

HOW 21 U.S. CODE § 856 HARMS AMERICAN HARM REDUCTION

Minh Le Nguyen Tuyet

If we cannot offer a haven for the most vulnerable, how can we expect to reduce harm?

This is one question that encapsulates the challenge faced by harm reduction advocates in the US and is largely a result of the provisions of 21 U.S. Code § 856, known as the "Crack House Statute". This law was originally enacted as part of the Anti-Drug Abuse Act 1986 to target landlords and property owners who knowingly allowed their properties to be used for drug manufacturing, distribution, and consumption.

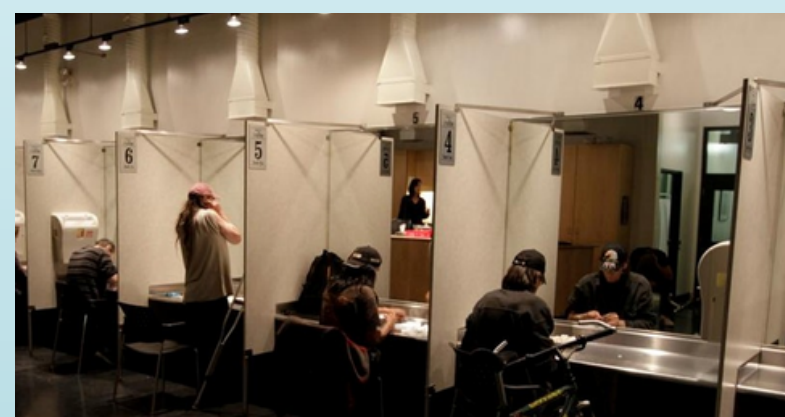
The intent was to dry up and cut off the supply of illicit drugs. Still, the statute has had botched side effects, notably for stifling harm reduction efforts such as safe injection sites, overdose prevention centers, and other public health responses intended to save lives.

Supervised injection sites (SIS) are not new, and the first such facility opened in Vancouver, Canada, in 2003 (on-site). Since then, dozens of SIS have appeared worldwide, including Australia, Portugal, and Switzerland. In a non-judgmental environment, these sites offer sterile equipment, medical supervision to prevent overdoses, and access to addiction treatments and social services.



The case for SIS is conclusive. A 2011 study published in *The Lancet* found that Insite cut overdose deaths in its neighborhood by one-third.

A review of 33 studies on SIS published in 2020 concluded that SIS effectively reduce harm, with no increase in drug use or crime in peer communities. The findings contradict conventional wisdom that SIS 'enable' drug use and demonstrate instead that facilities save lives and provide a portal to treatment.



According to public health experts, SIS is also seen to have economic benefits. Overdoses and their complications place a heavy burden on healthcare systems, as they cost billions every year for emergency care, hospitalization, and lost productivity. SIS can lower these costs by preventing overdoses and diseases such as HIV and hepatitis C from being transmitted. For example, a 2017 addiction cost-benefit analysis showed that a single SIS in the United States could save over \$6 million per year in healthcare costs.

According to the CDC (2018), drug overdose became the leading form of injury-related death with deaths occurring at a rate of 115 per day in the United States in 2016. Of these prescription drugs, opioids were the cause of 42,249 deaths in that same year, a 28.4% increase from 2015 (Hedegaard et al., 2018). As the problem unfolds, the country is in desperate need of new and efficient ways of preventing rising rates of body harm in the country. 21 U.S. Code § 856 is the law that directly regulates the use and possession of drug paraphernalia and may limit SIS use.

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There is a provision in 21 U.S. Code § 856 (a), which provides that it shall be unlawful for any person knowingly or intentionally to use any room or other area in which drug paraphernalia are kept, sold, or used, knowing that such room or area is intended for use for the purpose of unlawfully manufacturing, storing, distributing, or using a controlled substance (United States Code, 2018). This legislation aims to punish those involved in the distribution and use of drug paraphernalia with the view of checking individuals who enable others to engage in drug-related activities.

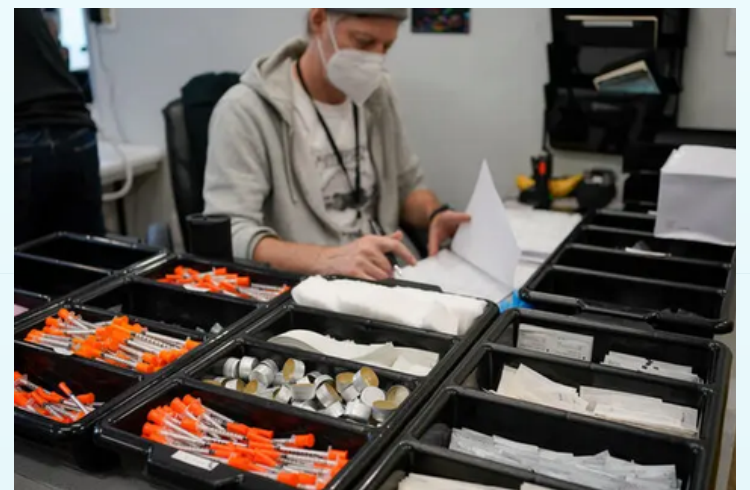
Legal and Policy Challenges

Since the ongoing opioid epidemic, several American cities including San Francisco, Seattle, and Philadelphia have moved toward adopting SIS. However, the enactment of 21 U.S. Code § 856 is a legal barrier to the usage of these facilities by advocates. The law makes the use and possession of rooms and areas meant for the use of drug paraphernalia unlawful. As such, SIS may be unlawful under this legislation since their main function is to provide drug use.

SIS have been the subject of controversy and confusion as several federal and state agencies provided divergent interpretations of the letter and spirit of the law. The DEA has stated that SIS are operating in defiance of the Controlled Substances Act and as such, the establishment can be prosecuted under federal law. But, in the memorandum to the DOJ in February 2017, it was proposed that if SIS are installed with protections under the Controlled Substances Act, it would require an affirmative defense for acts committed in good faith, to prevent overdose, provide immediate medical care, or refer the patient to the treatment program (Office of the Deputy Attorney General, 2017). While this memorandum is contrary to the traditional DOJ SIS approach, the legal ambiguity about the field has not been fully explained.

Other Countries' Safe Injection Sites.

However, unlike the US, several countries such as Canada, Australia, and Germany integrated SIS within a framework of managing harms associated with drug use. Research from these countries shows that the use of SIS has helped in the prevention of overdose fatalities, enhanced security, and persuaded users into abstinence treatment (Strang et al., 2019). However, although SIS' effectiveness has been observed at the global level, the ability to establish such facilities in the United States is still questionable because of the challenges that the current legislation holds.



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Unfortunately, the opioid epidemic remains a scourge to many towns across America, thus making it imperative to find workable solutions to curb the effects, including the use of safe injection facilities. Although, 21 U.S. Code § 856 poses a legal concern to the establishment of SIS, there are scientific findings from other countries showing that these facilities can play a vital role in abating substance use if launched under the balanced multi-sectoral framework.



As legal practitioners, politicians, and public health professionals continue to navigate the issues associated with the ongoing opioid crisis, it is important that possible positive influences brought on by SIS are examined with reference to current legislation in order to supply intelligent and backed decision-making for legislation with the aim of harm reduction.

The continued presence of 21 US citizens Code § 856 in its current form signals a wider failure to change the face of drug policy in the 21st century. While the statute was probably thought to be well-intentioned when it went into effect, its inflexible enforcement has become a major obstacle to non-judicial harm reduction efforts and impedes the implementation of life-saving interventions. During the continuing opioid crisis in the United States, it is time to place public health ahead of punitive measures. Reforming or repealing 21 U.S. Code § 856, policymakers can begin clearing a legalistic way for a more humane and productive path for addressing substance use disorders: one based on resources and lives more than legalism.

In the case of 21 U.S. Code § 856, the chilling effect is on innovation and public health. Reluctance will not be seen in action among community organizations, healthcare providers, and even local governments, which are afraid to push the boundaries of harm reduction for fear of legal repercussions. This prevents a cycle of preventable suffering and death, particularly among already at-high-risk marginalized communities.

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WHY DEVELOPING NATIONS ARE ANGRY: A LOOK INTO COP 29

Minseo Kang



On November 11th, 2024, COP 29 was hosted in Baku, Azerbaijan.

COP (Conference of Parties) is an international conference where world leaders come together to discuss and evaluate climate-related issues and policies, such as keeping the temperature rise to below 1.5°C, and supporting island countries suffering from the rise of the sea level.

These discussions involve delegates representing governments around the world, to civil organizations and trailblazers making an impact in the climate movement. As the issue with climate change involves a lot of stakeholders in various industries and countries, it is crucial for the countries and representatives to negotiate and come up with an actionable and effective resolution and framework.

This year, one of the key objectives for the conference was securing a new global climate finance, ensuring that every country, regardless of their economic development, has the resources to battle climate change effectively.

After lengthy, back-and-forth negotiations on climate finance, as countries struggle to reach a viable financial goal, the negotiations were extended by an additional 33 hours, with the COP 29 concluding on November 24. Due to the historic geopolitical tension regarding the responsibility of climate change between developing and developed nations, disparity in climate change expectations, and additional disagreements with the allocation of funds between adaptation and mitigation, conversations about financial support for adequate funds were in constant dispute.

At the end of the conference, it was decided that the developed countries would provide \$300 billion annually by 2035, replacing the

former plan of \$100 billion per year. Different from the previous plan, the \$300 billion fund will also leave the door open for “voluntary” input from nations that didn’t provide the funds previously like China.

However, the response of the Developing nations regarding this new plan was cold, some representatives even calling the new plan a “joke” or “insultingly low”. Throughout the conference the developing nations pushed for \$1.3 trillion financial support from the developing countries in the form of grants instead of investments that need to be paid back, as many of these nations are already in deep debt from various financial supports. In the disagreement towards the final stages in the negotiations, delegates from the least-developed countries staged a public walk out to express their frustration towards the negotiation that seemed to be insufficient in effectively supporting the developing nations. When COP 29 President Babayev announced the \$300 billion to be the final settlement, countries like India, Nigeria, and China took the floor to express their frustration in the negotiation process stating that they weren’t able to have a voice in the process. At the end, a last-minute compromise was made to the \$300 billion goal with a broader \$1.3 trillion goal and a review set for 2030. However, there are still existing voices saying that this measure is inadequate and that there are unresolved issues that the goal doesn’t specify what counts as climate finance, nor set a specific goal for the developing nations. By omitting strong legal guidelines and responsibilities, there is room for the developed nations to manipulate the concept of “climate finance” and avoid obligations.

There are various reasons regarding the country's dissatisfaction towards the new financial goal.

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Even without the COP 29 negotiation, \$300 billion would have been raised. Before COP 29, previous conferences such as COP15, along with multilateral banks, had pledged to raise climate finance. Their collective efforts were projected to raise \$115.9 bn in 2022 to \$197 bn in 2030, meeting $\frac{2}{3}$ of the COP 29 climate finance plan. As the finance goal would have been reached without COP 29's goal, this leaves the developed countries with less burden and responsibility compared to their historical contribution in encouraging environment destruction and climate change.

Developing nations contribution could cover a part of the goal. Unlike the previous \$100 bn goal, this new plan includes developing nations' voluntary contributions as well. This includes developing but comparatively wealthy nations such as China to voluntarily pitch in and input support for "climate finance". This will also allow the nations that have been providing funds for the developing nations to fight climate change to officially declare their contributions. However the issue is many worry that it'll simply be an "accounting trick" as the countries who were already making contributions to simply relabel their funds as "climate finance", therefore in essence, not changing anything for the developing countries.

Inflation wipes out much of the raised funds. This settlement and the one before this did not take the account of inflation to the plan. According to experts, the real value of \$300 billion will drop to \$175 billion by 2030, considering the 5% annual inflation rate. For climate finance to actually have a real-value of \$300 bn by the time of 2030, it is calculated that the goal should have been around \$415 bn. Furthermore, experts and climate-vulnerable nations argue that over \$1 trillion annually is needed to effectively address climate change. The \$300 bn goal is far too small for that.

Despite the disagreement and protests, the 12 and $\frac{1}{2}$ days of COP 29 conference ended with a new financial plan of \$300 bn by 2030, with the newly established "Baku to Belém roadmap" to mobilize \$1.3 trillion by 2035 on the roll. In such a big conference like the COP there's a notion of "An agreement is better than no agreement". Due to the consistent voices of dissatisfaction with the plan, it is likely that the evaluation and discussions regarding the finer details of the goal will resurface next year in Brazil for

COP 30. For now, we can only hope that the new goal will inspire changes in the multilateral effort to combat climate change.

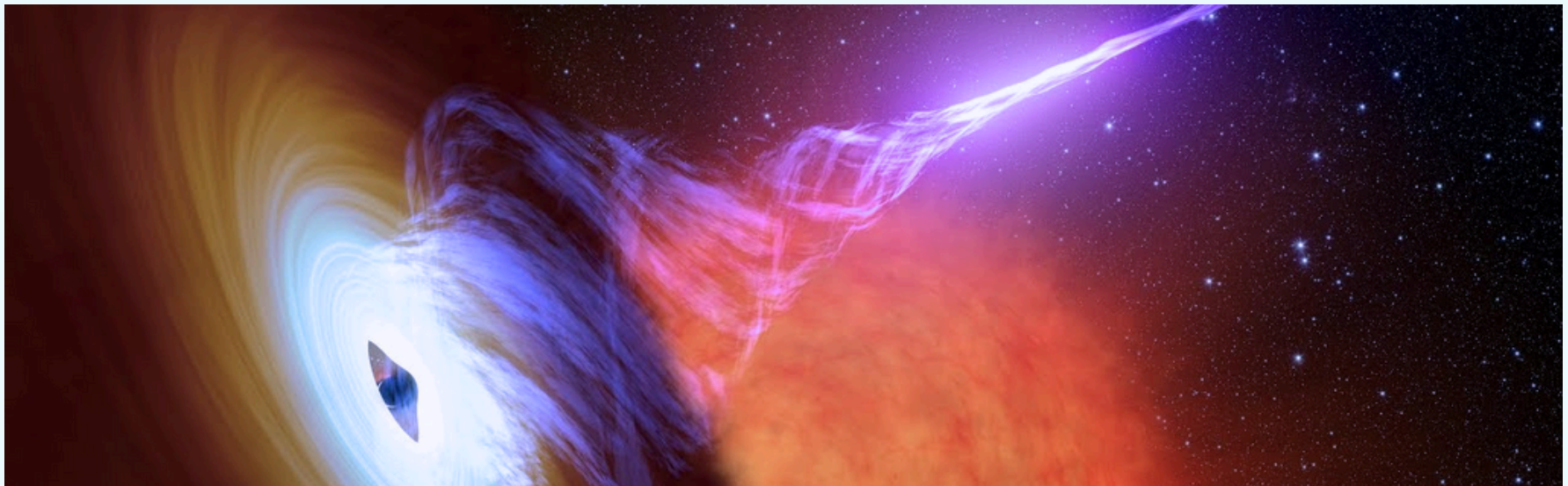
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THE ELECTRIC UNIVERSE

Yaksh Dharod



The universe, 14 billion years old, is continually growing and changing. It is inaccurate to believe that current theories are exact and comprehensive. There remains much to learn about the components of the cosmos. At the very least, we must keep an open mind to novel and possibly amazing possibilities.

