



Point of View

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Nepal Protest: A Fight for Democracy

by SEJIN TENNANT



Image Source: CNN

Over the last month, thousands of people have toppled Nepal's government and installed a new interim pm to lead the country until the next official election.

Several factors had contributed to the motivation for the protests in the first place. Some have pointed out that Nepalis had endured years of corruption and injustice, or how the economic and social divide between the elite class and ordinary citizens grew every day. However, the tipping point was when the government banned social media.

Before the protests, a trend called "nepo kids" was on the rise among Nepal's Gen Z demographic, where they would make videos raising awareness of nepals' corrupt society by comparing their lives to the lives of the wealthy elite. In one video, they compared a person enjoying a fancy meal and riding a luxury car, while showing how the average Nepali citizen had an annual salary of 1.5k USD per year, and how 1 in 4 lives below the poverty line.

In response, Nepal's government banned all forms of social media, justifying their actions by claiming that they're preventing false news and hate speech. This caused mass protests in the capital. In the initial protest, nepals' national guard/military had killed over 20 people, and had left hundreds of these protesters hospitalized.

Consequently, thousands of others had gathered in the capital and protested in response, burning government buildings, such as the parliament building or the supreme court, and sacking politicians' houses, leading to the former prime minister

Oli to resign on September 9th, where protests would continue to go on for 4 more days.

When the pm resigned, protesters hastily elected an interim pm to fill the existing power vacuum, where they used a discord server led by the Hami Nepal, one of the main youth rights groups behind the protests, to conduct their election. Around 8000 people voted in this makeshift election picking former chief justice of nepal Sushila Karki. Karki was officially sworn in on the 12th, where she would make a public statement, vowing to end corruption and urging protesters to cooperate, officially ending the protests on the 13th.

The 250th Anniversary of the United States

by YEJU JANG

In 2026, the United States will celebrate their 250th anniversary, also called the Semiquincentennial. This historic turning point marks two and a half centuries since the signing of the Declaration of Independence in 1776, when the original thirteen colonies declared their freedom from Britain.

The Semiquincentennial has become an opportunity for Americans to celebrate their achievements and their challenges.

Before explaining the Semiquincentennial, first let's talk about important background information that is an important part of this article.

In the 1700s, the thirteen American colonies were under British rule. But in 1776, which we know as "The Declaration of Independence (1776)". On July 4, 1776, announced the separation of the thirteen American colonies from Great Britain. And after winning the Revolutionary War (1775-1783), the 13 colonies united and created the federal government, dubbing themselves as the United States of America. Throughout the years, the U.S has grown into what we know it to be today.

Therefore, the Semiquincentennial is a time to reflect not only the birth of the nation but also the struggles, changes, and progress that have shaped its people and culture.

Also, the Semiquincentennial has cultural importance. Like sports events, have honored the anniversary of the US. For many ordinary citizens, the celebration is not just about history, but is also about the community coming together with neighbors, much like in 1776 when towns rang bells and lit bonfires to celebrate their independence from the British empire.

In conclusion, the 250th anniversary of the United States is more than a party; it is a moment of national reflection. This anniversary is a reminder of the struggles and achievements of the past 250 years. The Semiquincentennial provides an opportunity for all Americans to look back with gratitude, to recognize both the successes and the failures, and to honor those who fought for freedom and equality. The Semiquincentennial also reveals the hopes, divisions, and identity of modern America. Therefore, the Semiquincentennial is both a celebration of the past and a challenge for the future.

Ukrainian Refugee Murdered on the American Train

by ANNIE JANG

On August 22nd, 2025, Iryna Zarutka, a girl who is a Ukrainian refugee, was stabbed and killed on a train in America. This harsh event showed how public safety is weak, and that we can be easily exposed to dangerous situations in our daily lives. It can also raise some sensitive discussions about mental health, immigrant protection, and race issues in American society.

To understand this topic, it is important to fully understand this situation. The victim in this case was Iryna Zarutka, who had run away from the war in Ukraine and was an immigrant who was looking for a safe life in the United States. And the attacker was Decalos Brown Jr., who was a Black man with more than 13 criminal records and had been going to the hospital several times because he suffers from schizophrenia. Both of them were on the train back and forth, then Brown pulled out a folding knife and stabbed her in the neck. After that happened, she died at the scene.

This case caused a huge discussion by highlighting various problems in American society. The fact that 13 criminal convictions had been free to act and had committed the crime again raised concerns about public safety. Also, because the victim was a refugee, it caused discussions on the protection of immigrants and their safety, who are at an underprivileged level. Then the conflict over the race of the attacker and the victim continued in some cases. This case raised issues of crime between black and white, and racial issues.

In conclusion, this case illustrates the problems U.S. society is facing. This case gave an opportunity to think about how we can deal with those problems that we can face. This case reminds everyone of the social awareness that can spark policy improvement and social interest.



