic capabilities'.¹⁰

If you actually work with people with developmental disability, you feel that their interests lie in objects rather than people. If we place our interests in one extreme end with people and objects on the other extreme end, most people's interests will exist between people and objects. People with more interest in people will be more friendly and empathetic. On the other

hand, people more interested in objects would exhibit strong concentration in objects and superior abilities in disassembling and systemizing objects. According to Thomas Armstrong, empathy is not predictable and lacks in certainty. On the other hand, system can be predicted and controlled. And it's the people with autism that are on the extreme end of objects and systems. People with autism exhibit remarkable interest in specific subject, and they exhibit outstanding memorization and mathematical potentials as they memorize all subway stations or quickly calculate specific weekdays on a certain day and year.

For the people who exhibit extreme interest in objects, we draw the line claiming, 'these people lack empathy and sociability and have different thinking process compared to us', and label them as 'autistic' people. But with people who exhibit extreme interest in people, we do not label them as 'overempathic' people who significantly lack systemizing capabilities or empathize excessively. The fact that we categorize them as autistic people gives us serious concern to think whether we are perceiving 'different' as 'wrong'.

Aside from supporting new opportunities and economic

independence of ‘people with potential but weren’t given the opportunity’, we need to switch our society’s thinking system regarding difference. Therefore, pursuit of diversity should go beyond an individual’s good act and ethics, and grow into corporate, government, and society domains, and it should be something that is mandatory rather than an option.

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- 1 <Women’s Life in Statistics 2016>, National Statistical Office, 2016.
- 2 <Policy Trend for Development of Women SW Workforce>, Software Policy & Research Institute, 2016. https://spri.kr/posts/view/21288?code=industry_trend
- 3 <What is the Current State of Career-interrupted Women in Their 30’s and 40’s in Seoul?>, Seoul Institute, Seoul Infographics, no. 262, June 8, 2018. <https://www.si.re.kr/node/59621>
- 4 <‘Urgent’ Customized Support for Highly-educated and Experienced Women>, <Women’s News>, September 11, 2018. <http://www.womennews.co.kr/news/articleView.html?idxno=144485>
- 5 <Samsung Electronics Would Rather Spend ‘42.9 Billion Won’ Instead of Hiring Disabled Workers>, <Insight>, October 14, 2018. <https://biz.insight.co.kr/news/182077>
- 6 <Planning Research to Establish a Plan to Promote Employment of Disabled Persons in Science and Technology>(Policy study- 2018-06), National Research Council of Science and Technology, 2018.
- 7 “SAP introduces program to hire autistic people”. The Korea Times. 2015. 04. 28. http://www.koreatimes.co.kr/www/tech/2020/02/133_177941.html
- 8 <2019 Socioeconomic Status in>, <LifeIn>, December 30, 2019. <http://www.lifein.news/news/articleView.html?idxno=5645>
- 9 “Why diversity matters”. McKinsey & Company. 2015. 01. <https://www.mckinsey.com/business-functions/organization/our-insights/why-diversity-matters>
- 10 By Thomas Armstrong, Translated by Soon-yi Kang, “The Power of Neurodiversity: Unleashing the Advantages of Your Differently Wired Brain”, OnBom, 2019.

Epilogue

Moving a Mountain One Stone at a Time

Tae-Woong Yoon Professor (Korea University)





This took place when I first enrolled in an engineering school. It was about 40 years ago, and I thought it was a bit strange. No female students were seen. Among over 800 incoming freshmen, there were only 5 female students, and there were none in my department. Over the 6 years I spent completing undergraduate and graduate studies, I never came across a female student in lecture halls or labs. Although natural sciences and engineering have comprised predominantly of male students, such absence of female students was unnatural.

15 Years later, I went back to an engineering school. But this time, as a professor. It was the end of the 20th Century, but there were no women among some 80 professors. A female professor was finally appointed a few years later, and she was the only female professor in the engineering school for quite some time. Things were still strange. There were more female students compared to when I was a student though. What kind of future did these female students envision, in lectures led by professors who were nearly all men?

There was something even more strange. I almost never saw a person in a wheelchair on campus. Also, it is not impossible for someone who is in the typical age range of graduate students to be a pregnant person but there were none, except for non-disabled men. Is this not a strange sight?