Standard models of cosmology have made significant progress in understanding the universe. Astronomers have realized that the more they learn about the universe, the less they understand. Scientists believe that gravity is the fundamental force that governs the universe. It is what keeps planets, stars, and galaxies bonded together. Yet, gravity is simply not strong enough to keep large galaxies from drifting apart. Here's where Dark Matter and Dark Energy enter the picture. These are said to be 90% of all the matter present in the cosmos. Dark Matter attracts, while Dark Energy stretches the fabric of spacetime.

While this is a promising idea, scientists do not have any proof that this matter exists. Thus, the Electric Universe Theory was proposed.

The Electric Universe Theory is often compared to the cosmos' Flat Earth Theory in terms of scientific credibility. It argues that the universe's nature can be better explained by electromagnetism than by gravity. This theory states that electricity is the missing 90% of matter in outer space.

According to this theory, electricity propagates through space faster than gravity, at nearly infinite speeds, connecting every part of space. The basic idea of the Electric Universe Theory is that everything in the Universe is connected, mainly via electric currents flowing through plasma.

This theory states that 99.99% of the universe consists of plasma. Plasma is an excellent conductor of electricity due to the vast amounts of ions present within it. It can also generate a magnetic field which is usually produced due to the movement of electrons. With large amounts of plasma, the energy generated will be extremely abundant. The EUT offers a more consistent view of the cosmos. Picture beautifully woven lights on a Christmas tree. During the daytime, you can see the wires connecting the lights, but at night, when the lights are switched on in all their glory, it is only the light that is visible and the wires fade into the background.

In space, these wires are formed from plasma. This plasma generates a magnetic field, which in turn attracts more plasma. This self-organizing tendency can produce enormous, light-year-long plasma filaments. This plasma may be completely dark, and flare with a brilliant light, depending on the voltage and current in these wires. This theory is not backed up with a lot of mathematics, its physical concepts are easy to grasp and therefore makes it a simple hypothesis to deal with. While this theory is plausible, it is quite flawed. It does not provide a comprehensive theory of everything, fails to explain the source of all the energy in the universe, and contradicts numerous laboratory experiments that replicate stellar fusion.

While humanity has uncovered several mysteries of the universe, we must remember that many more stellar theories are yet to be discovered.

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THE SHADOW BIOSPHERE: COULD ALIEN LIFE BE HIDING ON EARTH ITSELF?

Varunika V.

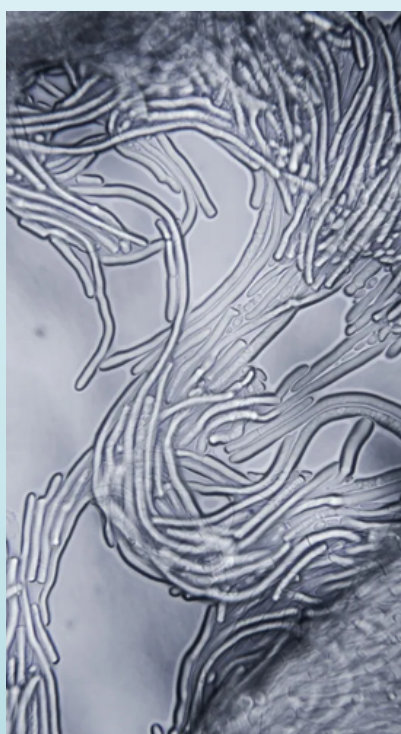
What if the life we're searching for among the stars is already living among us, just beyond our understanding?

For decades now, humanity has searched for extraterrestrial life beyond Earth, looking into the cosmos far away in the hopes of finding signs of the existence of aliens. But what if, rather than gazing out of our world, the key to finding alien life lies right here on Earth? What if the new life forms we seek are already here, hidden in plain sight in ways we can't yet recognize? This mind-bending hypothesis is called the shadow biosphere and it turns all of our thinking about life and its potential habitats on its head.

What Is the Shadow Biosphere?

Now imagine this: Earth, as we understand it, has a completely different form of life from the carbon-based biology that clings to all known life on our planet. The basic premise of the shadow biosphere theory is that there may be Earthly forms of life that do not operate on biochemistry we have ever really noticed — silicon-based life perhaps, or forms that thrive in environments that we consider poisonous. Instead of directing our gaze to the heavens, this theory has a more prosaic cosmic implication: Some alien life might exist right here, alongside us, but we just can't see it yet.

Paul Davies, a scientist who first published on this notion in 2007, speculated that alien forms of life might have existed on Earth for billions of years. The problem is that we wouldn't be able to find them because, supposedly, they don't conform to the biochemical signatures we identify. These "shadow life" organisms might be concealed very far underground, surviving in highly extreme environments, or living and doing their functions based on biological laws that are simply beyond our knowledge at present.



Alternative Biochemistries: The Basis of the Shadow Biosphere

Every form of life that we know of on Earth is carbon-based. That implies our cells, enzymes, and everything else that makes us biological rely on molecules of carbon to make them work. Even so, other elements can create complicated structures. Suppose other types of elements, such as silicon, could also be able to support life? Silicon is very rare on Earth and can indeed create complex structures under suitable conditions for life similar to that of carbon-based organisms. Scientists say that Life based on silicon may exist in environments toxic or inhospitable to carbon-based organisms.

Whether it's silicon-based organisms or other alternative biochemistries, the shadow biosphere could be waiting in the wings, hidden from our perception.

Extreme Environments: Earth's Hidden Corners

If shadow life exists, where might it be hiding? Earth is a planet of extremes, home to environments where life thrives against all odds. From the searing depths of hydrothermal vents to the frozen tundras of the Arctic, life has found a way to survive in conditions that were once thought impossible. Extremophiles are probably the most intriguing examples of all that explore extreme habitats, from boiling hot springs and acidic lakes to radioactive waste. The biochemistry of these organisms often resembles very little of what we would normally expect and hence poses some very interesting glimpses into how different forms of life might exist if we only expanded our definition slightly at its base of what living entities can be.

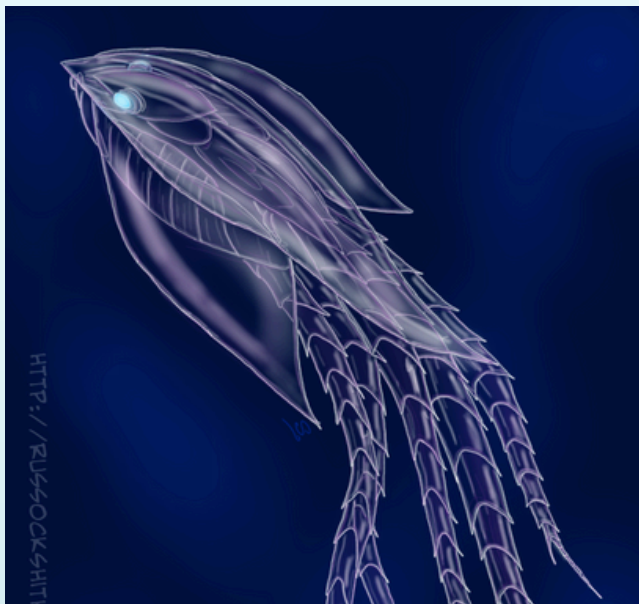
Could shadow life lurk in some similar extreme habitats—deep underground, in the Earth's mantle, or in other unexplored ecological niches? The most extreme habitats on our planet might support organisms so radically different from what we know that we could not recognize them.

THE SHADOW BIOSPHERE: COULD ALIEN LIFE BE HIDING ON EARTH ITSELF?

Varunika V.

The Search for the Shadow Biosphere

Though the potential of shadow life is intriguing, the search effort has been very gradual. The technologies we deploy in detecting life rely heavily on biomarkers, which represent life's carbon-based or other familiar biochemical indicators. This approach may blind us to the possibility of existing life forms that do not conform to our expectations. Thus, searching for a shadow biosphere is like finding a needle in a big haystack, but that haystack may hide wonderful things yet to be uncovered.



The good thing about new technologies is that they make it easier to look for organisms that don't conform to our usual standards. For instance, scientists are developing new kinds of microscopes and chemical analyses that might be useful in detecting non-carbon-based life forms. Arsenic-based life is becoming increasingly popular—and it's a very realistic idea, as demonstrated in the famous 2010 experiment by NASA's astrobiology team when they found bacteria in Mono Lake, California, that seemed capable of substituting arsenic for phosphorus in their metabolism.

Implications of the Shadow Biosphere

If the shadow biosphere theory is true, the implications are staggering. It would force us to rethink our fundamental assumptions about biology, evolution, and the origins of life. We would have to broaden our definition of what it means to be "alive." Could life have arisen in two separate ways on Earth—one carbon-based and the other something entirely different? Did the rise of carbon-based life drive other forms of life into the shadows, or have they always been there, coexisting quietly beside us?

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A finding of shadow life on Earth would open a whole new chapter in the story of life on our planet and, potentially, in the search for life elsewhere in the universe.

A New Era of Exploration

The shadow biosphere is not a pursuit for alien life, but rather an expansion of the conception of life itself. While delving into the profound depths of Earth and space, this thought that we may share our planet with unknown entities compels us to consider living organisms in a different light.

In such a confusing world, full of infinite questions, the shadow biosphere hypothesis does encourage a worthwhile continuing search even in the areas one would normally regard as almost hopeless. After all, what if the alien life we have sought is here all along, hiding in plain sight?

Conclusion

The notion of alien life possibly hiding in a shadowy corner of Earth is exciting and revolutionary. Though the evidence for a shadow biosphere is speculative, the reality that life can exist in such diverse and extreme environments on Earth makes this possibility seem somewhat more plausible. Science continues to advance; who knows what further discoveries may be ours in the years ahead? Perhaps the quest for extraterrestrial life itself has brought us to an important finding, right under our noses.



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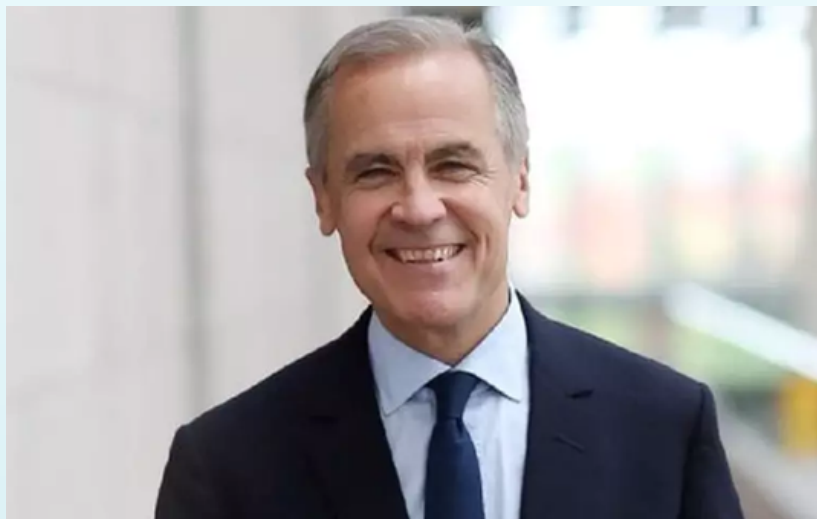
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A CANADIAN CRISIS

Mercy Olanrewaju

Justin Trudeau, leader of the Liberal Party of Canada and the Prime Minister of Canada has tendered his resignation on the 6th of January 2025. This is a result of pressure from his fellow Members of Parliament as well as external political circumstances. Yet, why did he resign and what does the future hold for Canada?

Justin Trudeau is the 23rd Canadian prime minister and has held this position since 2015. However, he recently lost the confidence of both his own MPs and the Canadian people. This is a result of the recent economic and social downturn in the country; there has been low productivity as well as a 9.1 percent unemployment rate during the pandemic compared to the previous rate of 6.9%. There is also a housing crisis, as the country's housing market is considered one of the most unaffordable in the world. The incoming president of the United States, Donald J. Trump has also commented on the country, making suggestions that the country become "the 51st state" and has threatened to impose lots of tariffs on the country.



The two most prominent candidates to replace Trudeau are Chrystia Freeland and Mark Carney. Chrystia Freeland was Canada's former finance minister and a notable member of the outgoing Prime Minister's team. She was deputy prime minister from 2019 until she criticized Trudeau and unexpectedly resigned in December 2024. She had various roles under Trudeau and is certainly an experienced politician. Mark Carney, a former banker, has served as Trudeau's special economics advisor. Although he has never held a public office before, he was Governor of the Bank of Canada between 2008 and 2013 and the Governor of the Bank of England (the first non-British person to take on this job) between 2013 and 2020. He says: "I've helped manage multiple crises, and I've helped save two economies," and has branded himself as a beacon of financial knowledge.

Both candidates are generally apprehensive of the new US president, with Carney stating in his speech that he would "stand up for Canada against Donald Trump", and Freeland claiming "Trump doesn't like me."

There are also four other candidates running for the position. One candidate is Liberal House leader Karina Gould, who was first elected in 2015, has had several roles in Trudeau's cabinet, and was the youngest woman to serve as a minister in Canada. There is also MP Chandra Arya, who was elected in 2015 and is a backbench member of parliament. Thirdly, MP Jaime Battiste, who is a Mi'kman member of parliament, was elected in 2019 and is running for prime minister as well. Being an indigenous politician, he received a lot of support from indigenous leaders and others to run for the position. Lastly, a businessman Frank Baylis, who served as a Liberal member of parliament between 2015 and 2019 is running for the position too.

Party members will vote for the new leader of the Liberal Party and therefore the new Prime Minister of Canada, on March 9. Although the party is the largest in parliament (153 seats out of 443), the House of Commons, the lower house of the Parliament of Canada, return on 24 March and are expected to hold a vote of no confidence, which will probably cause an election. To conclude, Canada's political and economic future depends on the upcoming leadership race and the hopes that the elected leader can avoid a vote of no confidence.

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BREAKING BARRIERS: FINDING BELONGING IN ELITE UNIVERSITIES

Zak Adams



Zak Adams, a third-year student at Harvard, traces his own story through university applications and debunks common misconceptions regarding belonging at top universities.

When I give a talk to students, I make them guess the outcome of an example case. We give them the following: low-income household, does not go to private school, and lives in an area of low progression to higher education. The outcome often guessed is that university is not an option.

That background was mine.

Students think my background does not fit university criteria. It may sound correct, but this kind of reasoning comes from emotion, or self-doubt. We ought to change this.

In 2010, the Sutton Trust released a statement that private school students were 55 times more likely to win a place at Oxbridge and 22 times more likely to go to a top-ranked university compared to students on Free School Meals. The image was bleak. I saw those statistics as someone who ticked numerous widening participation boxes, unsure of what would be possible for someone like me. Self-doubt is the silent killer of university dreams. Talent across the world is held back by the perception that someone like them should not be at an elite university. Yet, within this harrowing picture, there is light. Access to university may not be “fair,” but it is definitely not impossible.

This article addresses common thoughts that often hold students from under-resourced backgrounds back from applying to top universities. Most are myths and can be busted relatively quickly. Others come from mindset; a glass half full versus a glass half empty mindset can change your outlook entirely. I hope this piece allows you to overcome the hurdles that college access brings.

Students think my background does not fit university criteria. It may sound correct, but this kind of reasoning comes from emotion, or self-doubt. We ought to change this.

School Type

Similar exam results between schools does not equate to progression rates to top universities.

