June 2023

Issue 12

WHATWE GLIMPSE EXPERIENCE OF FUTURE

Artist Reflection: Gabriella Ignacio

For June's issue, which also happens to be the last one I will make a cover for, I wanted to create something different both stylistically and content-wise - an ambiguously futuristic landscape seemed to be a perfect outlet for that. I also wanted to emulate the vague landscapes that are often generated by AI, and used various AI references as inspiration. Perhaps such inspiration is ironic given the controversy regarding job automation in the art industry, but I still found it to be a gratifying exercise nonetheless.

Letter from the Founders

Dear reader,

Welcome to our 12th quarterly issue! We are beyond excited, as always, to present to you our issue. Thank you for taking the time to read our magazine. We are so grateful for all of your support.

If you are new to our magazine, our names are Jeenah Gwak and Hope Yu, and we are two college students from the greater Seattle area, now at Stanford University and Carleton College respectively. Our project began as one of our many ideas. As Asian adolescents living in American society, we have witnessed countless instances of discrimination and xenophobia against people of Asian descent. Additionally, despite living in a relatively Asian-dense region, we have been exposed to various forms of social injustice against Asian Americans, such as the lack of Asian representation in academic curricula and recent COVID-19 related events. These occurrences galvanized us to take action.

Taking into consideration our abilities, we decided that promoting awareness through written works would be the most appropriate course of action. Through our magazine, we seek to share the untold stories of Asian-American experiences surrounding racism and societal pressures that are often overlooked in society. We hope to educate and inspire you to take action in your own respective way.

Our magazine, *What We Experience*, is released quarterly, on the last Sunday of every March, June, September, and December, covering the experiences of various Asian identities. This issue covers the development of technology and artificial intelligence in AAPI and Asian cultures, as well as its implications for the future. With the recent and upcoming advancements in technology and artificial intelligence, we felt that it was important to cover this important aspect of our society.

Thank you for supporting us in our journey to advocate for the Asian-American community. We hope you enjoy our magazine and feel inspired to share it with others.

Sincerely, Jeenah Gwak & Hope Yu

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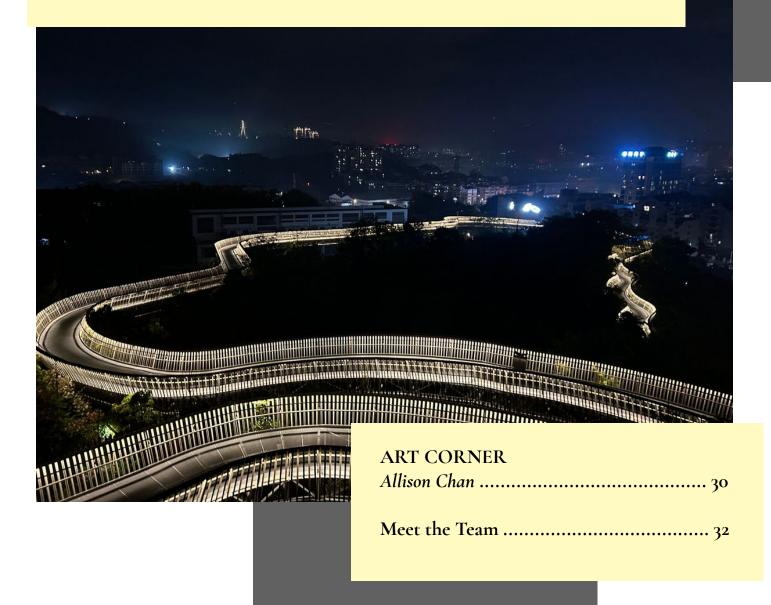
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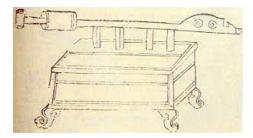
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Perception of Origin: Technological Invention in Ancient & Post-Classical Asia



Jeungdoga book printed by Goryeo military leader Choi Yi (1239). The holes are from Hanji paper binding. Hyungwon Kang; The Korea Herald.



1601 publication of a flamethrower redrawn from 1044 encyclopedia. Chinaculture.org



Hindu-arabic numerals algebra. Pre-1300's. India Times.

By Hope Yu

My family and I have a joke that everything probably originated in China or Africa. Although that's not entirely true, it's a statement that combats the master narrative many of us were taught growing up. In some cases, what was assumed to be invented in the West was a product of copying or lack of contact and thus, schools used to teach (and some still do) an alternative history crediting Europe for inventions and traditions that actually originated much earlier in non-Western countries.

For this article, I pondered whether or not to structure the content around location or innovation. Location would provide a more equitable coverage but innovation, in which the contributions of multiple cultures could be accounted for, sends a stronger message against the master narrative. Settling on the latter, I've chosen three technology-related advancements that actively question and prod popular historical assumptions and trends.

Numerical Advancement

The theory behind the numbers you and I learned growing up originated around 500 AD in India. Although the idea of counting from 1 upward may not appear that complicated from a 21st century standpoint, transitioning from Roman numerals to the Hindu-Arabic system was dependent on concepts of place-value within base ten. Mathematician and astronomer Aryabhata I, born 476 in possibly Ashmaka or Kusumapura, wrote the Aryabhatiya alongside other astronomy and mathematical works. The first section of this book, titled Ganita which translates to mathematics. details incredible advancements in decimal place, Euclidean geometry, and basic linear algebra.