Artwork by Heidi Jang

How AI Impacts Our Society

by RIWON KIM

Artificial Intelligence (AI) is becoming an important issue in today's world. AI means machines or computers that can do tasks which usually need human intelligence, such as learning, problem-solving, or language understanding. Many people talk about it because it changes how we live, study, and work. Some people believe AI brings many benefits, but others are worried about possible risks. This article will explore both the positive and negative effects of AI in our society.

First, AI provides many advantages. In hospitals, AI can analyze medical images very quickly and detect diseases that doctors might miss. It also supports education. Students use AI for translation, writing, and solving difficult questions. In addition, AI assists farmers by predicting the weather or suggesting the best time to grow crops. These examples show how AI makes life more convenient and efficient.

Second, AI creates new types of jobs. A few years ago, no one imagined jobs like "AI trainer" or "AI ethics manager". However, as companies adopt AI, they need people who can develop, control, and guide this technology. This means AI not only replaces work but also opens opportunities for future careers.

On the other hand, AI brings serious challenges. Many workers may lose jobs because machines and robots can perform tasks faster and cheaply. For example, in factories, AI-powered robots can work all day without rest. Another concern is that people may rely on AI too much. If students start to rely on AI for answers, they might lose problem-solving and creative skills.

Privacy and ethics are also major issues. AI collects huge amounts of personal data, such as online searches, shopping habits, and conversations. If this information is misused, it can lead to problems like deepfakes or misinformation. For example, there were reports of people who even harmed themselves after being tricked by AI chatbots. These examples show why using AI safely is very important.

Therefore, society must prepare carefully. Schools should provide AI education, governments should make clear laws, and individuals should use AI wisely. AI is a powerful tool, but human creativity and empathy will always remain important. AI is a powerful tool, but it cannot replace human creativity and empathy. Our ability to imagine, care for others, and make moral choices will always be something that machines cannot copy

Because the environment is surrounding us and we are getting direct effects from the environment, it is important to keep eye on greenhouse gases emission and pollution. COF-999, and renewable energy sources including green hydrogen will help us to achieve both human convenience and environmental protection at the same time.

Mini-Brain Reveals Unique Neuron Firing in Schizophrenia and Bipolar Patients

by JIOH HUH

COF - The Technology That Could Reverse Climate Change

by IDAM SUH

As climate change's impact is increasing, the interest in related technologies that can improve the situation or minimize the carbon dioxide is also arising or even to reduce environmental pollution.

One of the technologies being developed is called Covalent Organic Framework(COF). Until now, COF-999 is the latest COF; COF-999 was developed by UC Berkeley Professor Omar M.Yaghi. Focusing on COF-999, the efficiency, durability, CO₂absorption rate from the air, etc. have improved a lot. COF-999 can emit carbon when it reaches the temperature of 60Cand it can re-absorb carbon; interestingly, according to a report about COF-999, there was no significant decline in performance of absorption rate at least 1000 absorption-desorption cycles, which indicates that it can be reusable for 1000 cycles without noticeable loss in capacity.

Another technology that helps lowering carbon dioxide emission can be found in the green hydrogen industry. Many people think that hydrogen cars like Hyundai Nexa are totally eco-friendly. However, in fact, there can be carbon dioxide emission during the generation of hydrogen as an energy source. Hydrogen can be classified by its generation method, which are mainly grey, blue, green hydrogen. Green Hydrogen is the one with zero emission, where renewable energy sources are used for electricity used in the process of splitting water into hydrogen and oxygen with electrical current.

In addition to green hydrogen, it is true that the movement of energy source change is arising in many countries around the world. Many countries tried to change their main energy source from fossil fuel to renewable energy source. As a result of the characteristics of renewability, it can lead to significant reduction in case of environmental pollution and greenhouse gas emission.

Pea-sized brains grown in a lab have revealed the unique way neurons fire in schizophrenia and bipolar disorder patients. These mental illnesses affect millions of people worldwide, but are difficult to diagnose and provide a remedy because we don't know the definite cause of them.

Clozapine is the most common drug prescribed for schizophrenia, but about 40% of patients are resistant to it. Therefore, it takes an average of 6 to 7 months for patients to find a treatment that actually works for them, and that process involves simply using trial-and-error medication approaches.

The research was done by Annie Kathuria, a biochemical engineer at Johns Hopkins University. Kathuria's team made organoids, which are simplified versions of real organs, by converting blood and skin cells from patients with schizophrenia and bipolar disorder. She stated, "Schizophrenia and bipolar disorder are very hard to diagnose because no particular part of the brain goes off. No specific enzymes are going off like in Parkinson's, another neurological disease where doctors can diagnose and treat based on dopamine levels, even though it still doesn't have a proper cure."