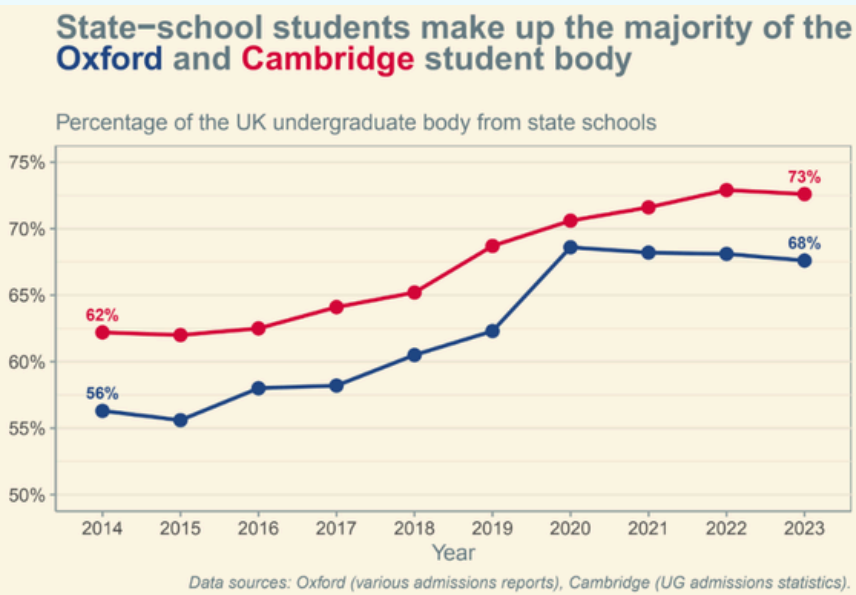
Within the top fifth of schools by exam results, almost a quarter of independent school students will apply to Oxbridge, as opposed to just over 1 in 10 at a comprehensive school (Sutton Trust, 2018).

There is a clear difference in university intention. Part of this, based on my experience and those who I have mentored, comes from belonging. It was not until my penultimate year of school before university where I finally knew someone who went to Oxbridge. Acceptance was rare; I did not fancy my chances. This all stemmed down to an experience I shared with many of my mentees, we never thought we belonged there. Google changed that. One quick search paints a promising picture, the University of Oxford and the University of Cambridge have an intake predominantly from comprehensive schools. While students from my background were less likely to apply, with belonging often a barrier we perceived too strong to overcome, Oxbridge had a school system built on people who were shaped by experiences like mine.

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I recognise approximately 93% of UK students are from state schools, and the data above may paint a discouraging picture. But consider this: you will be among a substantial community of students just like yourself. Your academic experiences are common, and a traditional path to any school you wish. Of course, 93% of students in the UK attend state school, and thus are underrepresented at Oxbridge, but there are still benefits to the above. In the search for whether you belong, I hope the answer is a yes. Oxford and Cambridge communities are built by students like you.



Funding

My story so far enabled me to apply to Oxford, but when applying to the US, larger challenges arose. My concern of private education was trumped by the costs of tuition. Ivy League schools have yearly costs in excess of \$80,000.

For context, the sticker price of staying home and attending a UK university was £9,250 in tuition, and around £1,100 a month in living expenses. A far cry from the sticker price costs of the US. But, what may not have been advertised to all was the use of financial aid. Fees that start at around \$80,000 could drop to \$0 in an instant. A quarter of Harvard families have everything covered through aid. Harvard felt instantaneously affordable. For international students, there are nine needs-blind institutions who do not factor finances into their admissions decisions. If you are accepted, they ensure a competitive and affordable financial aid package. Such universities are: Amherst, Bowdoin, Brown, Dartmouth, Georgetown, Harvard, MIT, University of Notre Dame, Washington and Lee University, and Yale.

Financial aid is a commonly used tool to ensure opportunity can match talent.

Now, while not all the above schools may be needs-blind, they do have the funds to support you. Needs-based programmes can reduce costs far below the initial price tag. It can be more affordable than you expect. For those worried about applying to the US, remember the three A's: accessible, affordable, attainable. Who knows, you could make the US your cheapest destination.

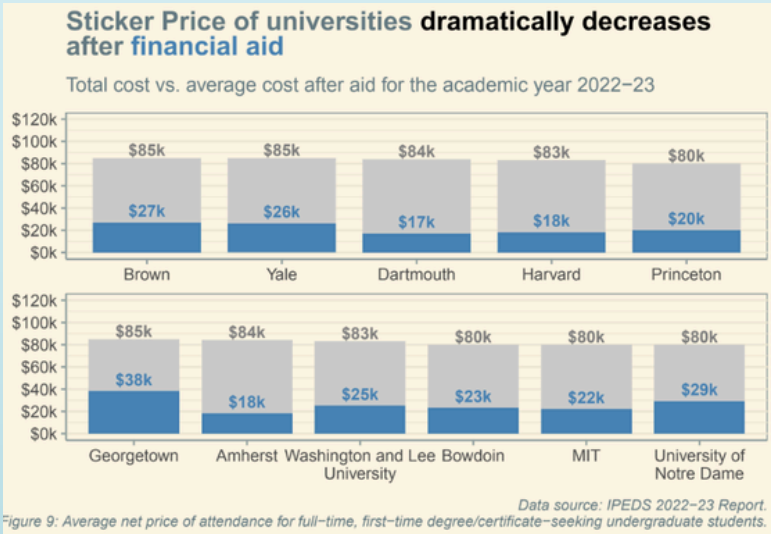
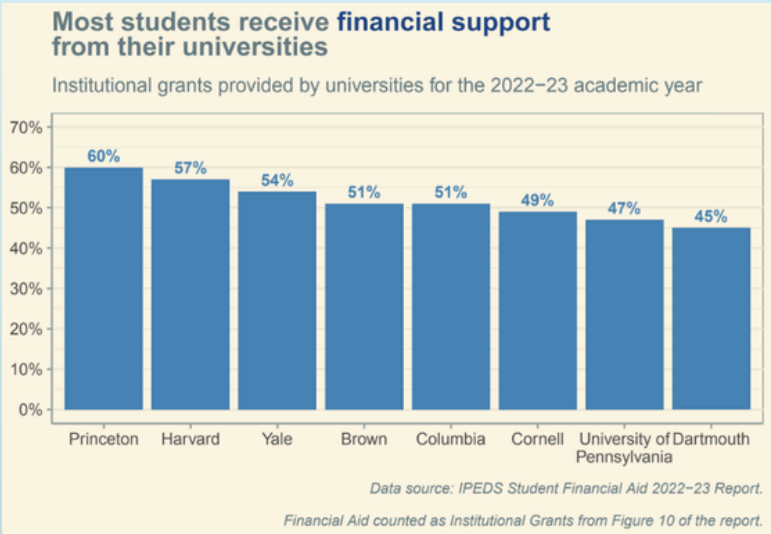


Figure 9: Average net price of attendance for full-time, first-time degree/certificate-seeking undergraduate students.



Financial Aid counted as Institutional Grants from Figure 10 of the report.

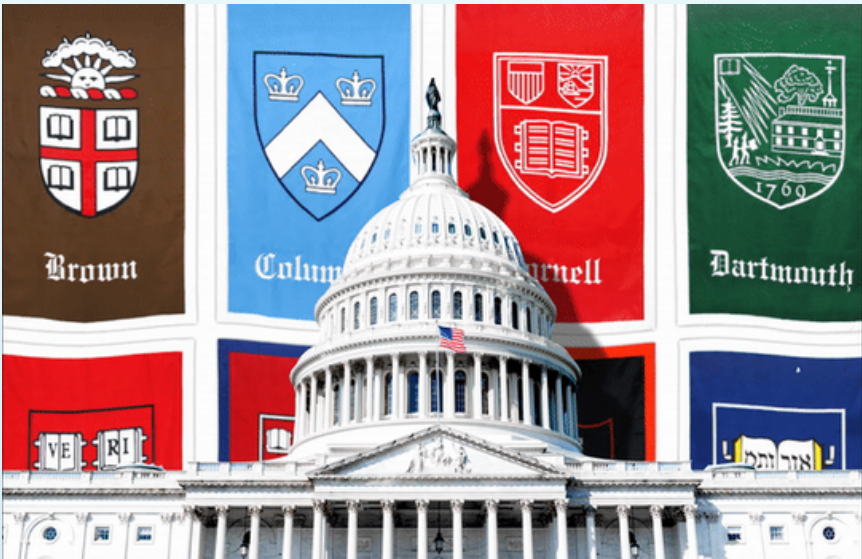
Generous financial aid packages exist all around. For many families earning around \$100,000 or less, the costs of these schools may be fully covered. This process is common: do not feel as if requiring aid is some handout. At Harvard, 55% of students receive scholarships. To be precise, such scholarships are needs-based, not merit.

BREAKING BARRIERS: FINDING BELONGING IN ELITE UNIVERSITIES

Zak Adams

Mentoring

While data matters, sometimes the best guidance comes from those who have been where you are. I cannot say how I gained admission to Harvard, but I can share the experiences that motivated me to aim high and apply. For that reason, I mentor. Relatability is a powerful tool, numerous organisations have enhanced student outcomes through connecting students to mentors who share a similar story.



A mentor can help remind you that you do belong. Their experiences can help you bypass rumours and misconceptions, letting you tackle your application with confidence.

Unfortunately, almost two-fifths of UK students deal with imposter syndrome (The University of Law, 2022).

If you're accepted, never doubt whether you deserved your place. Of course, this is easier said than done, but realise admissions officers examine thousands of applications. They would not send an offer if they were not certain of your potential. Please find resources to support you, whether this be friends, staff, or external organisations.

Conclusion

Elite universities are more accessible and affordable than you may think. Seek out reliable data and meaningful communities to guide your way. Dispel the myths, find guidance, and once you get in, know you are exactly where you are meant to be.

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THE DIFFERENCE BETWEEN SHARES AND STOCKS

Vedika Jain

While shares and stocks both relate to ownership in a company, their differences in specificity and usage are important to grasp. Shares are tied to a specific company and come with unique rights and responsibilities, while stocks offer a broader, more general perspective on equity investments. Being aware of these distinctions helps investors better navigate the financial world and communicate more effectively about their holdings. Whether you're a novice investor or a seasoned trader, understanding these terms ensures clarity and precision in your investment journey.

Shares: Ownership in a Specific Company

A share generally refers to an equity owned in a specific company. The number of shares generally defines the percentage ownership of a company. Shares is a very specific term that refers to the smallest unit of ownership in a specific company. When an individual buys shares of a company, they essentially acquire a portion of that company's equity. For example, if a company issues one million shares and you own 10,000 of them, you own 1% of the company. Shares can be further classified into different categories, such as common shares, preferred shares, or even equity shares depending on their rights and privileges.

TWZ	S	3,500	8.15	▲	TISCO	B	600	105.00	→
TWZ	S	150,000	0.08	↔	TISCO	B	1,300	105.00	→
5500P2001A	B	500,000	0.61	▼	SAWA16C2001A	B	20,000	0.70	↔
LMSC	B	200	19.00	↔	EA	B	100	38.75	→
TIG	S	1,900	4.80	↔	STA	S	45,300	10.00	→
TIG	S	1,200	4.80	↔	STA	S	1,000	10.00	→
TIG	S	6,900	4.80	↔	STA	S	2,700	10.00	→
KBANK-F	B	400	138.50	▼	PTTGC	S	100	58.50	→
KBANK-F	B	100	138.50	▼	550H20P1100	S	1	36.6	→
KBANK-F	B	100	138.50	▼	ITD	B	97,500	1.60	→
KBANK-F	B	2,500	138.50	▼	ITD	B	1,000	1.60	→
KBANK-F	B	100	138.50	▼	ITD	B	1,000	1.60	→
KBANK-F	B	200	138.50	▼	ITD	B	38,500	1.60	→
					ITD	B	49,200	1.60	→

Ownership of shares often comes with specific rights, such as the ability to vote on company decisions at shareholder meetings or to receive dividends, which are payments made from the company's profits. Shares are also tied directly to the performance of the individual company; their value rises and falls depending on the company's financial health, market conditions, and investor sentiment. For instance, owning shares in a rapidly growing company may yield significant capital gains if the company outperforms expectations.



Characteristics of Shares

- Ownership in a specific company: A share is the smallest unit of ownership in a particular company. When you buy shares, you essentially own a fraction of the company.
- Denomination: Shares represent a specific portion of the company's equity and are often issued in a fixed denomination. For instance, a company might issue 1,000 shares, and owning 100 of those would mean you own 10% of the company.
- Dividends: Dividends are often paid to the shareholders on a quarterly/monthly basis depending upon the company.
- Price Volatility: The price of the stocks continually fluctuates depending upon the market conditions.

Common Shares vs. Preference Shares

What are common shares? When we buy a common share we are actually buying a portion of the company. Although, a common shareholder does not have any voting rights in the decisions taken by the company. The price of common shares fluctuates and can increase or decrease depending on the market's scenario. Common shares have easy liquidity, meaning that they can be bought or sold off relatively easily.

THE DIFFERENCE BETWEEN SHARES AND STOCKS

Vedika Jain

While shares and stocks both relate to ownership in a company, their differences in specificity and usage are important to grasp. Shares are tied to a specific company and come with unique rights and responsibilities, while stocks offer a broader, more general perspective on equity investments. Being aware of these distinctions helps investors better navigate the financial world and communicate more effectively about their holdings. Whether you're a novice investor or a seasoned trader, understanding these terms ensures clarity and precision in your investment journey.

Common shares and preference shares represent two different forms of equity ownership in a company, each with unique characteristics, rights, and privileges.

- **Ownership Rights:** Common shareholders are considered the true owners of the company and usually have voting rights, which allow them to participate in key company decisions during shareholder meetings.
- **Dividends:** Dividends are paid to common shareholders only after preference shareholders are compensated. Dividend payments are not guaranteed and depend on the company's profitability.
- **Risk and Return:** Common shares carry higher risk but offer higher potential returns through capital appreciation if the company performs well.
- **Liquidation:** In the event of liquidation, common shareholders are the last to be compensated after creditors and preference shareholders.



What are preference shares?

Preference shares are usually given more priority than the common shares. Preference share stockholders are always first in the line in case of company's liquidation. They provide higher security than common shares due to priority in dividends and liquidation, but they come with less potential for growth and typically do not offer voting rights.

- **Fixed Dividends:** Preference shareholders are entitled to a fixed dividend, often making them more stable compared to common shares.
- **Priority:** They receive dividends and repayment of capital before common shareholders.
- **Limited Voting Rights:** Typically, preference shareholders do not have voting rights unless specified.

Overall, preference shares should be preferred by the investor. Although their price/value has less potential to increase, the investor should definitely invest in preference shares as it provides a higher security than common shares due to priority in dividends and liquidation.

Stocks: A Broader Term for Equity Ownership

Stocks is a broader term for ownership. It means a collective ownership of stakes in multiple companies. When someone says "I own stocks", it generally means the portfolio ownership of an individual. It does not specify how much equity one owns in a specific company.

Feature	Stocks	Shares
Definition	General term for ownership in a company or companies	A specific unit of ownership in a company
Scope	Broad, can refer to any companies' stock	Specific to one company's equity
Usage	"I invest in stocks."	"I own 100 shares of ABC Corp."
Quantity	Often non-specific (overall value)	Refers to a countable number (units of a specific company's stock)
Example	"I bought stocks in tech companies."	"I have 500 shares of Reliance."
Denomination	No Denomination used	Specific denomination used like above

The term does not specify any particular company and is often used to describe a person's overall equity investments. The term "stocks" is commonly used in a broad sense to discuss equity markets and trends. It is a collective term that may encompass shares from different companies and industries. For instance, an individual may hold stocks in a mix of technology, healthcare, and financial services companies, each comprising shares of individual organizations within these sectors.