82	2 GANIFA SECTION					
	tual division shows that the ap) gives rise to the equation	plication of pulverisation				
	$ax + c = r_1 y$	(2)				
and then to	$r_2 x + c = r_1 y.$	(3)				
Now if	$x=m, y=q_3$ be solution of (3)	, then				
	$x = m$ $y = mq_1 + q_3$					
is a solution o	f (2), and					
	$ \left. \begin{array}{c} y = mq_{3} + q_{3} \\ x = (mq_{2} + q_{3})q_{1} + m \end{array} \right\} $	(4)				
is a solution of	f (1). ¹					

 For, if x=m, y=q₃ be a solution of (3), then r₂m+c=r₁q₃, or (a-r₁q₂)m+c=r₁q₃. ∴ c=r₁ (mq₂+q₃)-am. Application of this value of c reduces (2) to ax+r₁ (mq₂+q₃)-am=r₁y, or a (x-m)=r₁[y-(mq₂+q₃)], of which a solution is evidently x=m y=mq₃+q₃.

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Application of the same value of c reduces (1) to

ax + r_1 (mq_2 + q_3) - am \cdot by,

or ax + (b - aq_1)(mq_2 + q_3) - am - by,

or a[x - \{(mq_2 + q_3)q_1 + m\}] = b[y - (mq_2 + q_2)],
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of which a solution evidently is

 $y=mq_1+q_3$ $x=(mq_1+q_3)q_1+m.$

Translated section of Ganita. Internet Archive, Aryabhatiya-with-English-commentary by Professor K. S. Shukla Arab mathematician Abu Ja'far Muhammad ibn Musa al-Khwarizmi, born 780 in possibly Baghdad, wrote, what's considered to be, the first book on algebra. Moreover, the word *algorithm* derives from the last part of his name. He, alongside others, were scholars at the House of Wisdom in Baghdad under the rule of caliph al-Mamun. Tasked with advancing astronomy, mathematics, and scientific research, al-Khwarizmi introduces theories on linear and quadratic formulas alongside geometric proofs for the completion of a square.

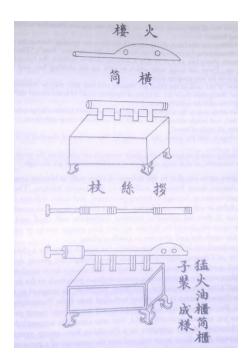


Statue of Abu Ja'far Muhammad ibn Musa al-Khwarizmi in Uzbekistan. Photo by Michael Zaretski. From blog "Before Newton".

By the 12th century, traders had brought the Hindu-Arabic numerical system beyond India. Reaching Spain, the mathematician Leonardo of Pisa, known for the Fibonacci sequence among other things, wrote a book popularizing the usage of this numerical system across the West. Although it took time for the general public to discard the Roman numerals they were used to, scientific and mathematical research quickened after the adoption.

Gunpowder: Considered Necromancy

In the 9th century China, monks were said to have discovered the combination of saltpeter (potassium nitrate) alongside sulfur and charcoal, considered "Black Powder" in other words, gunpowder. When the correct percentages are combined of each ingredient, a mixed solid and gaseous product occurs from the explosion. With this explosive mechanism, China created the Tu huo giang (Fire Lance) and by the late 13th century, were attempting warfare with equipment akin to a gun using modern metals. Although the Song dynasty politicians, realizing the importance of what they had created, banned the sale of saltpeter to foreigners, the knowledge seemed to have eventually escaped. Two theories, independent invention versus linear invention, dictate the opinions on the spread of the gunpowder recipe. Moreover, it begs a clear definition of gunpowder that denotes a militaristic sentiment to explosives. In alignment with linear invention, with the introduction of Fire Lances, fire bombs, and flaming arrows in China's war strategies, the Mongols quickly adopted and spread such weapons to India and the Middle East. Alternatively, as Western Europe is known to have used gunpowder as early as 1326 AD, it's unclear to what extent Eastern weapons influenced Europe or if it was a purely isolated creation. The Crusades could have easily put Western Europe in contact with Middle Eastern weaponry, thus gunpowder; but, alternative claims of isolated European chemists' creations also stand with some validity.



Flamethrower from *Wujing Zongyao* manuscript of 1044 AD.

The Printing Revolution

Korea, although with a shorter existence than China or Japan, was the first to create movable metal type printing, a good two centuries before the infamous Gutenberg press. During the Goryeo Dynasty, artistic achievement and the resulting inventions were at their height. The creation of the moveable metal type print in the 13th century was driven by the need to distribute Confucian and Buddhist texts. Woodblock printing was created during the Tang dynasty in China following the invention of paper during the Han Dynasty and the ceramic moveable type in the Northern Song Dynasty. During the Jin and Southern Song dynasties, a bronze movable type is known to have existed. But the Goryeo period in Korea created a new, metallic, type system using a method derived from coin production systems. Moreover, the first set of actual books, rituals titled as Sangjeong Gogeum Yemun, were produced around 1234; around the time of the Mongol invasion of the Korean peninsula. The earliest book we currently have access to is the Jikji (1377) as displayed in the Asian Reading Room of the Library of Congress in Washington, DC.

A lot of this information we now have is thanks to a French diplomat by the name of Victor Collin de Plancy who took many rare Korean artifacts back to France, alongside a Korean wife. Please note that, although I cannot completely identify to what extent his attitude towards Korea and Korean people included fetishization and orientalism, one can assume that it was at least subconsciously present. We know that the fast metal moveable type printing was preferred for the King's books - and presumably other aristocracy - whereas, wood moveable type (called xylography), usually on Hanji or Korean Mulberry paper, was used for producing other, less important and time-dependent texts.

