

Can a free, fair election liberate us from depraved politics?



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We are just one week away from the national election. Naturally, this single event is demanding the attention of all politicians, intellectuals, and the media. The country is witnessing fiery debates and intense articles; rallies, counter-rallies, crackdowns, and arson; and international players scrutinising every part of the process for a better standing in their battle for global dominance.

But if we just zoom out, and evaluate this event—which is costing us countless lives, Tk 1,600 crore of government funds (and perhaps a larger amount coming out of politicians' pockets), economic instability, and property damages—can we really believe that this election, regardless of which side wins, offers us any hope for things to get better?

Yes, we have come a long way since our independence: our economy is bigger, our cities are bigger, our factories are bigger, and we have succeeded in reducing extreme poverty, child mortality, and illiteracy. But what we've

get money, and vice versa).

If you are born poor, or your family doesn't have any political connections, your access to nutrition, quality education, healthcare, employment, and business opportunities will be limited. You will be harassed by law enforcement, political goons, bureaucrats, and factory owners. Your individual voice will not be heard and the collective voice will be violently repressed. You will be forced to remain in your position for generations.

On the other hand, if you belong to the elites, you are born with a cheat code that not only offers quality everything but a lot extra through various backdoors—from evading the line in the passport office, to getting away with land grabbing, money laundering, and maybe even murder.

The most basic understanding of politicians in a democracy is that they are supposed to be the majority's representatives, be the embodiments of people's agency to govern

colonisers, we now have internal ones. Let's examine some of the fundamental characteristics of our colonised past and see if anything has changed.

Under both the British and Pakistanis, a minority with power controlled all means of politics, economy and governance, and the majority along with their spaces and resources were exploited to the extreme without any regard for its immediate or long-term impact.

While this mechanism is pumping out spoils, the other one deploys power—using ambiguous laws and discriminated implementation, and through politicians, law enforcers, bureaucrats, goons—to ensure that the condition remains in favour of the status quo, that the agency to decide how the economy and governance of this country remains exclusive.

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and/or politicisation. On the other, wealth mongering has infiltrated every sector—health, education, development, governance, nature conservation, and of course, politics.

So, will this election change any of these? Are any of our options actually willing to correct this track, and turn back from colonising its own people?

Despite having the longest reign in power, has the ruling party reversed mechanisms of inequality, censorship, and corruption? Has it prioritised public services, public institutions, access to justice, and equal opportunities over patronising the elites and itself? Instead of boasting about megastructures, total GDP and which countries are on their side, has it prioritised affordable cost of living, progressive taxation, road safety, social security, quality education, and decentralisation? Well, when people are not the keyholders of power, it doesn't have any reason to do any of these.

Our other major political option seems to only be concerned about how it can get back to power (and maybe take over the feast itself), or whether its leaders get flown off for treatment. It didn't have an applaudable track record while it was in power, nor does it offer any action plan to make us believe things would be different if it comes to power again. The left is far removed from the mass, and the religious parties are extremely non-inclusive.

The role of elections is to put possible candidates on trial and choose the best option for the country. But none of the options seems promising and none promises any real reformation. I, and many of the “non-political” people I've talked to, are finding it hard to be actually excited about the election, or any of the processions or counter-processions. We don't want to get burned to death in the streets or face additional hurdles while already struggling to manage a liveable earning. No one is expecting any real change, and those who can afford it are migrating to other countries. It seems we are stuck in an oppressive and exploitative system, and the politics will keep pinning us down.

However, there are two things I wholeheartedly believe. Despite being constrained by oppressive governance, this land and its people have produced economic wonders throughout its history, and the people here never settled for subjugation. Maybe we are now struggling after generations of economic, political, cultural and intellectual trauma, but if we keep striving towards identifying and diminishing the oppressive elements at work, things will be better. But at present, I won't put any hope on this election to be the turning point.

When we liberated ourselves from foreign colonisers, we were promised that this was the first time in a thousand years that this country would be ruled by the people, that we would not be treated merely as a source of profit, that we would have freedom and equal opportunities. But the tragedy is that when we allowed our politicians to take responsibility, instead of reforming the colonial structures of subjugation and exploitation, they started using them.

failed to do is fulfil the fundamental goal of our struggle— independence from an exploitative ruling class that has taken us hostage. Even half a century after our independence, a handful of elites are celebrating the wondrous increase of wealth the economic miracle has brought, while the vast majority, the real producers of that wealth, are gasping under manufactured inequality and political subjugation.

Here, privilege not only begets privilege—all the social, economic, and state mechanisms in practice also ensure that the privileged get an increasingly bigger share of power and wealth (there's effectively no difference between these two though, if you have power you can always

themselves. But in Bangladesh, being a politician does not require you to actually listen to the people, understand their requirements, or be skilled enough to work for the betterment of society. You will be a promising politician if you have one or more of the following: you are born into a political family, you have the muscle power to repress opposition, you have enough money to control and feed the higher-ups and underlings, or you have somehow managed to get famous enough that political parties will keep you as an ornament.