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FEMINISM IN AFRICA: OLUFUNMILAYO RANSOME KUTI

Oshiokenoya Imuekemhe

The Rise of Feminism in Africa: A Struggle for Equality

For many years, women in Africa have been relegated to secondary roles in both social matters and family affairs. However, in recent times, the feminist movement has gained significant momentum across the continent, influenced by global trends and the experiences of women who have been exposed to Western ideals or have lived abroad.

In countries such as Nigeria, Ghana, and Uganda, women from diverse professions, ethnic backgrounds, and social classes have emerged as leaders, advocating for gender equality and fighting against systemic oppression. These women are at the forefront of movements to address the deep-rooted challenges that have historically marginalized them.



“How beautiful would it be if our women could have the same opportunity as men”

One notable figure in this struggle is Olufunmilayo Ransome-Kuti (1900-1978), a pioneering Nigerian activist born in Abeokuta. To many who do not know her story, you might only know her as the first woman in Nigeria to drive a car or the mother of the famous afro beats singer Fela Anikulapo Kuti, but her story goes far beyond that. She was a revolutionary, a fighter and a woman who stood up for the women in her hometown of Abeokuta. She is fondly called “lioness of Lisabi”(a prominent fighter from Egba land who fought a war to liberate his people from the Oyo empire).

She attended Abeokuta Grammar School, becoming the first girl to attend it, a feat that pushed other girls to enroll after her. There she met Rev Israel Ransome Kuti, whom she later married. She helped teach the children of the Abeokuta market women, promoting the spread of education. After finishing her secondary education, she moved to England in 1919 and attended the Wincham Hall School for Girls in Cheshire, where she was taught subjects such as French, elocution, music, and dress making.



The Fight

In 1946, she formed the Abeokuta's Ladies Club, which was later changed to the Abeokuta Women's Union (AWU). She spearheaded the protest for the removal of high hardened taxes that were imposed on the market women by the Alake (The King of Egba) and colonial government. One of the major taxes that she fought against was the income tax imposed on women from the early age of 15, while their male counterparts only started paying once they turned 18. The protest lasted for several days, with the women laying siege on the palace of the Alake, Oba Ademola II. Due to the intensity of the protest, the Alake was forced to abdicate his throne and the taxes were stopped. This was a significant victory for women in Africa as their voices were heard, making them finally able to participate and make decisions that concerned them. She and four other women were later appointed to the newly reconstituted native council by the colonial administration. In 1959, as the president of the Nigerian women societies, she met with the governor general to press for women in the north to secure their voting rights, which they finally got in 1976.

FEMINISM IN AFRICA: OLUFUNMILAYO RANSOME KUTI

Oshiokenoya Imuekemhe

Political Activities

She was a founding member of the National Council of Nigerians and Cameroons (NCNC). She ran for the regional assembly in 1951 but was unsuccessful, majorly due in part to a special tax requirement that disqualified most of her supporters, who were mostly women, from participating. She tried contesting a second time but was unsuccessful due to political opposition within the NCNC. This led her to form her own party, The Commoners Party, through which she ran for a seat in the Federal House of Representatives. Although she didn't win the election, she was able to secure a large number of votes, which was a very huge feat.

She was the only woman in the seven person delegation that travelled to Britain in 1947 to meet the Secretary of State, Sir Arthur Creech Jones. The purpose of the visit was to discuss the limitations on the 1946 Richards constitution.



Her Legacy

In her lifetime she met with the likes of Kwame Nkrumah, Julius Nyerere, and Mao Zedong. In 1971, she was awarded with the Lenin Peace Prize for her efforts in strengthening ties between Nigeria and The Soviet Union. She passed away on April 13, 1978, due to complications from a fall she had during the invasion of the Kalakuta Republic on February 18, 1977. It was stormed by about 1,000 soldiers and she was 76 at the time of the raid. She is remembered for her role in standing up for the Abeokuta women. She was an educator, political campaigner, suffragette, women's rights activist, and humanitarian. Her story is inspirational to many women in Nigeria and across the continent of Africa.

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THE ARCHITECTS OF GEN-Z: HOW THE GENERATION IS RESHAPING INTERIOR DESIGN

Mahathi Sathish



Actively altering the global patterns of consumption, Gen-Z has not only learnt to shape-shift the crux of visual media but has also had a considerable impact on the way living spaces are being designed. Particularly post-pandemic, with more of the workforce encompassing a Gen-Z base and more organisations opting for predominantly hybrid settings, a particular emphasis is seen on multi-utility spaces that double from being productivity hubs to brain-rot arenas, all within seconds. One must feel both stimulated to work and inclined to kick their feet up and relax within metres of each other, putting the designers to the biggest of tests and promising spaces that encapsulate the twenty-first century into livable scales.

The world of architecture, therefore, is currently subject to continuous and fluctuating demand from a generation that wants chic design and aesthetic appeal alongside spatial convenience. Furthermore, having grown up at the hub of digitisation, a fervent need is placed on ensuring security—a feature most Gen-Z clients fail to compromise on. Interior spaces should not only house an office and a home, but should also provide electrifying comfort—promising to keep the unwanted out. This forces architects to up their game from a security perspective and come up with designs that diminish privacy concerns whilst ensuring maximum satisfaction.

Additionally, another peculiar feature of this generation is how acutely aware they are of environmental concerns. Gen-Z, as reported by various architectural firms, place an undeniable influence on sustainable material usage—much more than any other clientele—making them more likely to question the material's sources and wonder about their overall carbon contributions.

This means that a sense of pragmatic minimalism is key whilst designing for Gen-Z, who have placed their beliefs in maximising the space available to them with a clear and classy appeal. There is a fervent rejection of chunky, large, space-taking interiors popular with Gen-X and Millennial clients and a deference towards neutral colour palettes and unobtrusive stylings. Rooms, no matter the size, must fit multiple occupations and must also be technologically pairable to the latest smart home systems—providing convenience and proactive monitoring, all within their fingertips.

Unlike other generations, designing for Gen-Z primarily begs the need for one to quickly think on their feet and make more meaning from the same space.



Prioritising quality over quantity, the generation is actively moving towards a new era of architecture that focuses more on user comfort over social satisfaction and breaking down the status quo, one minimalistic working space at a time.

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IS STREAMING EDUCATION REALLY EFFECTIVE?

Teu-Khanh Phuong

Streaming is an educational practice in which students are grouped into different classes based on their perceived ability levels in certain subjects. Countries such as New Zealand, the Netherlands, France, and the UK have been applying the streaming system for years.

Streaming, in education, first began in the 1980s to assist students in their learning journeys so that they could develop their strengths and improve on their weaknesses. According to the Ministry of Education in Singapore, the main reason for streaming students in secondary schools was that a huge number of students were dropping out in the 1970s. Since then, drop-out rates have reduced dramatically by 30 to 40 percent.



Singapore is considered to provide one of the best educational systems in the world. Singaporean students have consistently performed well on the international stage. Singapore's education system is often known for several factors, such as high academic standards, a flexible learning environment, and a bilingual policy.

Historically, Singapore's education system used to be a streaming system, but it was replaced by a subject-based banding system starting in 2018. For more than 30 years, Singapore's school system has been based on measuring students' performances and capabilities and placing them into three different courses called Express, Normal (Academic), and Normal (Technical). It was not until 2024 that the MOE (Ministry of Education) decided to expand their SBB (subject-based banding) to FSBB (full subject-based banding). FSBB replaced streaming by creating mixed classes of students with different aptitudes, allowing them to widen their social circle and meet a more diverse group of friends. Students under the FSBB will enjoy more flexibility when it comes to selecting subjects at different levels that suit their needs and abilities. Besides, students still take common subjects in mixed-form classes where they can interact with peers of various strengths and interests.

Singapore is just one of many countries that have abolished streaming in education. New Zealand has also launched a plan to end streaming in schools by 2030; this plan is called Kōkirihiā.



The plan was launched in March 2023 by the Māori Futures Collective, "designed to raise awareness, showcase alternatives, and outline actions key education agencies had committed to, to ensure streaming was abolished from schools by 2030," according to Stuff, an online publication. Their focus is to bring equity, better learning outcomes, better class choices, and more opportunities for all students to succeed, particularly the Māori group. This raises critical questions, such as whether streaming education is effective within the school system and whether it will help students enhance their learning performances.

1. The case of mixed-ability classes

Mixed-ability classes are quite common worldwide. This includes grouping students of varying learning abilities and proficiencies studying under the same class to receive the same structure and resources.

A primary aspect of mixed-ability classes is that students are more likely to experience a supportive environment. Without a doubt, peers can help each other during times of crucial examinations, allowing them to discuss ideas and make decisions on specific things together. Students from more advanced levels can assist their peers who are struggling in certain subjects while gaining more confidence in their abilities and reviewing knowledge they previously learned. Therefore, it's only right to conclude that collaboration and discussion benefit students of every ability, and it is the main factor that determines a student's academic success. Regular discussion and collaboration with peers give high achievers the chance to develop critical thinking while providing low achievers opportunities to ask questions they might not feel comfortable with asking their teachers. Actively Learning pointed out a quote from Dylan William, Embedded Formative Assessment, that supports the above claim: "Hardly ever would a student interrupt a teacher for clarification or to ask the teacher to go over something a second time. And yet, when working with peers, a student would ask the peer to slow down or to go over something again and again until it was understood." Not only is it a matter of equality among students, but allowing students to discuss within diverse groups also improves their learning outcomes.

IS STREAMING EDUCATION REALLY EFFECTIVE?

Teu-Khanh Phuong



Placing students in classes based on their academic scores can significantly hinder their potential to strive for far-reaching goals. Those are goals that are ambitious and require a lot of effort to achieve. According to Actively Learning, there is a quote from Jeff Zwiers & Marie Crawford, Academic Conversations that largely proves why students in low-achieving classes are not given the same opportunities as those of upper levels:

“Often, because of test-score pressures, diverse students are placed in classes that emphasize quiet practice of isolated skills and facts. Several studies have shown that teachers tend to give students from low-income backgrounds fewer opportunities to talk about content and engage in critical-thinking activities than teachers of higher-socioeconomic students.”

There is, in fact, an omnipresent misconception when it comes to teaching classes of high levels and low levels. Higher-order thinking, also known as HOT, is a way of thinking that involves more than just rote learning or sheer memorization. It's a way of thinking that allows thinkers to analyze and manipulate information to solve problems. While higher-level classes are regularly encouraged to apply this method of thinking to their daily studying and are given more guidance in evaluating arguments or finding various solutions to a complex matter, students in lower-level classes are usually thought to be incapable of synthesizing or analyzing information and are mostly encouraged to memorize knowledge they have learned. However, in a mixed-ability class, every single student is given the same “golden opportunity” to interact and comprehend information.

1. The Positive Effects of Streaming on Education

It's vital to note that streaming students into classes that suit their needs does have several advantages. In every school, there will always be more able students and less able ones. In this specific type of class setting, which puts students into different class levels, students are more likely to motivate each other since they possess similar abilities. Secondly, studying with peers who understand each other's difficulties can help students easily learn at their own pace without fear of missing out on essential knowledge they need to acquire. Moreover, students gain confidence and motivation to improve their academic strength since no one is made to feel inferior to others in streaming classes. Advanced students can improve further, while low-level students have more time and guidance to work on their weaknesses.

Overall, there is no clear answer as to whether a school should apply the method of streaming or not. The Singapore education system is a great example of allowing students to study core subjects at the higher level they desire while still permitting them to interact with friends in common subjects classes.

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THE SOUL OF CHILDHOOD IN IRANIAN CINEMA

Bidisha Gogoi



Using children's perspectives to understand the social, political, and cultural issues of society has been a trademark of Iranian cinema. With children's innocence at the helm, the industry has managed to create profound pieces of cinematic art. Using a child's perspective allows filmmakers to tackle more sensitive themes that are often difficult to delve into.

The Iranian filmmakers' handling of children's stories post the 1979 Islamic revolution marked a shift from what the nation's film industry had been prior. There were strict censorship laws during this era which forbade filmmakers from showing adult relationships alongside social critiques which was a common theme before. As a means to circumnavigate these barriers, filmmakers began creating stories based on children as these would not anger the authorities while still providing a semblance of societal critique. Children, who epitomize innocence and purity, served as the perfect canvas in the portrayal of oppression, poverty, and determination. The perspective of the children provided the filmmakers a chance to broach societal issues while garnering empathy and contemplation from the viewers.

"Bashu, the Little Stranger" by Bahram Beizai is considered one of the most influential films in the genre. The story revolves around a southern Iranian child, Bashu, who is separated from his parents during the Iran-Iraq war and later seeks refuge in a northern village. Despite the evident differences in culture and language, the film delves into the challenges faced by a war orphan, enabling all to relate to the themes of integration and perseverance.

Another notable film is "Children of Heaven" by Majid Majidi, which won an award in 1997. Ali, a poor nine-year-old boy, loses a pair of shoes that belonged to his sister, and to avoid worrying their parents, he teams up with his siblings to keep the secret under wraps. The movie captivates the audience without inducing any form of pessimism or idealism. Children of Heaven does an exceptional job of immersing the viewer in a warm, positive world. Its narrative, rich emotions, and sense of realism earned it an Academy Award Nomination and put Iranian cinema on the world stage.

In "The Color of Paradise" (1999), a child-centered Majidi film, the protagonist Mohammad is a blind boy spending the holidays at his home. He is able to use his remaining senses to navigate and filter in the surrounding world. The film engages with the themes of beauty beyond physical sight, disabilities, and family acceptance. After "Children of Heaven", Majidi continued his exploration of children-themed films.

In contemporary periods, Iranian cinema is still transforming such as in the case of Mohammad Rasoulof who worked on "The Seed of The Sacred Fig" (2024). In this film, the daughters of a family get involved with political protests, showcasing the rampant activism within younger generations in Iran. Even in the face of repression, artists continue to create. The story being told explores the level of freedom available around making a piece of art and "The Seed of The Sacred Fig" is another hard example of how much struggle Iranian artists still endure.

The depiction of children in Iranian cinema constitutes a very potent narrative device in articulating impactful, complex thoughts under the guise of simplicity. These films tell us many things that shun children but rather mirror society, compelling people to reflect on and talk about the world and its problems. Iranian cinema has been delivering profound messages of hope, tenacity, and spirit, to only mention a few, through the innocent eyes of children.

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INFERNO IN LA: THE EFFECT, DESTRUCTION AND IMPACT OF THE LA WILDFIRES

Sharvanth Saravanan



Wildfires are one of nature's most destructive forces, creating damage on a massive scale. They don't just burn trees and wildlife—they lead to displacement, destroy homes, and leave entire neighbourhoods in chaos. As cities expand, these fires have become more than just a natural disaster—they're a growing problem for people trying to live their everyday lives.



Wildfires are not uncommon; they occur frequently in dense forests. Yet, they can be highly destructive. Not only have they led to the destruction of the natural habitat of several wildlife species, but they can also have adverse effects on humans if these wildfires spread to forests near neighborhoods.

Such a wildfire incident is currently ongoing in Los Angeles, a major city in the United States, which has led to the displacement and loss of property for many people living there. It has also caused deaths related to fire-related accidents and the destruction of homes.

The Eaton Fire has affected the northern part of LA. The Eaton is the second biggest fire in the area, after Palisades, having covered over 14,000 acres of land.

The Palisades fire is said to have erupted in the early morning of January 7 as a small brush fire.

This fire soon evolved into a blaze, engulfing and damaging more than 23,713 acres of land, as stated by the California Department of Forestry and Fire Protection.

It has covered the largest part of Los Angeles, affecting many families.