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Innovating the Future

By Meilan Uyeno

One of the most common labels on a majority of products used in America is the Made in China stamp. From household products like air fresheners and lamps to popular children's toys, so many of the objects we touch and use daily were manufactured and exported in China, or other countries in Asia. Millions of our products come from Asian-American innovators as well - beautifying products, food, and technology. Asia has been well known for its innovation of major game-changing products like the OLED screen and USB technology. For decades, Asian-American innovators have contributed to America's technological advancements, and much more.

One of the most prominent Asian-American innovators developed OLED screen technology which is used worldwide in electronic devices today. Born in Hong Kong, Ching Wan Tang immigrated to the US and received his Ph. D. in Chemistry from Cornell University where he began his research and invented not only the OLED technology, but also the solar (hetero-junction organic photovoltaic) cell. As a young student, Tang attended school in Hong Kong, but later moved to Canada, and eventually the US for a college education. After receiving his Ph. D., Tang hired fellow chemist Steven Van Slyke, and the two began creating the OLED technology. OLEDs have drastically changed the path of technology in America. After the screens hit the market, there was a dramatic increase in sales, as consumers were more eager to buy such practical, easyto-use, vibrant technology. While the technology itself has received much recognition and is well known across the globe, the name of the man that invented it is far less familiar. Today, when you walk into Costco, there are huge signs and advertisements for OLED products right when you walk in the door. The OLED transformed our everyday screens, and its market is continually growing.



Sony XEL-1: The first OLED TV released in 2007 by Sony.

Another innovation that revolutionized technology is the USB. It isn't as relevant now since there are so many other ways to transfer and store data/information, but it was the first device to start connecting various electronic platforms.

Ever since I can remember, I have been using USB ports and flash drives to share something from one device to another whether that be pictures or documents. I think my dad first taught me how to use one around first or second grade when I needed to store an electronic project I'd been working on at school somewhere. USB stands for Universal Serial Bus, which is a perfectly fitting name, as it allows computers and devices to communicate and share data with others.



Example of LG's OLED display

Ajay Bhatt is an Indian-born inventor who created the USB to conjoin all the different platforms to which information needed to be shared. Bhatt was inspired to start developing the USB after he ran into some difficulties trying to connect his family computer to a printer for his daughter's school project . Similar to Tang, Bhatt was born in Asia then later moved to America to complete his education. Bhatt attended Baroda College in West India to begin his studies in electrical engineering, then immigrated to America where he attended the City University of New York.

Eventually Bhatt landed a job as a computer architect working at Intel where he pitched his idea for the Universal Serial Bus. By the early 1990s, Intel had begun building USB technology into their small devices, and in 1998, Apple released their first product compatible with the USB. Shortly after, Microsoft began building USB compatibility into their Window products, nudging forward the universal expansion.

I know many of you must have experienced that frustration of trying to connect one unfamiliar device with another. Printers and monitors need exact addresses to connect to other electronics, and it can sometimes take hours to recognize another device without any guarantee that it'll work. With USB technology now ranging from chips to flash-drives to cords that connect different electronic platforms, Bhatt created an easy way to bridge the data from various devices. Sources

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"Go ahead and download the Spanish keyboard," my teacher said on the first day of school when I was setting up my laptop in Spanish class. Within a few minutes, my fingertips were on top of a dual language keyboard, and in a few days, I mastered the Spanish keyboard, knowing how to accent letters and punctuate sentences correctly with the is and is. The integration of two different languages in the same interface and the accessibility to multiple languages immediately fascinated me. It is relatively easy to understand how Indo-European languages can share the same format on a keyboard. However, it is quite difficult to fathom how two completely different languages such as English and Chinese can still use this common keyboard and alternate between the two languages seamlessly.

Keyboard configurations have taken on a multitude of variations since they have transformed from the old mechanical typewriters to the modern desktop and laptop computers we now use. They have been adapted to the rapidly increasing multilingual population all around the world. The frequently used QWERTY layout keyboard is what most English users are familiar with. According to The Atlantic Magazine, the QWERTY keyboard configuration formed over time as telegraph operators used the machines to transcribe Morse Code, making it non-specific to one language. The development of the design of the typical QWERTY keyboard is highly complex as it became suitable for various languages.

	\bigcirc			-
#@~	,.?!	ABC	DEF	×
123	GHI	JKL	MNO	英文
拼音	PQRS	τυν	WXYZ	拖行
€ ⊕	选拼音	244.4		

Figure 1

If you are not familiar with typing in Chinese, for example, you may be wondering what a Chinese keyboard looks like. You may also be curious about how Chinese characters are analogous to English letters on the keyboard. In fact, the Chinese keyboard looks exactly the same as the English QWERTY keyboard. Pinyin, a method for pronouncing Chinese characters, is directly applied to the English template to provide one way for simplified Chinese to be typed efficiently. On a smartphone, it is possible to use the pinyin input method on a different keyboard version called pinyin-10 key (figure 1). This is by far the most widely used method for typing in Chinese. Nowadays, nearly all systems are capable of automatically understanding which Chinese character a user is referring to when they input an English letter combination that resembles the pronunciation of its Chinese analogue, regardless of tone. Once a pinyin is typed, the keyboard on the screen displays an ordered list of characters to choose from. Users can either click the correct character or type the number of the character since all possible characters are numbered. Most platforms present the choices based on character frequency or by guessing based on the previous words a user has already typed.

Along with the pinyin input method exists the Wubi method for typing Chinese (also called five-stroke input method). For Wubi, characters are constructed from components, which are drawn using strokes. All these components are divided into five categories based on the first stroke, and each category maps to a zone on the keyboard that specifies the character. Similar to this keystroke mapping method the is handwriting input method which uses a handwriting touchscreen. Its advantages are that users can search for a word in a dictionary more efficiently, and this is especially handy when a user does not know the pinyin.

input for around 98% of the world's population for at least one of the languages they are fluent in. Major tech companies such as Microsoft have continuously developed language options, making it possible for tech companies to target a wider range of customers, and ultimately improving the quality of life of roughly 2 billion people who have access to computers with the multilingual keyboard option (Pew Research Center).