We have fought off our colonisers. But in reality, the people of Bangladesh have never been decolonised. Instead of overseas



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PHOTO: RASHED SHUMON

Money obtained through exploitation was not invested to ensure the upward mobility of people or improvement of public services. Instead, only selected sectors, spaces, or citizen amenities got prioritised; capitalist mechanisms got incentives, and the elites capitalised and syphoned money out of the domestic economic system. The big business owners and authorities worked together to ensure all privileges and protection bestowed by the state mechanisms remained exclusive to them, and any form of rebellion got crushed with utmost importance.

Likewise, we now have two mechanisms for exploiting this land and its people. With one mechanism, vast amounts of wealth get accumulated—through extracting everything possible from workers in factories, offices, agriculture, informal works and so on, at the expense of their rights, working conditions and living standards; through turning workers into hostages of poverty and fear of unemployment; through extorting thousands of crores of taka from banks, government projects, shady businesses, and laundering them.

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On one hand, every apparatus to keep politicians and their policies in check—elections, academia, freedom of speech, freedom of assembly, journalism, workers' unions, arts and literature—has been made ineffective through repression, censorship

Scientific breakthroughs of 2023



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The year 2023 was another stellar year for science. The astounding discoveries made by scientists in the fields of cosmology, nuclear energy, medicine, cancer and artificial intelligence are poised to profoundly impact our lives. Below is a recap of some of the noteworthy achievements—many first of their kind—of the year.

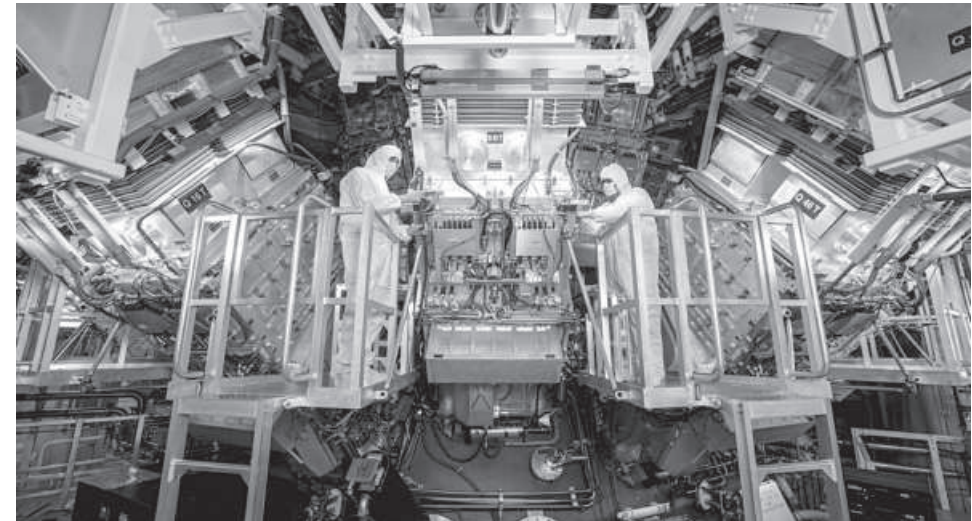
Space exploration

In the second year after its launch, the James Webb Space Telescope (JWST) ushered in a new era of space exploration. With its scientific value beyond reproach, this flagship observatory captured hundreds of fantastic images from a wondrous shot of Rho Ophiuchi cloud complex, the closest star-forming region to Earth sparkling like a humongous “galactic jellyfish” to the fastest growing galaxy to the stunning view of Saturn's rings. They spotted the oldest black hole, a Goliath with the mass of 1.6 million suns, formed 470 million years after the Big Bang 13.8 billion years ago. This discovery could help explain how today's supermassive black holes, which anchor entire galaxies including our Milky Way, grew to such mind-boggling sizes.

Peering into the past, JWST broke its own record for the most distant galaxy by reaching the epoch where some of the very first galaxies were created. It detected Earendel (“morning star” or “riding light”), the most distant star known in the universe, 12.9 billion light years away. Moreover, JWST has captured exquisite details of the supernova remnant Cassiopeia A, one of the youngest supernova remnants that was formed roughly 340 years ago by the explosion of a huge star located around 11,000 light years from Earth in the Milky Way galaxy. The telescope also discovered a massive chain of 20 galaxies in the early universe, making cosmologists ponder about the formation of the largest structures in the cosmos.

Nuclear fusion

For decades, scientists have attempted to harness fusion energy, essentially replicating the power of the sun on Earth. If mastered, it could provide the world with a near-inexhaustible source of clean energy, nearly



For decades, scientists have attempted to harness fusion energy.

FILE PHOTO: REUTERS

four million times as much energy as fossil fuels like coal or oil.