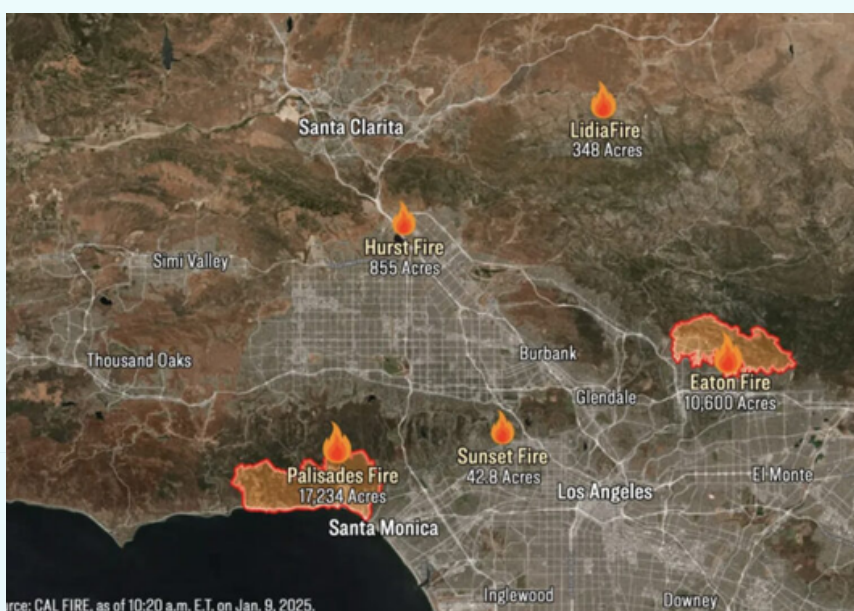
Such an event is disastrous in many ways. Mass displacement and loss of property have severely affected people living in the Los Angeles area. Powerful winds, especially in dry conditions, create a suitable environment for fires to spread. These powerful winds create sparks by rustling against trees, which spreads, creating wildfires that bring about mass destruction.

The Palisades fire, along with three other fire regions—the Eaton Fire, the Hurst Fire, and the Auto Fire—have led to large-scale destruction in different parts of Los Angeles. The combined action of the four fire regions has engulfed a major part of the Los Angeles city area.



INFERNO IN LA: THE EFFECT, DESTRUCTION AND IMPACT OF THE LA WILDFIRES

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The Eaton Fire has affected the northern part of LA. The Eaton is the second biggest fire in the area, after Palisades, having covered over 14,000 acres of land.

The Hurst Fire began on January 7, affecting regions north of San Fernando. Having covered 800 acres of land, firefighters have managed to keep this region contained.

The Auto Fire, the smallest of the blazes, is said to have begun on January 6, spanning a total of 56 acres, as stated by Ventura County officials.

When the fire reached urban neighborhoods, people were put on high alert.

Firefighters were deployed, helping over 200,000 people evacuate. In the following days, an additional 88,000 people were evacuated, followed by another 84,800 from fire-prone zones.

This left many people homeless; however, the government has taken necessary steps to accommodate such victims.

Whole blocks and neighborhoods were destroyed by the fire. The firefighters worked long and hard, yet the growing blaze could not be stopped. Some fire engines ran out of water before they could stop the fire in their area. Others could not control the growing strength of the blazing fire. Helicopters spraying water and the deployment of more fire engines have eased the situation, yet the wildfires have not been fully controlled.

Researchers and scientists show that climate change played a huge role in the creation of these wildfires. Though strong winds and lack of rain have contributed to the wildfires, researchers argue that climate change is the root cause of such effects. Drastic climate change significantly increases the risk of more wildfires, as stated by a few reports.



The wildfires raging through Los Angeles have left a trail of destruction, displacing thousands and reducing major neighborhoods to ashes. Despite the tireless efforts of firefighters and emergency responders, the blaze has yet not been controlled. With climate change playing such a crucial role in these disasters, addressing the root causes has become more urgent than ever to prevent future tragedies of this massive scale.

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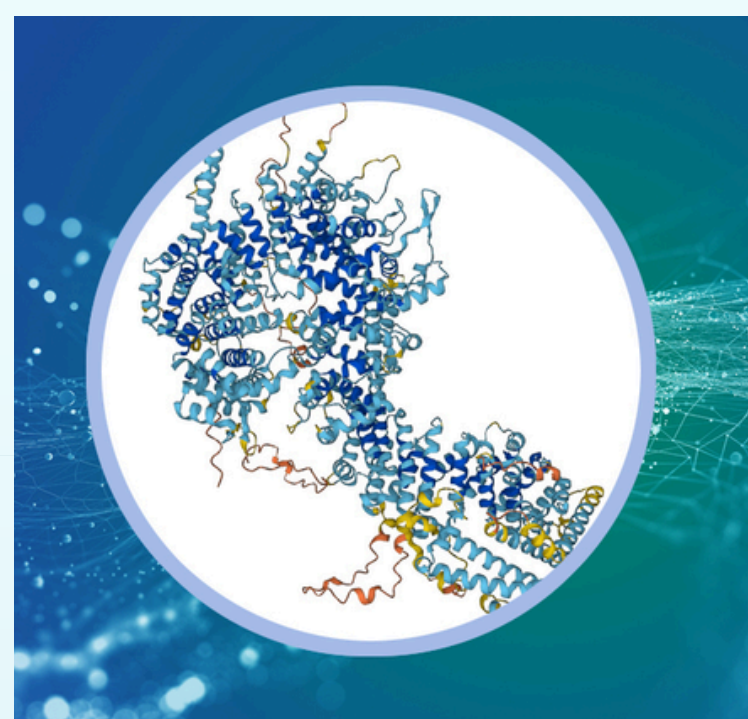
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INTEGRATION OF ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING IN DIAGNOSTICS AND TREATMENT

Lithesha Elangesan

AI and machine learning, which are capable of performing numerous tasks normally requiring human intelligence, have transformed drastically from being developed first in 1951 as a checkers-playing program to now developing powerful diagnostic tools and personalized management plans. With ChatGPT having passed the USMLE (United States Medical Licensing Examination), greater awareness has been raised amongst the healthcare sector and the public on the potential applications of AI in the clinical setting. Through leveraging such sophisticated technology, menial tasks can be automated while physicians devote more time to their soft skills and ensuring patient well-being, improving the quality of patient care.

Currently, AI and machine learning are commonly used in diagnostics, data analysis and precision medicine though they also show potential in enhancing patient triaging and cancer detection. Making headlines all across the news, including in the Hindustan Times and several other platforms, Mirai was developed in 2020 by Professor Regina Barzilay, faculty lead for AI based at MIT, and it was found to predict a person's breast cancer risk 5 years in advance. Additionally, it is capable of detecting subtle abnormalities during screening and mammograms that even professional radiologists may not have identified or could have overlooked.



Some of the commendable benefits of Mirai include the increased efficiency of radiologists interpreting the scans and the reduction of human bias impacts. In addition, it reduces the chance of any misinterpretations and thus lowers the chances of a person having to come in for an additional biopsy. This AI model has improved the delivery of personalized treatment approaches as it can accurately identify biomarkers, including the ER, PR and HER2 receptors, which may be crucial for determining an appropriate treatment and diagnosis tailored to the patient. Several other forms of AI, including Google's "AlphaFold" have been fundamental in the development of novel, innovative drugs as it can rapidly decode several proteins' 3D structures within months, which can accelerate the process of drug development, resulting in possible future improvements of patient outcomes.

Machine learning has ameliorated the care delivered to patients significantly through the use of electronic health records and ML algorithms. ML algorithms can assess a person's risk of disease through analysis of CT and X-ray scans while electronic health record systems with AI can provide valuable insights into treatment plans and recommended prescriptions. Together, these technologies increase the efficacy and quality of care delivered to patients, providing insights that doctors may not formulate.

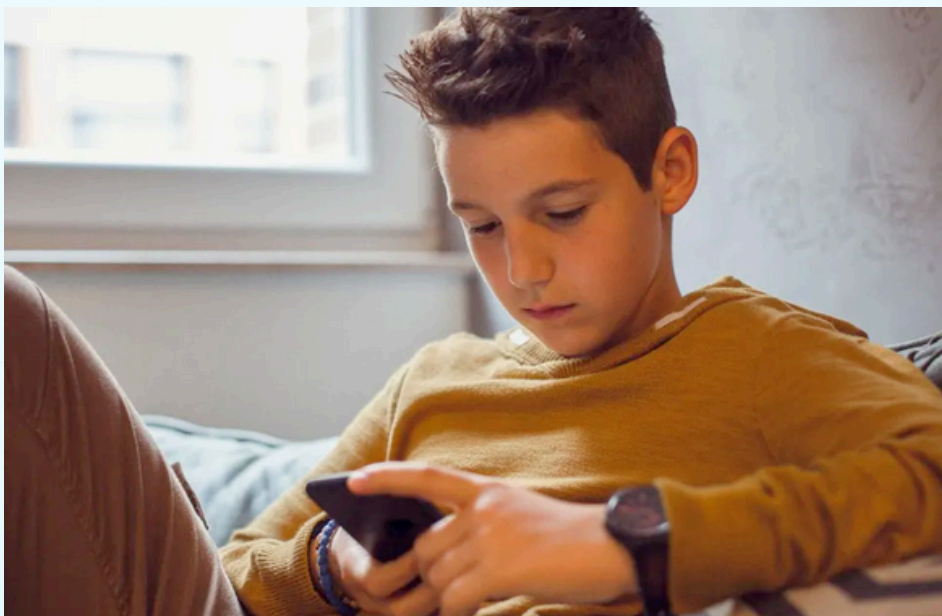
Although AI and machine learning may have proven beneficial to the healthcare sector, there are ethical concerns surrounding its use, including violations of the GDPR (General Data Protection Regulation) and its lack of vital soft skills, including empathy, communication and active listening. Ethical standards may need to be put into place pertaining to the use of AI and machine learning in clinical settings to ensure these medical technologies solely enhance and do not replace the holistic, patient-centered care delivered by healthcare professionals. This can assist in ensuring the maximum yet safest potential of AI and machine learning is harnessed in the critical journey to continually improving patient care.

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PHONES: LEARNING IN YOUR POCKET

Nguyen Tran



In recent years, smartphones have become a part of everyday life for many people—and that includes kids. Many believe that smartphones just distract kids from school, encourage bad habits, and give them too much unchecked freedom, but smartphones can actually play a big role in making a kid's life better, especially when it comes to school and even personal development.

Instead of only looking at the negatives, let's take a closer look at why smartphones can actually be super useful for children, both in learning and in life.

Let's face it, kids today are surrounded by tech. And while some people might worry about all the distractions that phones bring, they can actually make learning much easier. There are tons of apps designed specifically to make school subjects like math, science, and history feel less like school and more like something fun. For example, kids can use language learning apps like Duolingo to practice a new language at home or between classes. These apps let kids learn at their own pace—something that's not possible in the classroom when there's many kids with different levels of understanding.

Math apps also give practice problems, and there are tons of apps and websites that help kids with more creative subjects too. It's like having a tutor right there in your pocket. And the best part? It's not just about schoolwork, it's also about hobbies! Kids can explore topics they're really into, learn coding, or even dive into art and design apps to spark their creativity.

For instance, learning Chinese, English, or any language with specific apps or using online resources makes it more hands-on and accessible than just having a textbook. It helps kids practice speaking, listening, and reading skills any time, without needing a class or teacher to always be around. All you need is a phone!

Also, since kids can be on the go—whether in the car, at home, or waiting for a class to start—smartphones allow them to squeeze in some extra learning time without being tied down to a desk. So in some cases, a smartphone isn't just about entertainment, it's actually becoming a strong tool to enhance education!



PHONES: LEARNING IN YOUR POCKET

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Smartphones can also help kids stay organized in their busy, on-the-go lives. Between school, homework, activities, and just remembering to get snacks or pick up their jacket, staying on top of everything is a lot. With a smartphone, kids can set reminders, jot down notes for school projects, or use an app to manage tasks. By getting used to scheduling things for school or just day-to-day life, they're learning great skills in time management.

Plus, with messaging and email apps, kids can easily stay in touch with their teachers, classmates, and family. It's way easier than writing down a phone number or only catching up with friends after class. If they need to clarify something with a teacher or exchange ideas for a school project with friends, it can be done right away through a quick text. And that's the beauty of using phones to manage tasks in school: it helps kids communicate in real-time, keeping them updated on what's due and when.



On a bigger scale, phones can help them build collaboration and team skills by connecting them with study groups or even working on projects remotely. So it's not just about being connected for the fun part, it's also about enhancing academic performance.

Parents worry about their children's safety in situations they can't control and smartphones have a huge benefit when it comes to this. No matter where kids are—at school, with friends, or heading home after a late practice—they can quickly call their parents in case they need help.

Smartphones offer parents peace of mind, knowing their kids are just a call or text away if something goes wrong.

Additionally, location-tracking features on phones make it easy for parents to keep tabs on their children if they're out and about. It's not about controlling where they are every minute of the day, but it's about knowing that if something goes wrong, they can check to see where their kids are and respond faster. Having a smartphone also means that kids don't have to stress if they need to find help, they can easily contact a responsible adult, or just reassure their parents they're on their way home from practice.



For parents, a smartphone isn't just a luxury—it's a serious tool for keeping their child's safety in check while giving them some independence. After all, kids may need to grow their independence, but parents still want to ensure they're protected.

Another thing to consider is the role smartphones can play in helping kids understand and adapt to the digital world. Technology is currently a huge part of our personal and work lives, and today's generation will need digital skills to thrive. Learning how to manage technology responsibly is as important as learning to write a paper or calculate a math problem.

By using smartphones, kids are introduced to the world of apps, social media, and the digital space where future jobs will exist. Smartphones teach them how to manage their online presence and explore topics they might be curious about. It's like a window into the future—a future that will almost definitely involve more technology.

PHONES: LEARNING IN YOUR POCKET

Nguyen Tran



That said, smartphones also open up an opportunity for kids to practice digital responsibility. Parents can guide them through choosing apps that are educational, monitor screen time, and even engage in conversations about staying safe online. Learning to be responsible about their phone use will prepare kids for the future where they'll have to navigate digital spaces all on their own.

It's important to point out that with great power comes great responsibility! Like anything in life, if you use a smartphone too much, there can be consequences. There are concerns about screen time affecting mental health, increasing stress levels, and causing sleep disturbances—especially since screens tend to keep us engaged in late-night scrolling.

That's why it's up to both parents and kids to figure out a healthy routine. Limiting screen time, engaging in outdoor activities, and ensuring time for face-to-face interaction with family and friends can all help balance out phone use.

But when used wisely, a smartphone can definitely be a positive educational tool and doesn't need to be something kids become obsessed with.

At the end of the day, smartphones can help kids access knowledge, stay organized, remain in contact with family and friends, and ensure safety, especially when used in a balanced way. They're not just distractions or entertainment devices; when approached thoughtfully, they become essential tools that kids can learn with and grow from. The key is using them responsibly and setting rules that encourage their value for education, communication, and security.

It's clear that smartphones can serve as much more than a fun way to pass the time; they are important tools for enhancing a child's education, helping with life skills, and preparing them for the digital future.

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HOW 'BUY NOW, PAY LATER' SERVICES ARE RESHAPING CONSUMER SPENDING HABITS

Sadia Sultana

On a chilly December evening, Maya scrolled through her favorite online shopping app in search of a perfect holiday gift. That is when a designer handbag came into view—sleek, stylish, and way too expensive for the price. Just about to leave the app, a small button beneath the price tag caught her eye: "Buy Now, Pay Later." Curious, she tapped it. Four interest-free payments over six weeks? It sounded too good to be true. Within minutes, Maya had the bag in her virtual cart and en route to her doorstep, never having felt the immediate pinch in her wallet. Maya's case is not an exception. Millions of consumers worldwide are embracing a new way to shop: the "Buy Now, Pay Later" financing model.