Another example of creative ways that people have adapted the original eurocentric keyboard model is the implementation of Vietnamese





Of course, Chinese is not the only language supported by interfaces with keyboards and "Windows touchscreens. According to a Experience Blog", with the 202 keyboard layouts in Windows 8.1, users can enter text in more than seven thousand languages using all of the roughly fifty scripts found worldwide. Since there are many more languages in the world than there are scripts, or writing systems, having 7,000 is possible. For instance, English, French, and Spanish all use the Latin alphabet, but so do hundreds of other languages that do not have a unique writing system. So, by including the main fifty scripts, Microsoft supports over 7,000 languages, more than enough to support text language on a standard QWERTY keyboard. To accommodate Vietnamese with language's symbols such as the five accent marks ', ',', ~, ., multiple typing conventions have been developed. Currently, the two most widely used typing conventions for Vietnamese are the Telex and the Vni. The Telex convention uses letters A through Z to express the accent marks while the Vni convention uses numbers o through 9 (figure 2). Accents and symbols are integral parts of the Vietnamese language, thus, cannot be omitted in typed texts. The great significance of accents and symbols in certain languages like Vietnamese is what makes the process of creating a typing convention complex. Although engineering the



Figure 2

Because the demand for multilingual functions in technology is increasing, various ways of further satisfying customers have developed. Easily found in tech stores are customizable keyboard stickers and covers that fit on the universal QWERTY keyboard. With these keyboard accessories added to keyboards, the effectiveness of using more than one language on a

device is enhanced. As it can be seen, innovation is indeed a continuous process in which endless ideas emerge from fundamental technological developments. The chain reaction-like process of development in multilingual keyboard systems and other technology that go with it fits under the overarching theme of global technological innovation.

Technology has developed so rapidly that many of us may have become oblivious of the innovations we are surrounded by. Oftentimes, we take great innovations for granted, such as the "Control + Shift" (Mac) or "Alt + Shift" (Windows) keyboard shortcuts to switch language. These simple functions allow us to switch from one language to another on a keyboard in a split second. We press on these little keys without giving it much thought; yet, this single function is so powerful because it renders of the world most languages communicable, connecting all multilingual keyboard users.

optimal typing convention might be extremely complicated, the product is certainly rewarding since the use of multilingual keyboards is an act of conservation of the niche details of many keyboard-compatible languages.

ă	â	ê	ô			tilde ("~")			d	ư	O,
1	2	3	4	5	6	7	8	9	0	1	1

So to type the word huyen, the sequence would be "huy3n5".

Vietnamese - how to accent letters on Mac using numbers



Korean Chunjiin keyboard, very similar to Chinese pinyin-10 key layout

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Gordon, the robotic arm of Cafe X (Business Insider)

Last fall, my older sister texted me, "just got coffee made by a robot!"

Around that same time, my best friend started working at a local coffee shop as a barista. So while she was learning how to make drinks and do latte art, there was a little robot fifteen miles away who could perform the same skills.

Even though I don't drink coffee much, coffee shops are one of my favorite places. Whether I'm meeting someone for an interview or writing a college essay in the corner seat, the cafe setting never fails to improve the occasion for me. There's a unique comfort found in the variety of lounge chairs and the background noise of baristas taking orders, and I like that you can come in and sit for a few hours while enjoying a good drink.

As someone who loves coffee shops, I find it strange to think that I could look up and see a robotic arm serving me a drink instead of the usual human barista behind the bar. However, that is already the case for several cafe locations in the U.S. Over the past decade, advancements

ROBOTS BEHIND THE COFFEE BAR

By Michelle Fung

in automation have spread throughout the food service industry. With the rate of technology quickly surpassing simple timers on coffee makers, many new coffee shops founded by Asian-American creators have begun introducing robotic baristas—robots that are capable of making and serving drinks to patrons.

History of Automation in Food Service

Automation in the food service industry has risen in popularity since the start of the COVID-19 pandemic, when limiting human interactions became critical in order to stop the spread of disease. However, this is only part of a gradual transition to robotics in food service. For years before the pandemic, the restaurant industry has struggled financially, unable to compete with decreased consumer spending due to rising prices and an increasingly high employee turnover rate. These factors have caused many restaurants to turn to automation, with the primary benefit of robotic service being monetary. Although the initial installation cost is high, long-term use of robots has proven to be cost-effective. Other advantages include lowered risk of injury, precision in work, and overall efficiency.

The first instance of automation in food service was in 1983, when Chinese fast food restaurant Two Panda Deli used Japanese-built robot waiters. Named Tanbo R-1 and Tanbo R-2, the robots would move around delivering food to patrons while telling jokes and playing music. This proved to be a major attraction of the restaurant, but the robots were eventually removed after their technological issues became too difficult to overcome, as they were prone to dropping food when outside radio signals interfered with their own. Since then, advancements in robotics have led to other restaurants reintroducing robot waiters, like the serving Kur-B bots of Kura Sushi, a sushi restaurant chain from Japan with several locations in the United States.