Hate and Discrimination

In May 2021, the National Human Rights Commission of Korea conducted a mobile survey on hate speech awareness.¹ According to the survey report, 70.3% of the respondents replied that they have experienced hate speech either online (62.0%) or offline in real life (53.2%) over the past year. This was 6.1% point increase compared to the 64.2% in 2019. The subjects of hate speech offline were elderlies (69.2%), people from certain regions (68.9%), women (67.4%), and feminists (64.8%), and subjects of hate speech online were women (80.4%), people from certain regions (76.9%), feminists (76.8%), and elderlies (72.5%). The hate speech experience ratio by subject also increased

compared to 2019. Awareness of the severity of hate speech was at 67.2% and 79.3% offline and online, respectively, and 59% of the respondents thought that hate and discrimination have increased in the Korean society after the COVID-19 pandemic began. Respondents also revealed their opinions that hate speech is deepening social conflicts (90.2%), leading to crime (87.7%), infringing on freedom of expression (of the minorities) (79.5%), and firmly establishing discriminations (79.2%). 45.8% of the respondents have also said that they have used hate speech before. And 46.8% responded that the hate speech of politicians has increased compared to the past, and 46.6% of them thought that politicians spread and instigate hate speech. 45.5% have responded that the media uses more hate speech compared to the past, and 46.9% agreed that the media plays a role in spreading and instigating hate speech.

How do we explain this proliferation of hate speech? Subjects of hate speech are discriminated minority groups.² LGBTQIA, disabled people, and immigrants would be some examples. Although women make up about half of the people in the world in numbers, they

are also minorities. This is because the point at issue is how invisible they are in public domain, rather than just their absolute number. This survey conducted by the National Human Rights Commission of Korea has clearly revealed that hate speech towards women is on a serious level. Hate speech imposes extreme mental pain on a minority individual or group, threatens their safety, and reinforces the existing discriminatory structure. This should not be permitted. In the [LGBTQIA Portrayed by the Media], Professor Ji Hoon Park stated that an anti-discrimination law would be a systemic safety net against prejudice and hate exerted on the minorities. I agree.

Virtuous Discrimination

The situation is quite dire, but I believe that a culture that does not tolerate hate speech will be established someday. That is under the assumption that everyone will strive to make it happen. Of course, even if hate speech is not used, hate and discrimination will not disappear entirely from our minds. However, there is

a huge difference between openly expressing them and just thinking about them in your head.

Meanwhile, there are some who think themselves to be fair and just. There are actually a lot of people like that. These are people with good intentions. Nonetheless, humans in a complex social relationship network are multi-faceted. Multiple identities can overlap and certain identities may become salient depending on context. There are instances where minority identities overlap as in Black transgender people, or other instances where white women who are minorities in gender perspective but a majority in racial perspective. It may be an impossible ideal to achieve fairness and justice in all situations. However, that does not mean we should give up. Ideals such as justice and fairness have strength and value. Also, we should pursue ideals to face our own limitations. The problem lies in failing to recognize the gap between ideals and reality.

Once people declare themselves progressive, then you may sometimes tend to act less progressive than before.³ There have been studies where researchers asked the participants to declare in writing that they

will objectively evaluate without prejudice against race or gender during the process of completing evaluation forms, and participants ended up making evaluations biased against certain race or gender. In other words, a declaration can act like a license for an individual to not behave accordingly. It is a problem when a good-willed person is unintentionally participating in a discrimination and fails to recognize it, but it is even more scary that such people can easily discriminate because of their belief that they do not discriminate. Of course, this could apply to us as well. Professor Ji-hye Kim stated that such people are ‘virtuous discriminators’.⁴ In order to not become a virtuous discriminator, a person must accept that they are capable of discriminating others rather than believing that they do not discriminate. Introspection is where one converts a belief of oneself into a reasonable doubt.