What was once a niche service offered by a few startups has turned mainstream on e-commerce platforms.



Companies like Klarna, Afterpay, and Affirm are leading the charge, with major retailers integrating the model in hopes of attracting more buyers.

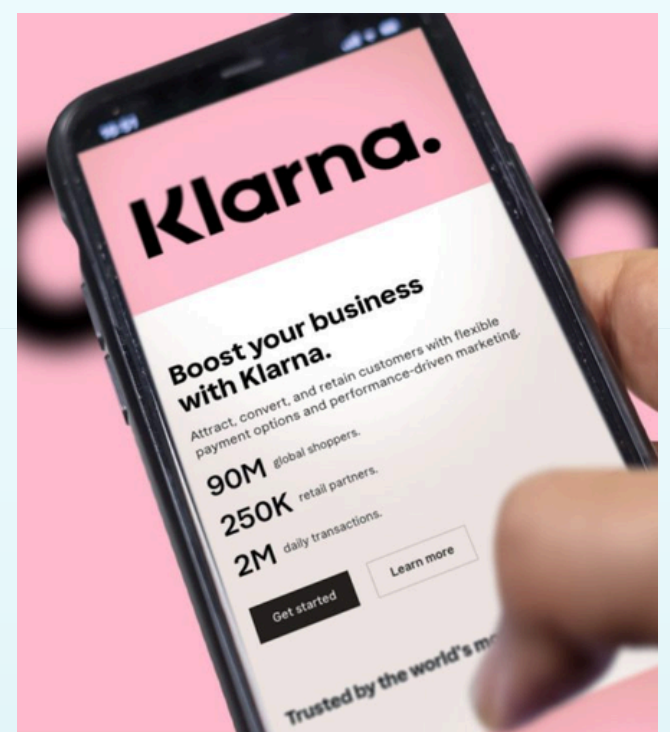
The Allure of BNPL

BNPL works because it's very straightforward. It lacks the complexity with which credit cards tend to burden you: high, sometimes variable interest rates and various fees. BNPL has fairly transparent terms: pay for your purchase in installments, usually without any extra interest, as long as the payments are on time. The model resonates particularly with younger consumers, such as Gen Z and millennials, who are wary of credit card debt but crave instant gratification.

BNPL is a blessing for retailers, with studies indicating that offering BNPL increases conversion rates and raises average order values. When the financial burden is spread out, shoppers who may have been hesitant because of cost are more likely to finalize their purchases.

The Psychological Shift in Spending

BNPL is changing the way people spend their money in fundamental ways. Large purchases once required planning, saving, or putting items on credit cards. With BNPL, the psychological barrier of upfront costs disappears. Shoppers like Maya can indulge in "affordable luxuries" without immediate financial strain.



All of that ease, of course, does come with a few cons. BNPL at the psychological level plays with the impulse of buying. While reasonable monthly installments may easily blind a customer to what they eventually pay. The snowball effect it can bring afterward may bring the struggling customers a lot of commitment and burden to keep up with every single payment.

The Hidden Costs

BNPL services are pitched as interest-free, but there is a trap here. Late fees usually result from missed payments and can add up quickly. Also, if consumers repeatedly use BNPL and do not pay back what they owe, their credit scores may be affected negatively. What seems like an easy payment for people who live paycheck to paycheck may turn out to be a debt cycle.

HOW 'BUY NOW, PAY LATER' SERVICES ARE RESHAPING CONSUMER SPENDING HABITS

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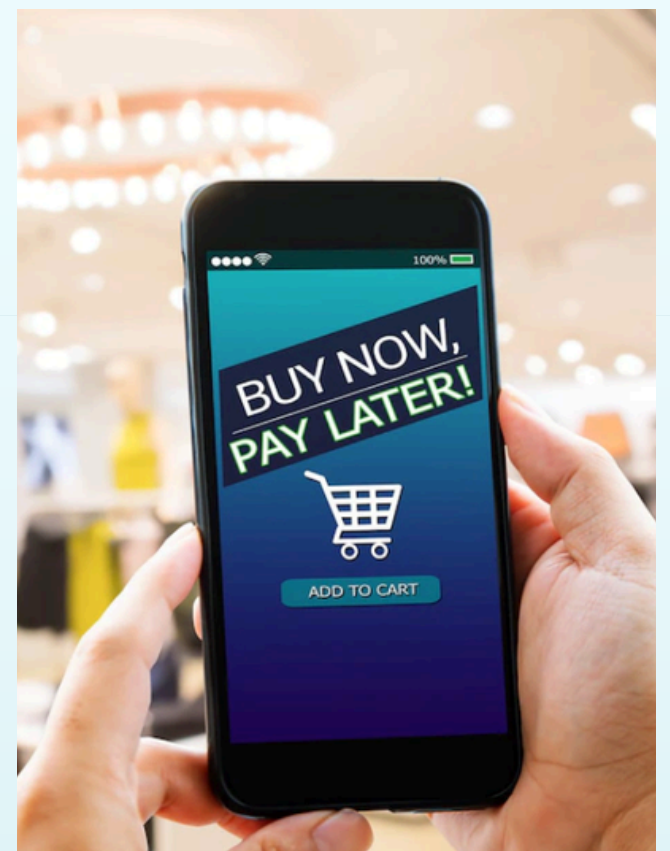
Maya learned this the hard way. A few weeks after buying the handbag, she used BNPL to buy a pair of designer boots and then a smartwatch. The payments started to stack up, and she found herself juggling multiple due dates. When she missed one payment, the late fee felt like a sharp reminder of hidden costs lurking beneath the surface.

A Balanced Approach

It's not all bad, despite its pitfalls. BNPL can be a very useful tool that opens up more expensive purchases for many. It's all about responsible usage.

Financial experts say to treat BNPL like any other form of credit: use it sparingly, read the fine print, and make sure you can hit the payment schedule.

Retailers and BNPL providers are also at fault. As the market grows, so does the pressure to ensure transparency and provide consumer protections. Many companies are taking steps to better educate users about the risks and provide tools to track their spending.



Conclusion

Maya eventually found her balance. She restricted her BNPL use to only very necessary purchases and set reminders for payment deadlines. The handbag now serves as a symbol—not just of her fashion sense but of the lessons she learned about managing her finances.

This change represents an exponential growth for the sector: evidence that technology continues to redefine our relationship with money. BNPL does bring about convenience and flexibility but, all the same, demands caution. For customers such as Maya, it's important not to get carried away by the facility of "Buy Now, Pay Later" and slide into "Pay More, Regret Later."

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THRIFT, TREND, AND TRIUMPH: GEN Z'S FASHION
REVOLUTION

Lunnie Rosingham

Think back to the old-school thrift stores—dusty, dimly lit, full of out-of-date clothes that made you wonder how anybody could possibly pull off wearing them. Let’s face it, there was a time when thrifting wasn’t exactly cool. But these days, something has completely shifted. Thrift stores, with their bags of forgotten fashion treasures, are now a hub for the trendiest, most sustainable, and one-of-a-kind outfits that anyone can love. And guess who is leading this chic revolution? That's right: Gen Z!

Thrift shopping has evolved from being a last-resort choice to a must-have activity, showing us how even fashion can contribute to making the world a better place.

Thriftng has stepped out from the shadows of being a quirky hobby for vintage collectors and people on a budget to now being a growing force in the fashion industry. For Gen Z, secondhand shopping isn't just about saving a few dollars (though that's definitely a bonus), thrifting is about making a statement—not just about fashion but about the planet. It's about sustainability, supporting eco-friendly businesses, and encouraging smart consumption in a world where overconsumption is a pressing issue.

Thrift Shops: The Hidden Gems of Fashion

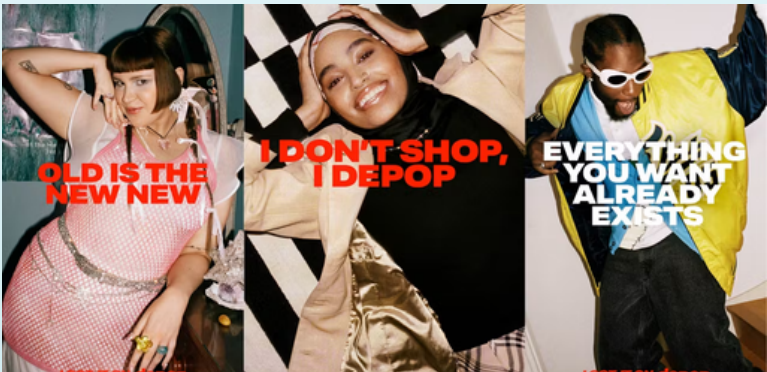
Today, stepping into a secondhand store is like walking into a curated treasure trove of fashion waiting to be rediscovered. The inventory includes everything from vintage Levi’s to cool, oversized flannel shirts, not to mention the coolest jackets, shoes, and even unique accessories that aren’t sold anywhere else.

But the best part? You're not just stuck wandering around brick-and-mortar thrift shops. No, Gen Z’s got it better, having brought thrift shopping to the digital age with platforms like Depop, Poshmark, and ThredUp.

You can sit on the couch and scroll through secondhand styles as if you’re swiping through your Instagram feed, because why limit yourself to just the new? The world of online reselling has turned thrifting from a rare find into a mainstream movement.

Why Are Gen Z All About Thrift Shopping?

Now, the obvious question: why is thrifting so appealing to Gen Z? The reasons go beyond getting a good deal and hunting down unique vintage treasures. Here’s why the younger generation is leading this movement:



1. Sustainability Over Waste:

Gen Z is constantly bombarded with news about climate change and the need for sustainable practices. The fact is, overconsumption in fashion is a significant contributor to the world’s pollution crisis. Every year, millions of tons of clothing end up in landfills, contributing to environmental issues. However, Gen Z is stepping up.



THRIFT, TREND, AND TRIUMPH: GEN Z'S FASHION REVOLUTION

Lunnie Rosingham



By choosing to buy second hand instead of new, Gen Z gives clothes a second life. And this mindset doesn't stop with fashion—whether it's food, technology, or furniture, there's a movement for finding new uses for things instead of tossing them out. In fact, according to Statista, 42% of Gen Z shops for secondhand clothing regularly, making this generation the leading force in the secondhand shopping market.

2. More Style, Less Money:

Who wouldn't love to score a unique Gucci bag or a pair of vintage Nike sneakers at a fraction of the cost? One of the most attractive perks of secondhand shopping is how much cheaper it is compared to retail prices. You could even get one-of-a-kind designer pieces that most people won't even know about because thrift shops curate the "old-school chic."

Gen Z doesn't want to be burdened with crushing credit card bills—they prefer being financially conscious while still wearing all the cool pieces. Thrift shopping is the secret weapon that lets them do that.

With savings adding up from buying secondhand, some thrift shoppers can even save an average of \$150 per month.

3. Personal Expression Without a Price Tag:

Thrift shopping isn't just about finding great deals—it's also about finding something that speaks to you. In an era where everyone is using the same generic "Fast Fashion" pieces, thrifting offers that elusive thing: individuality. Finding something no one else has (or something with a quirky past) lets you show off your creativity. Retro band t-shirts, funky leather jackets, oversized hoodies—they're all about expressing yourself and standing out from the crowd.

The Rise of the Online Thrift Market

One major shift that has propelled thrifting into the mainstream is the growth of online thrift shops and reselling platforms. Platforms like Depop, ThredUp, and Poshmark allow people to easily buy and sell secondhand clothing online.

Some of these platforms offer clothes that are classified as "vintage" or "designer," meaning the items aren't just cheaper versions of trendy designs but more meaningful finds like quality goods with a story behind them. And let's not forget how easy it is now to swipe and shop.

THRIFT, TREND, AND TRIUMPH: GEN Z'S FASHION REVOLUTION

Lunnie Rosingham

The resale market isn't just big; it's growing. According to ThredUp's 2023 Resale Report, secondhand fashion is expected to grow 11 times faster than traditional retail in the next five years. So thrifting is here to stay and Gen Z is making it mainstream.

How Thrift Shopping Is Changing Fashion Forever

For most of history, thrifting was seen as cheap or even a bit embarrassing. But now, Gen Z's embrace of thrift shopping has turned it into an upward fashion trend. Besides helping to preserve the environment, the secondhand fashion market also promotes a different economic model. Reselling allows consumers to step away from fast fashion's built-in obsolescence, allowing items to have a much longer lifespan and a better return for their investment. It's like recycling your fashion choices: reducing waste and making every purchase intentional.



A Fashion Revolution

Gen Z's impact on fashion is shaking up the traditional retail and fashion systems. The rise of thrifting isn't just another passing trend, it's a sustainable movement led by a generation ready to tackle climate change and look absolutely fabulous doing it. It's not just about what you buy—it's about how and where you shop. So next time you're browsing your local thrift store or scrolling through Depop, just remember: you're not just getting a great outfit, you're part of an eco-conscious revolution.

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WHAT AI MAY MEAN FOR THE FUTURE OF THE CLASSROOM

Darray Robinson

With AI becoming more prevalent in schools, it's important to reflect on its deeper implications for education. While AI offers incredible opportunities, it also raises valid concerns about how it could change learning, skill development, and even the role of teachers in the classroom.

The major risk is the potential for students to rely too heavily on AI tools, such as ChatGPT, for assignments. These tools can provide instant answers or even write entire essays, but at what cost? Overuse of AI could discourage critical thinking, problem-solving, and creativity, skills that are essential for success both in school and beyond.

Finally, there must be clear guidelines for how AI is used in classrooms. Policymakers and educators should work together to establish boundaries that protect teaching jobs, encourage skill development, and maintain equity in education. South Korea's plan to implement AI-powered textbooks in 2025 has sparked debates about how to balance innovation with the need for human interaction. These discussions should inspire global conversations about setting limits on how much AI is allowed to do.

Similarly, teachers are not immune to the effects of AI. While AI can streamline grading or help plan lessons, its increasing role in education threatens to make some teaching jobs obsolete. A fully automated classroom may sound convenient, but it would lack the human empathy and mentorship that only a teacher can offer. Students don't just learn facts in school; they learn connection, teamwork, and communication. All of which require human interaction. To protect these and many other jobs, boundaries will need to be set.

The use of AI also raises questions about equity. Not all students have access to the same technology outside of school, which would widen the gap between those who can afford AI tools and those who can't. For example, AI-powered apps can help students improve their skills after hours, but if access to these tools depends on income, then education risks becoming less inclusive.

If students lean on AI to complete work instead of grappling with challenges themselves, they risk losing the ability to think independently and develop resilience when faced with difficult tasks in day to day life.

So, what can we do to address these challenges? First, schools should ensure that AI is used as a supplement, not a replacement, for learning. Teachers can incorporate AI to assist with routine tasks, allowing them to focus on fostering critical thinking and personal connections. For example, AI might help to grade quizzes while teachers spend more time mentoring students.



Second, educators need training on how to integrate AI effectively and ethically. By understanding its capabilities and limits, they can guide students on how to use these tools responsibly. Schools could even introduce lessons on AI literacy, teaching students when it's appropriate to use AI and when it's better to rely on their own skills.

AI is not inherently good or bad; it's how we choose to use it that matters. If we take proactive steps now to balance its benefits with its risks, we can ensure that AI enhances education without undermining the skills and values that make learning meaningful.