It is important to distinguish between the food industry and the food service industry, as the machines used for food packing and manufacturing can also be referred to as "robots." When including such machines, robots have technically been in use in the food industry for longer than since the 1980s, as tasks ranging from sorting produce to packaging preserved goods have become automated over time. There is also a range beneath the term "robot." While one may picture a clunky, rectangular, human-like figure, robots in the coffee industry specifically include machines like the CookRight Coffee system by Miso Robotics, a company that specializes in technology designed to improve the cooking process. The CookRight Coffee system is an artificial intelligence-powered machine that uses an advanced monitoring system to gauge metrics like volume and temperature in order to make the ideal cup of coffee. It does not, however, have the ability to serve the drinks, unlike the application of robotics beyond the coffee machine, like to the baristas themselves.

Cafe X

Cafe X is the world's first robot barista. It was designed by Henry Hu, a 23-year-old from Hong Kong, who, despite having no experience in

robotics or coffee-making, came up with the concept while studying technology and entrepreneurship Babson at College in Massachusetts. He soon dropped out of school to pursue his business, raising funding for a prototype on his own before being granted the Thiel Fellowship in 2016, which provides \$100K to those who leave school in order to build new creations. Hu's first Cafe X then opened in San Francisco in 2017, with a sister location in Hong Kong.



A Cafe X unit (Business Insider)

Unlike automations previously used in coffee-making like the CookRight Coffee system, Cafe X is designed to replace an entire coffee shop in a single unit. The barista is a modified Mitsubishi industrial arm robot, affectionately named "Gordon" by the developers, and is surrounded by typical coffee shop machines and walls of plexiglass. Customers can place orders on a mobile app on their phones or in-person using a kiosk. Gordon then carries out these orders, making two drinks at a time with each drink taking from 25-55 seconds to complete. For reference, it takes my friend about two minutes on average to make a drink, though that length varies with complexity of the drink and she tends to make multiple drinks at a time. Despite this speed, Hu has stressed the cafe's efficiency does not compromise the quality of the drink. The point of the robotics is to speed up the flow of the drink-making process and not the actual

brewing, so if an espresso takes a certain amount of time to extract, that process will not be rushed.

When compared to a standard coffee shop, Cafe X does have some differences that may be considered drawbacks depending on what you prioritize in your cafe experience. If you are simply stopping by for a caffeine hit on your morning rush to work, then Gordon's speed is a clear advantage of Cafe X. If you are looking for the traditional sit-down experience with hanging lamps and the smell of coffee in the air, however, a robot in a box cannot reasonably provide that ambiance. Cafe X also has less variation in their menu than your local Starbucks or coffee shop. In addition, while there are options for flavored syrup additions, Hu has said in an interview with Vice that the main focus is "delivering the recipes that the roasters have created, and doing that in the best possible way for the coffee to taste." This means that ultimately, the coffee recipes offered at Cafe X are not meant to be modified much, as the integrity of the drink's intended flavor takes precedence over customization.

The Human Factor?

With the seemingly rapid automation of many professions, baristas may, understandably, have some reservations about the advancement of coffeemaking robots. However, Hu emphasizes the concept of robots and humans working together, as Cafe X was designed for collaboration and not replacement. For coffee shop frequenters thinking the experience won't be the same without the awkward over-the-counter small talk, Cafe X still has product specialists present to interact with the providing samples customers, and making recommendations. Hu says these roles "do many of the things that a barista would typically do, minus the 'move cups around' part," citing that the

cup-moving is something the robots can do better. His goal for Cafe X is best explained by his quote: "The company does not exist to invent as many robots as possible, to replace as many jobs as possible; the company exists to have a really great coffee experience."

Another coffee-making robot creator, Meng Wang, has addressed the concern of humans losing work to robots. Wang is the CEO and co-founder of Artly, a Seattle-based startup building AI-powered robotic baristas. Similar to Cafe X, drinks are made by a robotic arm, however, Artly's technology is used in the traditional coffee shop setting, with robots Jarvis and Amanda serving behind the bar. Although there are cashiers present to serve food items, Wang does acknowledge that the use of the robots reduces the need for human workers inside the coffee shop. He instead offers that the use of robots provides the opportunity to create more high-paying jobs. Baristas, for example, can focus on creating new drinks, which is something the machines cannot do, and training the robots. The use of robotics in the food service industry also opens work in STEM fields, as companies will require a range of engineers to develop and improve the robots.



Exterior of Artly's Stewart Street Location

Robot at Artly making a drink

For the average customer, the human experience varies between these coffee shops as well. Reviews of Cafe X's San Francisco Airport location on Yelp tend to focus on the quality of the drinks compared to the experience itself, as the robot in a vending machine attracts people to the booth. For example, Yelp user Lauren T. says that "Overall, a bit overpriced for coffee / tea, but I'm pretty sure most people get it for the novelty. A lot of people do double-takes as they walk by," with similar sentiments shared by other users (Cafe). Meanwhile, Artly's Seattle location Yelp reviews factor in the cafe environment as well, with users like Mayu D. commenting "Ambiance- 3/5. Very empty/roomy coffee shop with ping pong table and such to have fun during your coffee break"(Artly). User Stephanie B. also called Artly a "grab and go kinda place," noting that people should not





"expect to be able to work here or hang out for an extended period of time," so this may not be the place for those who enjoy the cafe setting (Artly). However, even though personal taste in coffee varies, reviews across both of these robot coffee locations show that people generally enjoyed seeing a robot make their drink and recommend the experience to others.

Inside of Artly

If you're curious about how this potential future of coffee shops looks in practice, you can watch Jarvis and Amanda in action at the Artly coffee shop in Seattle, located on Stewart Street near Pike Place Market. Orders are made through a touchscreen or downloadable app, but you can also speak to the robots using a microphone, whose AI learning software will allow them to respond. My sister, an avid coffee-drinker, says the lattes are good and "taste how you would expect them to taste," but she's no expert. Feel free to judge whether you prefer a drink made by a robot or human barista, as though the technological even advancements made so far have been promising in terms of effectiveness, the response of the public will certainly play a part in whether or not more bots like those at Cafe X and Artly spread throughout coffee shops everywhere.