While conditions that are required in a fusion reactor the temperature of the plasma, which is a hot “soup” of electrons and ionised hydrogen gas, be kept at temperatures exceeding 100 million degrees Celsius long enough are now routinely achieved in experiments, improved confinement properties and stability of the plasma are needed. Specifically, towards the edges of the plasma, where it is relatively less hot, some of the hydrogen ions can combine with the electrons, creating neutral hydrogen particles. These neutral particles can cause energy to be lost from the plasma, thereby increasing the amount of energy required to sustain the reaction. For a process that is all about maximising energy outputs with minimum inputs, this is a major issue.

To solve this issue, a team of engineers at University of Wisconsin at Madison have used a spray coating technology to produce a new “workhorse material” that can withstand the harsh conditions inside a fusion reactor. The technology uses a cold spray process to deposit a coating of the metal tantalum on the

stainless steel surface of the reactor. This metal absorbs the neutral hydrogen and protects the reactor's walls. Although the technology is in its embryonic stage, in the future it could enable more efficient and compact fusion reactors that are easier to repair and maintain.

Health and medicine

The effort to beat back malaria with vaccines witnessed a big boost this year. Together with the world's first malaria vaccine, Mosquirix, a

respiratory syncytial virus, or RSV, pulmonary diseases and lung cancer.

Innovations in cancer therapies are increasing survival rates and curing more cancers. A new experimental drug called vorasidenib, developed at Memorial Sloan Kettering (MSK) Cancer Center, has been shown to significantly slow the growth of brain tumours by more than doubling the time before the cancer begins to progress. It also reduces the need for invasive therapies such as surgery, radiation and chemotherapy. Medical researchers at MSK also developed a new class of drug called menin inhibitors that targets certain genetic changes that are commonly found in acute myeloid leukemia and lymphocytic leukemia.

Similar to vaccines for childhood diseases and other illnesses, several cancer vaccines were developed at Mayo Clinic in Minnesota to treat melanoma, bladder cancer and prostate cancer. The clinic also developed a new type of radiation therapy, known as carbon ion therapy, to treat cancers that may be resistant to radiation or proton therapy, particularly breast cancer.

Treatments for obesity, which has a sorry past, now has a groundswell of hope. A new kind of drug called glucagon-like peptide-1, originally developed for Type 2 Diabetes, can induce significant weight loss, with manageable side effects.

Artificial intelligence

Catalysing a year of artificial intelligence (AI) fanfare was ChatGPT, an AI-powered language model developed by OpenAI. It is capable of accepting both text and image inputs and output human-like text. Likewise, in May 2023, researchers at University of Texas at Austin developed an AI model that can transcribe complex thoughts from human brainwaves.

Scientists are using AI for DNA sequencing and precision oncology to improve treatment and diagnosis. In particular, they are using AI to help identify patients who are at greater risk of cardiovascular diseases, such as stroke and heart failure. Furthermore, researchers at MIT have developed an AI model to predict a person's likelihood of developing lung cancer up to six years in advance.

In September of this year, researchers at the University College in London announced a “groundbreaking” AI model for detection of diseases using retinal images. A joint US-UK-Bangladesh study provided the first real-world evidence that autonomous AI can improve medical productivity.

In a paper published last month in the journal Science, Google introduced GraphCast, a state-of-the-art AI computer model that can

predict the weather more accurately up to 10 days in advance, rivaling or even topping many gold-standard weather forecasting models.

Computers

Computers still largely rely on traditional silicon processors, which have hit something of a ceiling in terms of speed, memory space and energy efficiency. Now, IBM has changed that with the invention of a next-generation chip called “North Pole” that makes other processors look like relics from the “dark ages.” Inspired by the human brain, architecture of the chip delivers massive improvements in energy efficiency, speed and memory space required for computation. It has the potential to run powerful AI hardware systems at unprecedented speed, while consuming vastly less power.

More than a decade in the making, the era of exascale computers finally arrived this year. A computer named Frontier at Oak Ridge National Laboratory became the first exascale computer open to scientists for computational work. It can perform an unimaginable quintillion (1,000,000,000,000,000,000) mathematical operations per second. Among other applications, the computer is expected to help spur the development of ultralight materials for fuel-efficient cars and airplanes.

Teleportation

The catchphrase “Beam me up Scotty,” the command Captain Kirk gives to his chief engineer Scott in the science fiction TV series Star Trek, may soon become a reality. In a paper published this month in Nature Communications, a team of scientists from South Africa and Spain claims to have successfully achieved first-ever Star Trek-style teleportation of images in human history. The team hopes to further develop their technology and explore its applications in various fields, such as biomedicine, meteorology and cryptography.

Climate change

Despite the farce at COP28, likened by AI Gore to “allowing weapons manufacturers to dominate a peace conference,” a team of scientists at MIT has developed a process to convert planet-warming emissions of carbon dioxide into a powdery harmless fuel that could be converted into clean electricity. The powder called sodium formate can be safely stored for decades. These incredible scientific and technological achievements of 2023, albeit not exhaustive, is the latest compendium of some of humanity's scientific endeavours that are fundamentally shaping our daily lives. These breakthroughs will inspire innovators to push the boundaries in the coming years.