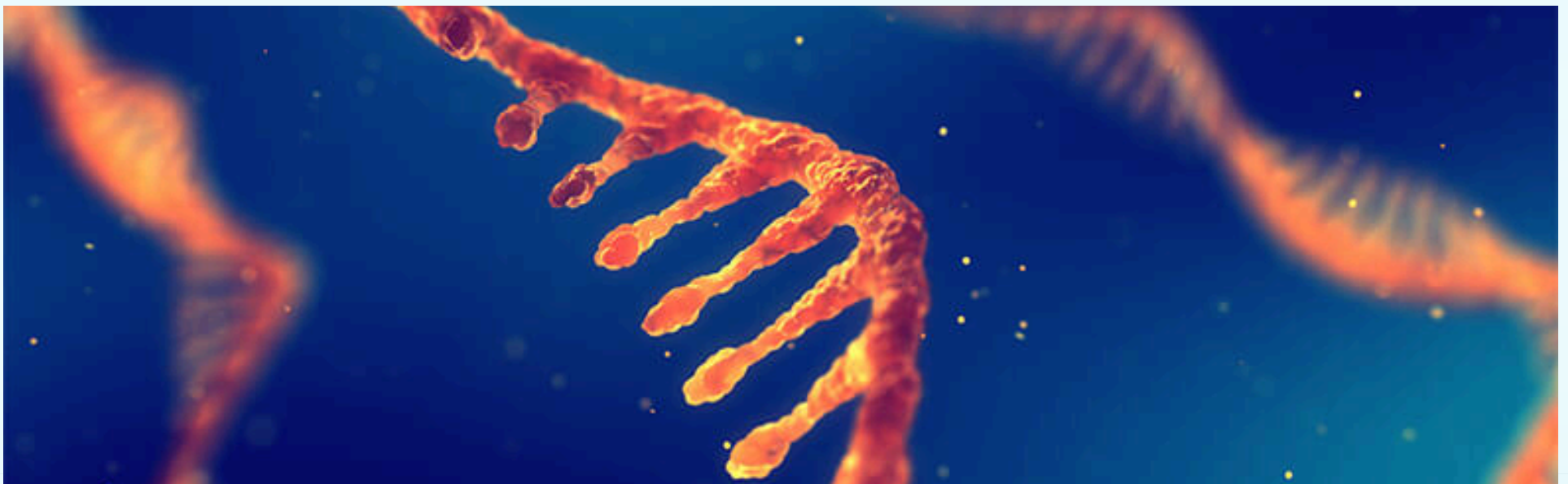
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MICRORNAS: FUTURE OF MEDICINE THERAPY OR CAUSE OF DISEASE DEVELOPMENT?

Leonela Sedano



Last year, Victor Ambros and Gary Ruvkun won the Nobel Prize for discovering microRNAs in the nineties [1]. Now we know that in our human body there are almost 2,600 miRNAs (microRNAs) [2], that are present in different organisms, adaptable to environmental changes, have evolutionary importance, and control various cell processes. These molecules apply their influence through mRNAs, regulating ideal cellular homeostasis, but when miRNAs are disruptive, they can contribute to disease development. With this, miRNAs may seem to be the culprit of some of our problems; however, in recent years, there has been proof that we could use them to create genomic therapies. This article explores the potential of miRNAs in disease development and treatment.

These small non-coding molecules maintain cellular equilibrium by regulating gene expression in processes like apoptosis, proliferation, and immune responses [3]. They achieve these effects by binding to messenger RNAs, suppressing translation, or promoting degradation, which is important to regulate protein activities and remove damaged cells. For example, some miRNAs, such as miR-21, control apoptosis, which is essential to maintain the balance of cell growth and reduce cancer occurrence in our body [4]. Additionally, other miRNAs regulate homeostasis; for example, miR-876-3p controls glucose homeostasis and insulin sensitivity [5].

After all, miRNAs are pivotal regulators that ensure stability and prevent future diseases, but their influence can also be harmful to cells under specific conditions.

When miRNAs are dysregulated, the development of cancer, neurological disorders, and infections are more likely to happen. There are several miRNAs that promote or degrade proteins in the body, such as miR-155, which regulates carcinogenesis and cancer metastasis [6], while miR-146a has a crucial role in regulating inflammatory processes and contributes to the development of neuroinflammatory, immune, and other diseases [7]. For this reason, the main cause of disease development linked to miRNAs is their overexpression or underexpression. Their dysregulation is risky because it acts as a catalyst for diverse illnesses. Despite these risks, miRNAs have the potential to become the main therapy for these diseases, making them a significant focus of research.

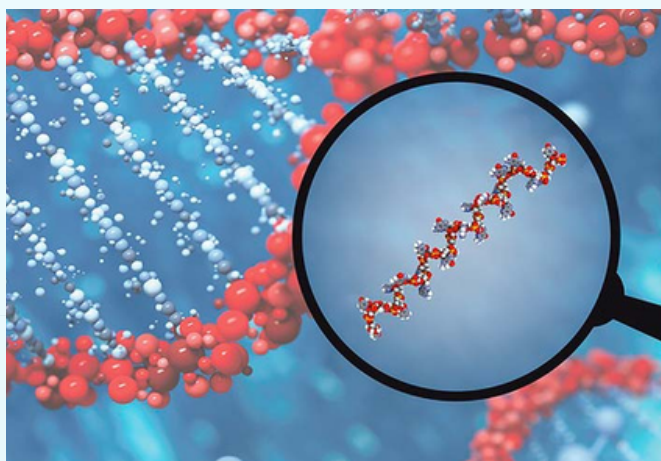
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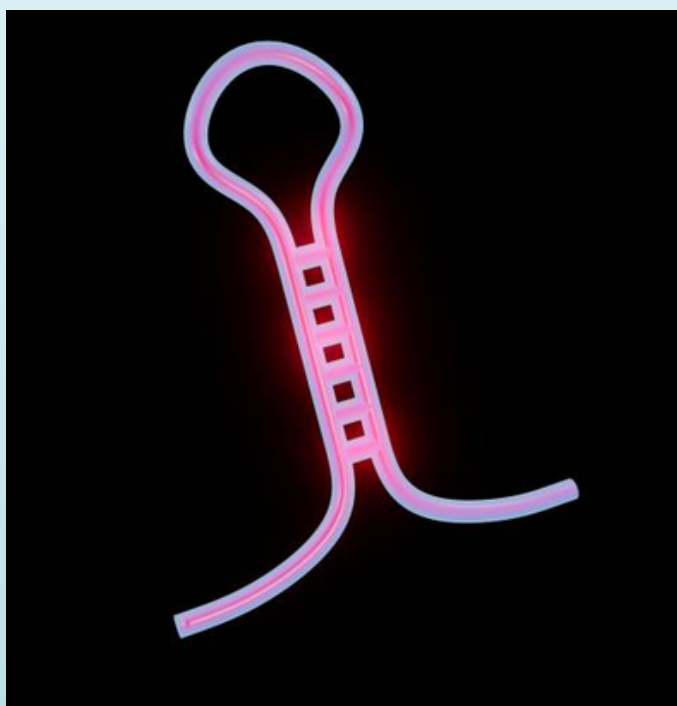
In conclusion, miRNAs impact disease development as both causes and treatments, serving as biomarkers and potential therapeutic solutions. They influence crucial cell processes. While they can be the main cause of many diseases due to risks of overexpression or underexpression, technological development is essential to create groundbreaking treatments with miRNAs. It is important to research more solutions for medical therapy using mimics or inhibitors to address miRNA-related disease development.

MicroRNAs can revolutionize the medical future as research continues to advance, whether we think about them as a solution or the main problem.



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IS EUTHANASIA, OR ASSISTED SUICIDE, JUSTIFIED OR NOT?

Hoang Nam Phu

As long as an individual is still alive, there is always hope for survival. In a battle between life and death, why and when is death better? This is the main question regarding the active use of euthanasia.

When euthanasia is actively performed, the choice to end life is made by a competent adult, who is capable of comprehending the situation. There are two main types of euthanasia: active, and passive. Active euthanasia is the administering of lethal drugs which is referred to as positive euthanasia. Passive euthanasia is the withdrawal of medical interventions that keep a patient alive.

Euthanasia allows an individual to choose a dignified end to their suffering by ending their own life, reflecting compassion and respect for their autonomy.

It spares the patient the agony of uncontrollable suffering by providing the patient the choice to end their life while they still have control. The legalization of euthanasia helps keep its practice controlled, ethical, and legal, and helps with supervision from the medical professionals thus minimizing the risk of inappropriate usage. In addition, it reduces both emotional pain and financial costs for the families who have to bear the pain of watching their loved ones suffer. Ultimately, the practice of euthanasia should be defended because it is a matter of basic human rights as everyone has the right to die with dignity.



Some people, on the other hand, stand against euthanasia. They think it should not be done for ethical, moral, and other reasons. Many argue that life, even though full of pain, shouldn't be deliberately ended, even if it appears to be the best choice at the time. They also warn that there is a risk. People in pain could be pushed to end their lives for the gain of others.



When euthanasia is actively performed, the choice to end life is made by a competent adult, who is capable of comprehending the situation. There are two main types of euthanasia: active, and passive. Active euthanasia is the administering of lethal drugs which is referred to as positive euthanasia. Passive euthanasia is the withdrawal of medical interventions that keep a patient alive.

Perceptions of euthanasia are greatly shaped by their faith and where they come from. For example, Orthodox Jews hold life as very sacred and think ending it goes against God's will. Due to these cultural causes, other key beliefs can change how euthanasia is seen.

Laws on euthanasia have not yet reached an international consensus. In places like the Netherlands, Belgium, and Canada, euthanasia is legal but with imposed heavy regulations. In India and many U.S. states, active euthanasia is not allowed, though sometimes passive euthanasia is permitted. A key question raised by both sides is: 'As a society, how can we approach the end of life with greater sensitivity and respect for the 'dying?' How we respond to these questions as a collective society is important to preserve peace between these life and death situations.

Euthanasia remains a contentious issue, sparking ongoing debate and deeper analysis of its moral, practical, and ethical benefits and harms.

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SMALL SPARK SPELLS SERIOUS SCOURGE: CAUSES OF CALIFORNIA'S WILDFIRE

Ken-Nhat Hoang

10:30 AM PST, Tuesday, January 7, 2025, the deadly Palisades fire was reported on the mountains north of Pacific Palisades. The Californian Fire Department stated recently on the 21st of January that 882 structures were damaged, with another 6528 destroyed, and 11 fatalities. From major landmarks and celebrities' mansions to the homes of those struggling to find a living, the flames left nothing but ashes.



California's wildfires pose a significant threat to its inhabitants. The scale and frequency of such fires are concerning, especially in wildfire seasons. The August Complex fire in 2020 was described as the world's first "gigafire", torching over 1 million acres and more than 900 structures. The next year was better, but California still recorded a total of 8,835 fires, burning 2,568,948 acres (half of what it was in 2020). Recently, the Palisades fire garnered major attention for burning for 15 days and was only 70% contained by the 23rd of January, live statistics from the LA Times show, sweeping away properties and lives. People from all walks of life are struggling to rebuild from the loss, with some even desperately selling their burnt assets to predatory buyers (which was stopped by governor Gavin Newsom).

It is important to understand the causes of such disasters. Although 90% of wildfires are caused by humans, California's wildfires are almost inevitable due to the state's natural climate.

Elements for Wildfires: Wind, Heat, Fuel

According to studies over a 20-year period, fires got 400% faster in California. The infamous Santa Ana and Diablo winds are to blame, sweeping down from mountains and out over the Pacific with speeds of 40-74 mph and gusts over 85 mph. Their speed magnifies small fires into extreme monsters, carrying embers forward for miles and sparking new fires. The most devastating fires in California grew at great speeds, making conventional firefighting techniques ineffective, according to Battalion Chief Mike McClintock. Moreover, these desert-originated winds further dry out vegetation as they compress while moving down the mountainside, lifting air temperatures and dropping humidity.

If these speedy winds come during dry seasons, so does the danger of a wildfire.

Native Americans used fire as a technique for ecological balance: setting controlled burns to clear dead vegetation, eliminating dense underbrush, which prevented the accumulation of fuel such as dry leaves that could lead to fire risks. However, their practices were suppressed by European settlers who perceived fire as a threat to resources without considering its long-term benefits. As a result, dense, flammable landscapes are formed from stored vegetation and dead wood. Years of clear-cutting forests and monoculture also increased vulnerability. Certain invasive species dry out quickly, turning the area fire-susceptible.

As the once-green vegetation dries and turns brown, wildfire risk increases. California's climate is increasingly arid, as the impacts of climate change strike hard. Droughts in recent years, intensified by climate change, "added oil to the fire" by creating moisture deficits in vegetation. The Union of Concerned Scientists reported a two-degree rise in the US average temperature since 1970. National Geographic shows rising temperatures result in more water drawn out from plants, soil, and vegetation, multiplying the risk of wildfires by ten times. Rising temperatures translate to a hotter, drier climate (more evaporation), extending wildfire seasons and subsequently the frequency and intensity of wildfires. Scientists discovered every 1°C increase in temperature increases the median burnt area by as much as 600%. Researchers noted California's fire season extends for almost a year, with wildfires burning in previously off-season months. Climate change brings more extreme weather events like heat waves and stronger winds, exacerbating the status quo and creating a vicious cycle where increased wildfire risk releases carbon emissions worsening climate change.

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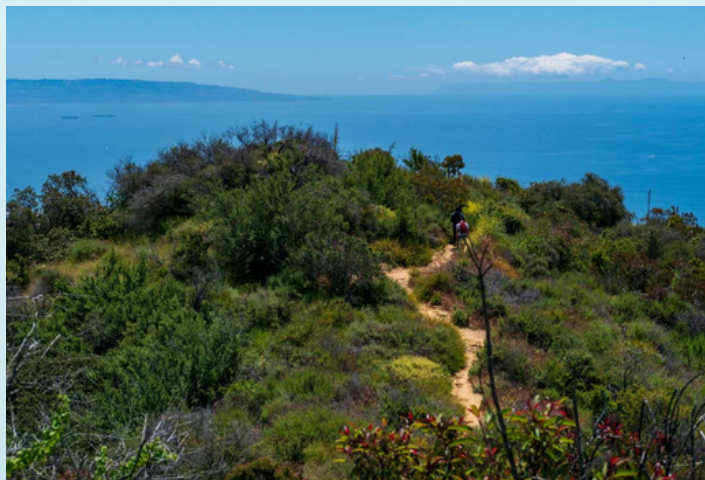
Geographical factors apart from natural conditions also come into play—the state's fire-vulnerable ecosystems: chaparral, grasslands, and coniferous forests, combined with steep terrain in many places complicates firefighting. The rugged landscape challenges ground crews to reach and put out fire.

Expanding urban areas into nature increases the chance for fire to start and spread. Even homes in fire-vulnerable areas often lack fire-resistant materials or sufficient defensible space (Marquis 25). Poor forest management exacerbates risks and structural changes to fix this problem are difficult to implement given the scale and magnitude of the issue.

The ignition causes for wildfires are multifarious. Natural causes such as lightning strikes sometimes spark flames (it caused the August Complex Fire, for example). In most cases though, human actions are the cause, whether it be an ember from burning debris and dead vegetation, unattended campfires, or fallen power lines (the third most common cause). A branch falling and hitting power lines or poorly-made wooden cables can be enough to unbox a catastrophe. Cigarettes, equipment malfunction, or vehicle crashes are other examples of seemingly harmless yet possible causes. Fires could be caused by not only deliberate arsonists, but also negligence, like the use of a pyrotechnic machine in a fire-prone region during a gender-reveal party.