We should also remember the fact that a good intent does not always lead to a good result. An unintended result is not an exception. For example, the strategy ‘to not use terms indicating skin color or race in pursuit of equality (color-blind/race-neutral policy) may result in failure

to address or even exacerbate structural inequality. The color-blind/race-neutral policy may unintentionally work as an affirmative action policy for white people or a method to maintain the existing power structure.⁵ If you only focus on justifying your behavior with good intent, then it would be even more difficult for you to escape from virtuous discrimination. (This does not mean that all color-blind/race-neutral policies will all fail. It could be an effective transitional strategy to counteract against discrimination depending on the situation, context, and time. For example, there were almost no female musicians in the New York Philharmonic Orchestra until the 60's, but this ratio was increased to 10% in the 70's. This was because of blind auditions. Now, the ratio of female performers is around 45%.⁶)

Power of Diversity

Why it is wrong to discriminate against someone for being different should not be a subject of deduction. This is because it is like an axiom in mathematics that stands true without a doubt. Discrimination is bad, and therefore not discriminating others is not a bad

thing. Beyond formal logic, you can infer that it is not only not bad, but also a good thing, as the pain from discrimination will no longer be felt by fellow citizens. The Korea University Diversity Council wanted to expand from such obvious logic. We wanted to specifically tell people what kinds of amazing changes will take place if diverse people worked together. We needed to learn more.

In August 2021, BBC reported on a new regulation concerning diversity to be required for those companies listed on NASDAQ in the US.⁷ Moving forward, listed companies must at least have one woman and one person from under-represented minorities or LGBTQ+ group on their board of directors. They must also disclose statistics regarding diversity. BBC also reported on the plans of the Financial Conduct Authority (FCA) of the UK, that over 40% of the board of directors should consist of women, and that there should also be at least one minority individual that is not Caucasian (women here include people who consider themselves as women). Why did the US NASDAQ and UK FCA do this? This is because diversity is a necessary key element in improving

competitiveness of corporations. It is important to be regarded as a good corporation or to win the hearts of people. The more diverse an organization's structure is or the more acceptance toward diversity its members have, the less fixed stereotypes against other individuals or groups there would be, and information will be exchanged more openly. This would lead to a creative convergence of different perspectives and problem-solving methods, and this would in return increase organizational creativity and adaptiveness. Of course, such power of diversity does not automatically come into effect just because there are diverse people in an organization. Organizational culture needs to be properly managed. Interviews of leaders of the Fortune 500 companies who have successfully led creative teams are intriguing. These people considered organizational diversity as the main factor of their success. They stated that organizational creativity was based on gathering of employees with different traits and this directly led to success.⁸

The fact that diversity contributes to organizational performance is not only exhibited in the cases of corporations overseas. Study results surveying

Korean corporations and institutions are being reported frequently in academic journals, and exhibit the following facts: awareness of diversity and organizational fairness contribute to problem-solving capabilities, higher diversity acceptance reduces conflict and increases organizational engagement subsequently, positive perception of difference between the members of the organization will lead to higher achievement, etc. There are plenty of stories that showcase the power of diversity.

Studying and researching are also social activities. Even studying by reading a book by yourself is a social activity in the sense that you are communicating with the author. Divergent thinking and creative thinking refer to understanding various conflicting viewpoints and being able to suggest new viewpoints or solutions. If this is how creativity is defined, then creativity is inevitably connected to the points of discussion concerning diversity. There are study results that show that unlearning and cooperative learning competencies are reinforced as acceptance of diversity increases, which results in improved creativity. As an example, better results can be

achieved with greater gender diversity in the fields of science and technology, which lacks participation of women compared to other fields.⁹ If the stories of more adverse effects of new drugs for women, or artificial intelligence recognizing white people better than Black people were to be of the past, then we need more women and minorities to participate in science and technology. This was the message from [Why Do Science and Technology Need More Women?] by Professor So-yeon Leem. The reason why we need more women in science and technology is to improve science and technology.

Whether it is a corporation, a government organization, a university, or a research institute, expanding diversity, and establishing and managing an inclusive culture are now the key strategy for organization management.

Where We Stand Now

The [Preface] by the Korea University Diversity Council Chair Chai-youn Kim starts with a story on

rainbow. Rainbow symbolizes diversity. Difference is not a reason for discrimination but a source of strength in the rainbow-colored community, which is the lighthouse we should look toward to from our respective positions. Once we decide where to go, we need to explore which path to choose. And this will depend on where we are currently.

“29.3%”, “20.0%”, “10.0%”, “6.6%.” These were the numbers in [Why Do Science and Technology Need More Women?], and they represent the ratio of women among incoming freshmen in natural science and engineering majors, science and technology R&D workforce, R&D workforce managers, and head researchers of projects with budgets over 1 billion won. These numbers already tell many stories without much explanation. Now, it is time for us to see where we are in the present.