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EDITORS CORNER

OK, See You: The Story Behind the Series, *Kim's Convenience*

<u>Jeenah</u>

The first night back from my first year of college, I laid in bed, browsing Netflix in hopes of finding a binge-worthy show. I came across a familiar title, *Kim's Convenience*. I had heard of the show and seen little clips of episodes here and there, but I had never actually sat down to watch it. Each episode was around 20 minutes. I figured I'd give it a try.

I finished the first season in less than three days. Although that may not seem very fast to many people, I don't watch a lot of shows - it is likely a new record in my books. What made it so engaging? I'm not entirely sure, but I know that a part of it is because I was able to relate to it.

Kim's Convenience tells the story of a Canadian-Korean immigrant family. Mr. Kim, the "appa," or father of the family is played by Paul Sun-Hyung Lee, and Mrs. Kim, the "umma," or mother of the family, is played by Jean Yoon. They run a convenience store. Andrea Bang plays Janet, the daughter of the family, and Simu Liu plays Jung, the son of the family. The first season of this show, *Kim's Convenience*, aired in 2016 and was received with so much love that it continued for four more seasons. When the fifth season was released and announced to be the final season in 2021, it was a huge surprise and disappointment for the fanbase as the show had been "green-lit" for the sixth season. However, when claims of racist writers arose, the public's dismay quickly disappeared.

The cast shared their perspectives on social media. The actors, such as Simu Liu who played Jung (son of the Kim family) and Jean Yoon ("umma" or mother of the Kim family), shared that the show and the crew did not acknowledge the experiences and abilities of Asian immigrants, on-screen and off-screen (Liu). "We discovered storylines that were OVERTLY RACIST. and so extremely culturally inaccurate, that the cast came together and expressed concerns collectively," Jean Yoon wrote on Twitter. She even went on to say that the "lack of Asian female, especially Korean, writers in the writers room of Kims

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made my life VERY DIFFICULT & the experience of working on the show painful." Simu Liu shared about the show that the cast worked "tirelessly to promote it while never truly feeling like [they] had a seat at its table," as some of the cast had signed low-paying contracts (Chow).

The series is based on a 2011 play written by Ins Choi, a playwright and actor. According to Jean Yoon's public statements, Choi was "the only Korean writer credited on the show" for the first four seasons (Liu). Kevin White, who is the co-creator along with Ins Choi, led a writer's room that largely consisted of White writers. In fact, the only Korean female in the writer's room was said to be Jean Kim, a story editor, during the writing of the fifth season (Liu). Yoon publicly revealed that much of the show's scripts were culturally inaccurate due to this fact and that if she hadn't spoken up, "all the Korean food in the show would have been WRONG" (Chow).

Although I enjoyed the series, I certainly felt the overt racism in countless parts. However, while racism is never justified, it is important to note that much of the microaggressions and explicit racist remarks alike were quite realistic portrayals of society's perception of Asians.



Hope

I watched *Kim's Convenience* early on, perhaps sometime around early high school. I enjoyed it, although parts seemed vaguely stereotypical, it was genuinely cool to have a show about Korean-Canadians lives. While I still think similarly, hearing the racist experiences of the cast members adds a level of nuance to my understanding of the show.

Unlike other pieces of media, in which a racist remark or undertone could get a show canceled by the general public, the assumed intention behind Kim's Convenience is a good one. It's an accessible show that depicts the lives of Korean-Canadians, from the perspective of someone who wants to increase on-screen diversity, supporting this sort of production directly aligns with such sentiment. However, to then hear how the writers were majority White men leaves me with a bad taste in my mouth, and explains my earlier mention of some stereotypedependent scenes. At least for me, allowing the actors agency and voice begins to alleviate this contrast of representation. Moreover, the success of the show, in a way, defeats (although it doesn't erase) the rather negative participants behind the scenes.

To this day, every person in my close family has watched and enjoyed this show. The moments of realistic racism, alongside the more stereotypical scenes, truly do portray an experience many can relate to. And with that distinction, any conscious or subconscious racism of the writers or directors is subsumed and the actor's pushback was worth their effort.



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The Overtaking of AI (& How it Could Change our World)

By Gabriella Ignacio

Humanity vs. Artificial Intelligence. It may sound like a corny blockbuster title, but in reality, such a standoff may not be far away. Rapid progressions in AI technologies have been the source of worldwide discourse for the past decade, with many supporting its advances and even more warning of its possible implications. During a 2022 study, for instance, nearly half of the surveyed machine learning researchers believed that the long-term effects of advanced AI would result in at least a 10% chance of an "extremely bad outcome" (AI Impacts). Yet AI companies continue to progress at an astounding pace, and their end goals remain unclear. How did we get to this point? And with such endless bounds of possibility, how will humanity be affected by AI?

> Until recently, the scope of AI has been a fantastical, science-fiction version of the future – something that could only ever be thought of or written in made up texts. But with its first conception in Alan Turing's

> > modern computers of the 1930's, narratives surrounding AI have quickly begun to change. In the 1980's, the internet was developed and AI research truly began to explode. In the 2000's, new generations of technology have shaped our societal structures. In general, advancements in these new technologies have increased tenfold since the initial surfacing of AI systems. And as they become more and more developed, so do their capabilities of becoming extremely dangerous.