Using a machine that measures the electrical activity of the mini-brain's cells, they identified neural firing patterns associated with healthy and unhealthy conditions. The normal brain sends signals through impulses, using a combination of electrical and chemical processes through neurons. Neurons communicate by generating an action potential that helps transmit the signal to the next neuron and so on. On the other hand, the newly discovered patterns found in schizophrenic and bipolar patients involved neural firing spikes and alterations at different intervals, creating a distinct signal from the normal impulses. Using the electrical signals produced by patients' neurons, they compared them to organoids from people without mental disorders to help find the cause of the disorder. These organoids, which average at a diameter of 3 millimeters, contain various kinds of neural cell types found in the brain, which is responsible for higher cognitive functions, making them a perfect substitute for human brains to test out the drugs.

The research only involved 12 patients, but the team is working with various professionals at the Johns Hopkins School

of Medicine to gather more samples of patients and test various drugs.

Their final goal is to shorten the period of the trial-and-error process for patients and successfully provide the right remedy for the right patient.

Is Mapping the Human Brain Possible?

by JIHOON CHOI

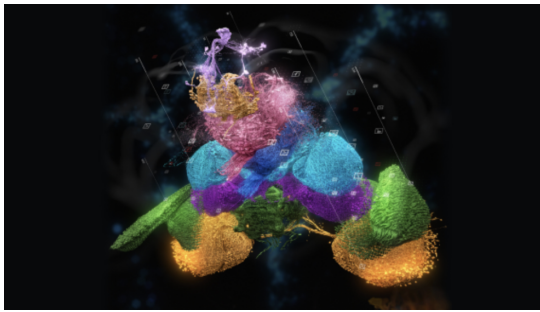


Image Source: Nature

The brain is undoubtedly the most complex object in the universe. To study how this 1.4 kg of complex mass gives rise to consciousness, thought, emotion, and memory, neuroscientists try to study the human brain. The primary method for studying the brain is using an animal model. For example, *C. Aplysia* (a type of sea hare) was employed to study the biological mechanism of formation of memory, and mouse models are frequently used to study behaviours. These experiments have led to a greater understanding of the brain, but this approach is limited to understanding only basic aspects of our brain. To better understand a biological mechanism, it is important to identify the anatomical structure. Thus, to fully understand the human brain, it is necessary to create an anatomical and structural model of the human brain: the connectome.

An “ome” is the set of all molecular components of a biological system. Thus, a connectome will map out all the connections of the brain. It is important to identify that connectomics places its emphasis on connections. Although the human brain has 86 billion neurons, it has 100 trillion synapses, which are the connection junctions between neurons. Thus, when studying the brain, it is more important to identify the connections than neurons.

To explain how a connectome is mapped, before the 3D mapping, thin slices which are first processed by a diamond cutter, which then tape thousands of these slices to a filament. The slices are then imaged using Electron Microscopy (EM), where cells are visualized, identified, and finally, mapped. Before the emergence of AI, it was humans who would identify the slices and map them. However, AI can now be employed to facilitate this process by quickly mapping them.

There has only been two complete connectomes until now, which are the *C. Elegans* (roundworm), and the *Drosophila melanogaster* (fruit fly). Compared to roundworms, the connectome of the fruit fly is multitude of times more complicated, as fruit flies have a total of 54.5 million synapse, compared to around 5000 synapse of roundworms. This reflects the significant advances in technology, as the roundworm brain was mapped in the 80s, compared to the fruit fly brain, mapped 40 years later.

It is important to identify the challenges that could come with mapping the connectome. Compared to roundworms or fruit flies, humans have a much more complex brain, and technological difficulties could hinder the creation of a connectome. Others argue that it won't be complex enough to allow any important findings.

Although these criticisms are valid, scientists in the field of connectomics believe that one day, it will be possible to map the whole human brain, and that it will nonetheless provide a significant advancement in the field of neuroscience. The field of connectomics will advance in the following decades, as we get improved technology. If mapping the connectome is possible, it will have vast applications, as it would not only make identifying people with mental disorders easier, but could explain consciousness, and give insight into what it means to be human.

What Is the Vocaloid?

by SHAWN JEONG

Vocaloid is a voice synthesizer software without using a human voice. You can simply think of it as a robot that sings the music. The first Vocaloid was made in 2003 in Japan. Later on, they launched the first Vocaloid for the general public in 2004. There are various things in Vocaloids to create their own music. In the software, you can synthesize the songs by typing lyrics and melodies. You can also change their voice tones and pronunciations. And there are many voice banks for making your own song. Often, Vocaloids are marketed with virtual idols. Some of them performed at the concert. The greatest example will be Hatsune Miku. Her voice was made by Vocaloid, which uses two engines from a Vocaloid. She's not an actual virtual idol but a kind of Virtual Studio Technology instrument. After Vocaloid was created, it became popular in most countries. There were many events, contests, and festivals held mostly in Japan. If you are interested in the robots creating the music, I prefer that you try to make your own song in Vocaloid. When you do the Vocaloid for the first time, you feel complex and don't know what to do. Later on, if you adapt to the system, you will be comfortable with it, and there are some tutorial videos that you can watch on YouTube. If you are adapted to the system, you're ready to create the Vocaloid and your own Vocaloid too!