The Korea University Diversity Council has collected information on human resource structure, system, and policy related data from 30 offices between June and October of 2019. For two weeks from September 2nd, we conducted an online survey titled, ‘2019 Korea University Diversity Awareness Survey’ on all

university members. The survey results revealed how Korea University was heavily biased.¹⁰

The ratio of female students at Korea University was 45.7% and 41.8% for undergraduate students and graduate students, respectively. Considering the fact that the ratio of female students in engineering and natural science departments were 21.3% and 30.1%, respectively, you can see that there are significant deviations depending on majors. However, it is not all similar throughout natural science and engineering departments. For biology majors, female students make up 50.2%. We asked for gender as male/female/other, and 0.7% of students indicated their gender as other. We wondered how it would have been like if we had more actively asked questions to specifically determine information on members of the LGBTQIA community. The ratio of disabled students was 0.7% and 0.1% respectively for undergraduate students and graduate students. The ratio of economically marginalized groups was very low, and the ratio of students coming from special-purpose high schools was high.

What about female professors? The ratio was 16.2%.

The ratio of female professors to female students was 0.35. Even considering the fact that the ratio of female students was lower than the present when these professors were students, the figure of 0.35 is still way too small. Let us think about stereotype threat and importance of role models mentioned in [Building a Learning Environment That Respects Diversity] by Professor Bo-ra Lee. The ratio of female professors in the academic affairs committee was less than 5%. Female nonacademic employees made up 42.4%, and only 17% were at positions higher than administrative department heads (For reference, the ratios of female professors at Harvard University, Yale University, Stanford University, and MIT are 53%, 56%, 55%, and 40%, respectively).

Professors tended to judge that the school's diversity was lacking, but overassess their awareness of diversity. Such perception can serve as a strength in growing diversity in school, but it can also be an aspect of virtuous discrimination. Of course, they can overlap as well. Regarding severity of gender-based discrimination, acceptance, and fairness, female participants gave more negative assessments. The image of Korea University to the outside is 'a university

that is capable and fair, but lacks future-orientation and needs more values of diversity’.

The Korea University Diversity Council has established mid/long-term strategies and others, based on the current status data in the 2019 report, and listed them in the 2020 report.¹¹

Critical Mass

Let us talk more about numbers. When the ratio of people from groups sharing certain attributes (e.g. women or black people) is below a certain value, then they tend to seem like a representative (token) of their group rather than individuals. Let us refer to this boundary value as critical mass. Imagine a board of directors where there is only one female director (although in reality there are many more companies that do not have any female directors). If there are 10 directors, the ratio of women is 10%. This would be considered to be below critical mass. If the only woman in the board of directors makes any statement, other men in the room are more likely to accept such statement as a statement from women

rather than an individual director like themselves. The female director would then feel pressure in such situations. She may struggle to not give the impression that she represents women, or even oppose women-friendly policies with meritocracy. It is unclear if such things still occur these days, but the existence of the pressure of being the token still remains true. This is the issue of tokenism.

Then what is the exact value of critical mass? Some say it is 20% and some claim it is 35%. Whether 20% or 35%, beyond the critical mass, an individual can perform free from the tokenism of being recognized as the representative of a group. This may also reduce (incorrect) stereotypes of groups.¹² This would also be the point where diversity is able to work in full effect. And that is the reason why the number of critical mass(20% at minimum) is important.

The ratio of female professors in Korea University at 16,2% fails to meet the critical mass. It is 4% for the engineering school. Such requires affirmative action. It is also referred to as a minority-friendly policy, but this is an expression that can be controversial. This is even more so because there are many who oppose

it with meritocracy. They essentially claim, “It’s not right to give a preferential treatment just because a candidate is a woman, rather than first considering the candidate’s research and lecturing capabilities when appointing a professor.” It is really a straw man fallacy. As explored earlier, the basis of affirmative action lies in growing diversity, which in turn leads to reinforced organizational competency. And of course, discrimination is wrong. The affirmative action to invite female professors would encourage more women to apply to the school. There were three cases where the natural science and engineering schools at Korea University attempted to invite female professors, starting with the School of Electrical Engineering in 2014. Unfortunately, the attempt was unsuccessful. However, the process of reaching a consensus at a faculty council meeting on releasing an announcement regarding hiring a female professor was a meaningful experience in itself.