> > To analyze exactly how the dangers of AI can come to fruition, we must acknowledge the differences between human minds and artificial machines regarding the storage and sharing of data. Unlike humans, computers can store nearly unlimited amounts of data, making them a powerful source of information. But more importantly, they can instantly share said information with each other -- a feat that

Image Courtesy of PngWing

humanity lacks in comparison. This huge knowledge disparity could be concerning, and could allow AI to eventually surpass our own species if we keep feeding it more data.

Because of this, experts often admonish the public accessibility of machine learning models, claiming that the average person cannot fully grasp its capabilities. And with the recent emergence of models as advanced as OpenAI's GPT-4, criticism has risen to new heights. If pharmaceutical or food establishments must go through repeated trials until their products become widely available, many reason, why shouldn't the same logic apply to AI companies? It seems irresponsible, even dangerous, to let AI loose with such little precautions.

Of course, the applications and perceptions of AI vary across different countries, so the image of it as a looming threat is not entirely accurate. In fact, such pessimistic narratives are mostly contained within Western nations, while other regions have differing opinions. China, in particular, seems to be leading the way in the eager moves towards the defining AI innovations of our century. Despite China's authoritarian regime often falling behind their democratic counterparts in regards to technology, AI appears to be an exception. According to Harvard economics professor David Yang, "Autocratic governments would like to be able to predict the whereabouts, thoughts, and behaviors of citizens . . . and AI is fundamentally a technology for prediction" (source). Thus, autocratic leaders are able to leverage AI's purpose, as it aligns with their own, and more easily execute their agenda. Additionally, China's notorious usage of data collection can also be bolstered by AI, and in turn, further fit the needs of the Chinese government. In the past couple of decades, China has jumped at the chance to become a more AI-driven society, and with over \$20 billion already invested in AI development, are quickly emerging as one of the most intense competitors against the US in terms of novel technologies.

Evidently, it is not only China that is racing to come up with newly advanced forms of AI - several other East Asian countries are competing for the #1 spot as well. In South Korea, for one, policies are constantly being implemented to ensure a safe and meticulous transition into AI dependency. Though they've been working with AI products since the 2010's, a key turning point for South Korea came during the Covid-19 pandemic, in which they stimulated a digital transformation with a Digital New Deal in 2020. Strategies within this act, such as the high-quality data collection through "data dams", the establishment of AI training hubs, and the enabling privacy laws that promote data use, have steered the nation towards a new digital ecosystem, and have ultimately allowed for a safer, more efficient form of creating AI products. The increasing presence of AI can also be seen in less developed countries throughout Asia, and generally seems to be a leading force in Asian innovation.



AI Image Recognition in Action // Photo Courtesy of Saul Loeb

The Presence of AI in Texts

Due to the constant controversy surrounding it, interpretations of AI's impact have also been explored in media; starting around the 1980's, narratives involving AI have risen to popularity amongst the masses. Western media, in particular, has grappled with the idea of AI as being a source of change and ambient dread, as is reflected in their cultural values. This is existent in works such as The Matrix franchise, which considers the invasion of alien robots into human minds, and the Terminator movies, which offer a much more physical, violent depiction of humanity's ate. Even mellower movies, where humans are actually able to coexist with AI, warn of its dangers; Her (2013), for instance, warns that a hyper-dependency on technology will lead to individual alienation from reality.

Through an Asian lens, however, these films can also interpreted as be problematic. Rather than representing actual Asian culture or characters, the impending doom present in the films are manifest in a way that homogenizes Asian identities – a phenomenon coined as "techno-orientalism". Though the term slightly differs from Edward Said's original definition, it serves the same purpose of mystifying Eastern cultures. For example, the Asian-inspired action sequences of The Matrix indicate Asian martial arts to be an enlightened way of fighting alien species. In the Blade Runner movies, the architecture and general environment is clearly inspired by generic Asian motifs. And even in Her, subtle Asian influences can be observed in the futuristic aesthetic of the movie. It seems that Western speculations of the future must involve some form of Asian-inspired content, and their refusal to include more appropriate representation both alienates and harms the reputation of Asian communities.

Whether AI will be a positive or negative change for the world is ultimately unknown - it is only certain that it will be a drastic one. For thousands of years, humans alone have existed as the most "intelligent" species, having accumulated knowledge and built culture without input from other beings. AI is an alien threat to this superiority. As an entity that could possess infinite knowledge, humanity may be surpassed by a species of our own creation. Crossing into this new relationship between technology and humanity can be terrifying, but is also incredibly fascinating. The drive for innovation is what has allowed science and technology to progress as far as it has, and it appears there is little intention to stop exploring. In the end, it is in our own hands to determine how we wield AI; in the words of Stanford Senior Fellow Erik Brynjolfsson, the true question we should be asking is not "What will happen?" but rather, "What will we choose to do?"

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RACISM IN E-SPORTS: IMPORT PLAYERS

BY ROJUN ANDRES

As I explored League of Legends and other PC games during the summer of 2020, my perception of video games drastically shifted. For the first time, I stepped out of the realm of sandbox games like Roblox and Minecraft and the change in the atmosphere was something I have never experienced. When playing my first game of League of Legends, I had no idea what I was doing. The complexity of League of Legends was a lot more than I could handle. With so many things to learn and skills to develop, I was not surprised to see a competitive league. MOBAs (Multiplayer Online Battleground Arenas) like League of Legends are genres that famously host one of the largest tournaments and competitions that are seen globally with teams made from all kinds of organizations and sponsored brands. Without playing LoL (League of Legends), I would have never discovered the world of Esports.