There are two professors so far who have been appointed through the female professor invitation system, but this system has not been utilized much since 2019. There have been controversies within

and outside of Korea University on whether it is really ideal for an affirmative action to only support women. For example, there are opinions that agree with the necessity for an affirmative action, but that it is also problematic to set the hiring requirement to women only. This, think is, a point that can lead to productive discussions. Any solution can be good or bad depending on circumstances, context, and time. Nevertheless, some of the denunciations were just ferocious. I could not agree with them because they felt like a broken clock. The situation where the critical mass cannot be achieved is comparable to a severely tilted ground. To make it even, a force must be exerted on the opposite side. This is affirmative action. We should actively explore various measures, while also considering the possibility of unintended results.

The Foolish Old Man Removes the Mountains

Right choices must be made depending on the circumstances, but doing so in general is a long

journey. There are abundant data regarding effects of diversity, but we usually do not actually see these effects around us. Despite the new NASDAQ regulation on diversity previously mentioned, less than 25% of the listed companies met this regulation as of last year. The Korea University Diversity Council has worked tirelessly, but there is still quite some distance between Korea University and diversity. We all have come to resemble a foolish old man that picks up a stone to move a mountain. According to Korea University diversity survey conducted in June 2021, the female professor ratio has now reached 17.2%. It was 16.2% in 2019, thus this 1% point is essentially the stones that Korea University has moved over the past two years.

We wanted to hear detailed stories showing the power of diversity in various areas of life. We were hoping to verify that diversity is indeed an important element in our positions, our work, and in spaces where we live together with others. Even if it meant revealing the current reality of differences serving as the basis for discrimination, and uniformity dominating instead of diversity. This is why the Korea University Diversity

Council created the journal 《Diversitas》.

《Diversitas》 was first published in 2020, followed by two new articles every month. Up until the December 2021 issue, 38 writers have worked with us. It was not simple to compile various articles, that shared little in common except the keyword ‘diversity’, into a single book. East-Asia Books suggested a few magnificent plans, and one of them became this book. I would like to express gratitude as an editor to the 11 authors featured in this book, as well as the 38 writers that have worked with us.

And yes, the foolish old man eventually did move the whole mountain.

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- 1 <Online Hate Speech Awareness Survey>(11-1620000-000840-01), National Human Rights Commission of Korea, 2021.
- 2 Seong-su Hong, "When Words Become Lethal: What is Hate Speech and Why is it an Issue?," Across, 2018.
- 3 A. J. Stewart and V. Valin. *An Inclusive Academy: Achieving Diversity and Excellence*. MIT, 2018.
- 4 Ji-hye Kim, "Virtuous Discriminator," Changbi, 2019
- 5 D. G. Smith. *Diversity's Promise for Higher Education*. Johns Hopkins University Press, 2nd ed.. 2015.
- 6 By Caroline Criado Perez, Translated by Ga-han Hwang, "Invisible Women: Exposing Data Bias in a World Designed for Men," Woongjin Knowledge House, 2020.
- 7 Daniel Thomas. "US stock exchange sets diversity rules for listed companies." BBC. 2021. 8. <https://www.bbc.com/news/business-58123730>
- 8 Egan, T. M.. "Creativity in the context of team diversity: Team leader perspectives." *Advances in Developing Human Resources*. 2005.
- 9 Mathias Wullum Nielsen et al.. "Gender diversity leads to better science." *PNAS*, vol. 114, no. 8. 2017.
- 10 <Korea University Diversity Report 2019>. <https://diversity.korea.ac.kr/diversity/research/report.do?mode=view&articleNo=266665>
- 11 <Korea University Diversity Report 2020>. <https://diversity.korea.ac.kr/diversity/research/report.do?mode=view&articleNo=266669>
- 12 Identical to footnote 5.

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Hamonious Diversity

Diversity for Coexistence

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How close is diversity to our lives?

A mindset that overcomes prejudice # A story that leaves no one behind # A language on the border of discrimination
Education that pursues diverse perspectives # Innovation for all