For context, League of Legends requires a team of 5 players with specific roles. The team works together to get to the enemy's base and breaks the "nexus", ending the game after destruction. There are so many game mechanics, characters, and strategies that League of Legends requires you to know. While I have stuck it out for the long run, not many beginners do because of the learning curve that League of Legends has on the players. For the players that continue to play though, there are still ranks to climb. Ranked/competitive modes can be played in many different games, but Esports takes it to a new level of gaming with the best of the best.



2022 League of Legends World Championship // Photo Courtesy of Riot Games

Learning about Esports would have been inevitable as the viewership of the industry has grown more rapidly over the years. Not because I have been surrounded by Esports lovers, but rather because of the newfound popularity and success. In fact, the World Championship for League of Legends in 2022 peaked at 5.1 million viewers (Esports Charts). Many people believe what helped the Esports scene for League of Legends grow even faster was COVID-19. As many other forms of in-person entertainment were cut because of the pandemic, people resorted to one of the things that could entertain us the most without needing to leave our homes, video games. Whether that be on your phone, computer, or other devices, games could be played on almost anything. The accessibility from COVID-19 has accelerated the popularity of Esports, but has always been popular in foreign countries like Korea and China.

For most games, it is common to see many high ranking players that come from Eastern Asian countries. Many people believe that this occurs because of the gaming culture that heavily differs from other regions such as Europe and the Americas. From that also comes a rank disparity that can vary region to region. Korea having its own servers, has given it the opportunity to harvest some of the greatest players in the game, many of them outclassing other professional players from other servers. From a competitive standpoint, recruiting these players can give you an upperhand. So much so, organizations are willing to offer contracts that give millions of dollars for the player to join. If the player were to accept, they would be considered what is coined as "imports". This concept has been practiced in other sports for years, one notably being Shohei Ohtani, a Japanese baseball pitcher who is currently playing for the LA Angels. While imports are generally common, it raises a few questions; one being the legitimacy of the talent that comes from the region itself.



C9 vs 100t // Photo Courtesy of Colin Young-Wolff via Riot Games





Team LMQ at a 2014 competition

This was a concern in 2014, when LMQ (a team that consisted of mainly Chinese players) competed in the tournament that was made for North American players. This team did very well compared to others which caused concern to many fans and players. From this, Riot Games (the developer of League of Legends) and many other tournament organizers created the import rule allowing only two players that are not from NA. While this rule continues to be discussed, it is also worth noting the treatment that LMQ or any import players face when taking North American stages. A Korean player who goes by "Fearless" plays for the Dallas Fuel on Overwatch stated on a stream (roughly translated by @swingchip930 on Twitter), "They'll deliberately cough on us... They call us Chinese, then harass us. The racism here is unspeakable."

While the future of Esports is bright with the increasing viewership globally, we should question the racial bias and discrimination that Asian players from foreign countries face when coming to America to play on American teams. It is also important to recognize the racist behaviors that Asian-American players face when playing for their own country. The gaming community in general has been known to excuse bigoted remarks and has always been a problem in the community. As more players of different identities continue to join the professional scene, there is hope in stopping these racist behaviors, especially towards the Asian players that continue to dominate the Esports industry.

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This month, I was able to see how technology has changed throughout the world, from ENIAC computers to Apple's Macbook Pro. This helped me know how the world is changing and how computers and technology almost surround everything; this art piece taught me about different Asian Americans who express their creativity through technology. I was looking for ideas for this month's art piece until I realized that I spend a lot of time on my computer with a bunch of tabs open - I wanted to capture someone's computer home screen searching up many famous/popular Asian American coders who spread creativity in many different forms in technology. I wanted each search bar to search something different every time, so I decided on design, s.t.e.m, cybersecurity, and engineering. I wanted to add a little bit of everything showing that s.t.e.m/computer science can be a vast spectrum.

meet the team



Jeenah Gwak

founder, editor-in-chief

(she/her; biology - neurobiology & music at Stanford University) Thank you, as always, for reading our 12th issue and supporting us! Besides the AAPI community, I am passionate about the brain, piano, reading, sleeping, and lifting.



Hope Yu

founder, editor-in-chief

(she/her; math - history & asian studies at Carleton College) Hi! I spend a lot of my time reading, watching BTS dance practices, studying, and hanging out with friends + family. I'm a large museum enthusiast and an advocate for a full 8 hours of sleep.



Ashley Chen

(she/her; NYU Shanghai) My passions include playing piano and videogames. In my free time, I likes to watch Chinese dramas and hangout with my friends. For What We Experience, my favorite topics to write about are Asian American mental health and current events.



Gabriella Ignacio

design manager

editor, writer

(she/her; Newport High School) I really enjoy art — whether it be making my own or appreciating the works of others — and looking for places to try new food. Being a part of this magazine has been very valuable for me, and in the future, I hope to keep writing and being involved in Asian-American spaces.

meet the team



Meilan Uyeno

(she/her; Bellevue High School) Hi! I'm a competitive diver and I love to bake and ski. You can always find me outdoors in the sun somewhere!



Allison Chan

(any pronouns; Garfield High School) Hobbies and interests of mine are swimming, coding, painting and running.



Nicole Kim

(she/her; Bellevue High School) Hi! Some activities I enjoy doing are visiting new places and spending hours at museums. I am passionate about learning foreign languages and connecting with culturally diverse groups of people.



Michelle Fung

(she/her; Hazen High School) Hi! In my spare time, I enjoy painting, going to parks, and playing board games. I also like writing poetry and playing the flute.



Rojun Andres

(he/him; Rainier Beach High School) Hello everyone! My name is Rojun and I enjoy playing games, making crafts, and listening to music. While I tend to always try different things very often, my current passions are learning different languages and playing the violin. Thank you!

writer

artist/writer

media manager

writer

writer