The trigger of recent wildfires is still under investigation. The New York Times suspects two likely causes for the Palisades fire: re-ignition from a previous fire or power line damage.

Investigators discovered that the Maui blaze is from the remnants of another fire that occurred hours earlier, the buried ignition material uncovered by winds. The Palisades fire could be re-ignited from the New Year's fire, according to witnesses from Mr. Giller, who reported smoke from the previous fire site.



Earlier fires showed flames below electrical lines and the power line spanning the Temescal Ridge Trail had a record of dreadful blazes. The Times stated that power line debris was found on the trail near where the Palisades fire sparked, including something similar to a lightning arrester device. There are also fallen power lines on the ground at the site. The poles date as far as the 1930s and the Los Angeles Department of Water and Power's project in 2019 to upgrade them with stronger metal structures did not continue, boding well for the cause of the Palisades fire.

At the end of the day, wildfires in California detrimentally harm economic development, properties, and citizen well-being. While urgent actions such as fire suppression, evacuation, and victim support are crucial, we must look back and investigate deeply the root cause of such wildfires for long-term mitigation strategies.



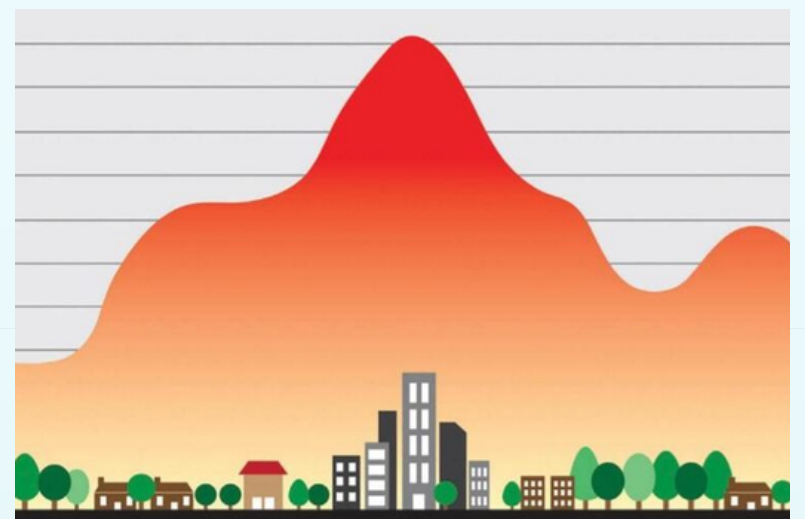
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THE HOT DIVIDE: HOW URBAN HEAT ISLANDS EXACERBATE INEQUALITY

Aarna Kapadia

Imagine driving only a few kilometres within a city, and encountering temperature differences of several degrees in just minutes. While this may sound far-fetched, in cities with prevalent economic disparities, it is the reality. Low-income neighbourhoods experience a phenomenon that their high-income counterparts do not, causing them to become urban heat islands (UHI). These are places in cities that are several degrees hotter, even if they are only a short car ride away. One significant case is in Phoenix, Arizona, where the temperature difference between neighbourhoods can be up to 10 degrees Celsius. Urban heat islands are caused by numerous factors, namely an abundance of man-made structures and a lack of natural ones, which lead to notable suffering for those living in them. Fortunately, actionable solutions exist to rectify this issue.



What Are Urban Heat Islands?

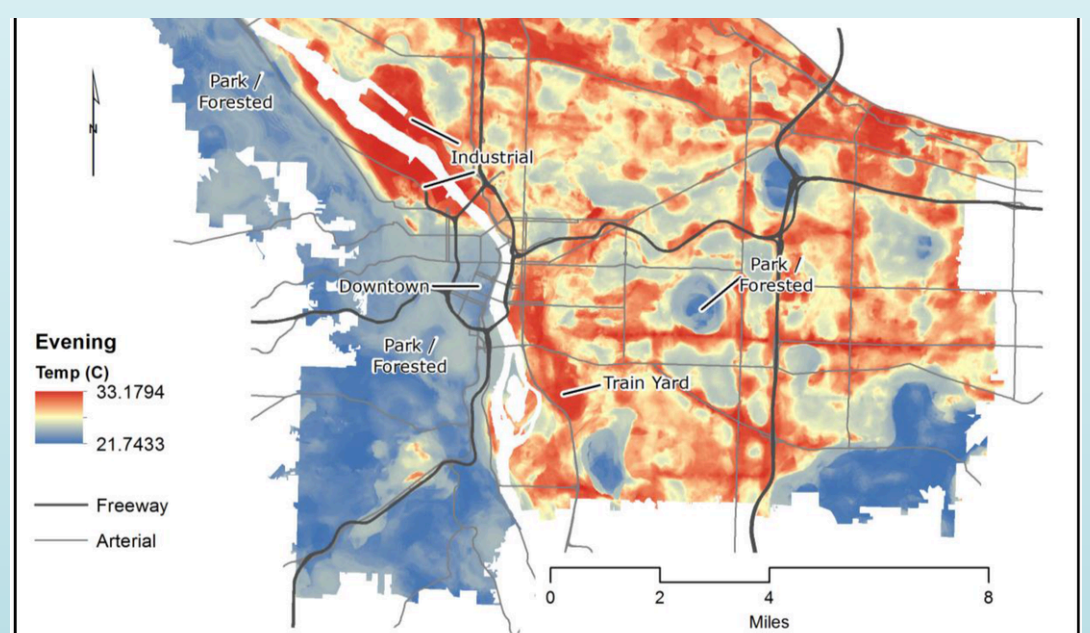
Urban heat islands occur in low-income neighbourhoods due to an excessive amount of man-made infrastructure such as buildings and roads which absorb and re-emit heat from the sun more than natural structures, like trees and water bodies. For instance, in Phoenix, Arizona, there are more than four parking spots for every car, and therefore, four times more asphalt emitting heat. In addition to the amount of man-made structures, there is the way in which they're designed. Buildings in such areas are often short, densely-packed together, and far from pavements, resulting in minimal shade provided. Asphalt streets and concrete roofs remain hot for a relatively long time, even after the sun sets.

Although similar conditions also exist in many affluent neighbourhoods that are numerous degrees cooler, there is one key difference: trees.

Higher-income areas tend to have trees and parks put up both by the city, and in the gardens of wealthy individuals, who possess the land and have the resources to maintain them. Impoverished neighbourhoods, on the other hand, may not even have sidewalks, let alone greenery. These physical changes to urban landscapes have serious consequences for residents.

What Are the Implications of Urban Heat Islands for Those Living in Them?

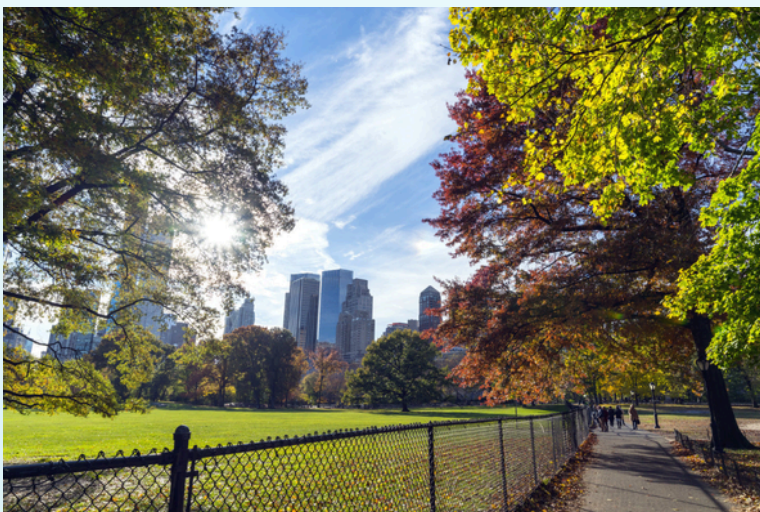
The extreme heat of UHIs leads to more heat-related illnesses, dehydration, and heat stroke among inhabitants. Lower-income residents are also less capable of affording cooling systems and cars for safer transportation. In an urban heat island in Phoenix called Central City South, the average income for a family of four was 19,000 dollars, and only one in four individuals owned cars. This forces occupants to endure sweltering conditions while traveling. Moreover, areas without parks or trees are dangerous. Concrete heats up quickly, and without shade, kids cannot safely play outside.



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Aarna Kapadia

Additionally, aside from parks and major streets, the urban forest depends on private resources rather than public ones. While some programs supporting tree plantation in these areas exist, for example, one where utility companies provide trees under certain conditions, they do not bear the cost of maintaining the trees. This is a major issue in low-income neighbourhoods as they are often less capable of providing the water needed.



Finally, hotter areas lead to a vicious cycle. Those living in UHIs who can afford air conditioning use more of it to combat the extreme conditions. This dissipates heat and carbon emissions into the environment. It also means that poverty-stricken individuals are forced to prioritise the purchase and maintenance of cooling systems over other amenities.

What Can Be Done to Help?

Fortunately, urban heat islands are not a lost cause. Solutions to UHIs include collaboration tree-planting and advocacy, reformation of governmental policies, and mindful infrastructure.

Principally, one of the most effective ways to solve heat disparities is by planting trees. By prioritising tree-planting, neighbourhoods obtain shade and cooler air through transpiration. Costs of air conditioning are also lowered, reducing both direct heat and carbon emissions.

Additionally, individuals can advocate for equitable and green policies. By signing petitions, supporting green initiatives, and spreading awareness, governments can be encouraged to prioritise investments in low-income neighbourhoods, rather than just focusing on affluent areas. This can manifest in the form of more green infrastructure, such as shade shelters, variable building heights (which enable better airflow), and painting roofs white to reflect heat, among others.



Phoenix, Arizona, has committed funds to planting more trees, aiming to reach a minimal level of canopy cover in all neighbourhoods by 2030.

Conclusion

Urban heat islands may not seem consequential, but they make life harder for people who are already struggling. Poorer neighbourhoods do not have the same resources to stay cool in the heat, leading to health and economic problems. By planting more trees and advocating for supportive infrastructure and policies, urban heat islands can be eliminated. Together, individuals can ensure that the heaviest burdens of climate change do not fall upon those least equipped to withstand them.

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WHO HAS THE SECRET TO ADDRESSING THE CLIMATE CRISIS IN DEVELOPING NATIONS: GOVERNMENT ACTION OR YOUTH ACTIVISM?

Mahin Kashyap

Many developing countries are already facing the threat posed by the climate issue. The Maldives' sinking islands and Ethiopia's droughts are just two examples of how the most vulnerable areas are already feeling the effects of rising temperatures. In the fight to mitigate these impacts, two significant forces have emerged: government-driven efforts and youth-led activism. But which of these has the power to bring about long-lasting change?

With initiatives like Fridays for Future and the Rise Up Movement leading the global fight for immediate climate action, youth activism has accelerated in recent years. Since they perceive the climate crisis as a threat to their immediate survival, young activists in underdeveloped nations are especially outspoken. For them, combating climate change is a life-or-death issue, not merely a theoretical political one. "The planet is undergoing rapid change. If nothing is done, my generation would be the one affected the most," says Vanessa Nakate, a Ugandan climate activist who founded the Rise Up Movement.

Like many youthful leaders, Nakate contends that governments' actions are too slow, disjointed, and often influenced by political agendas. She claims that policymakers in developing nations are more concerned with immediate economic expansion than long-term environmental sustainability. In the Global South, competing priorities such as political stability, poverty alleviation and economic development often overshadow climate action. Limited infrastructure and financial resources further complicate progress.

Despite global accords such as the Paris Climate Accord that aim to drive climate action, progress has been limited.

The UNFCCC has acknowledged the necessity of mitigation and adaptation initiatives for helping nations that are at risk. Yet, according to the UNFCCC's 2023 Climate Change Report, although many developing nations have committed, the current rate at which policies are being implemented is not enough to stop emissions from growing.



Herein lies the role of young activism. Youth-led movements are generally credited for sustaining the debate, thanks to the millions of young people who participate in protests, sign petitions, and develop grassroots solutions worldwide. Fridays for Future, a global movement started by Swedish campaigner Greta Thunberg, has seen young people in underdeveloped nations participate in climate strikes and frequently demand radical changes that would upend the status quo.

India's "Clean India, Green India" campaign is a prominent example of youth-led climate action, the focus of this grassroots campaign is on local solutions to the climate crisis, such as garbage reduction, tree planting, and renewable energy support. These initiatives offer temporary solutions and help raise awareness of local environmental effects in areas like Delhi, where air pollution reaches hazardous proportions. "Youth-led campaigns are critical in creating change at the local level," says Radhika Mehta, a member of the Clean India, Green India team. "Our government talks big but doesn't act fast enough. We don't have time to wait for them."

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However, the scope of the climate disaster calls for more than just youth-led groups.

According to political observers, youth involvement is crucial for generating awareness and spurring local change. Yet, to implement significant policy changes, curb emissions, and allocate funds for renewable energy infrastructure, government action is required.

“There is no doubt that youth activism is crucial in creating awareness, but youth movements alone cannot drive the systemic change needed to address climate change,” says Amira Ahmed, a political analyst specializing in climate policy in the Global South. “Only governments have the political power, legal authority, and financial resources to implement the widespread changes required to tackle this issue. They need to prioritize climate change in national policy agendas, increase investment in green technologies, and hold industries accountable for their environmental impact.”

Government action is also required to guarantee the efficient distribution of funds for climate adaptation and mitigation in developing nations. Yet, as the UNFCCC’s 2023 report highlights, political unpredictability, corruption, and a lack of resources frequently place restrictions on governments in these areas.

In the battle against climate change, youth involvement is just as crucial as government involvement. Young people's fervor and tenacity offer a distinct viewpoint on climate action in developing nations, exerting pressure on and holding governments responsible. Ultimately, cooperation between youth-led movements and government efforts is crucial.

While government action is required for systemic change and larger-scale implementation, youth activism fosters urgency, creativity, and moral clarity. Together, these factors can provide the impetus required to solve the climate issue and guarantee developing countries a sustainable future.

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SPLITTING WITH THE PAST

THE UNDISCOVERED POTENTIAL OF NUCLEAR EXPORT AND ITS BRIGHT – AND NECESSARY – FUTURE

Senya Borisov



In a world grappling with climate change and rising energy demand, the promise of nuclear energy has never been more urgent. Nuclear power is a critical tool in the global transition to clean energy and the industrialization of developing nations worldwide, capable of delivering abundant, low-carbon electricity. However, despite its immense potential and track record of successful implementation, atomic energy remains absent from the regions that need it most. Low-income nations are the home to less than 5% of the world's nuclear reactors. While developed, high-income nations (namely Russia, China, South Korea, France, and the United States) export their advanced atomic technologies to emerging nations, the trade falls short of what is required to address the global energy crisis. The two latter nations, France and the US, have recently scaled back their foreign projects, further widening this gap in the market. Since 2000, both markets combined accounted for fewer than 10% of the nuclear reactors exported globally, compared to Russia's 40% share during the same period. This disparity highlights the urgent need for traditional nuclear exports to reinvigorate their participation in the market and reengage with atomic exports. Nations like Russia have demonstrated the potential of nuclear technology as an energy solution and diplomatic tool, however, the market reliance on a single exporter threatens global energy security and puts an inherent limit on the size of nuclear exports. To meet rising energy demands and combat climate change with a clean and efficient energy source, a renewed, cooperative effort is required to make atomic technology accessible to the developing regions that need it most.

As previously mentioned, a few key players dominate the global nuclear export market, with Russia, China, and South Korea leading. In particular, the Russian Federation has cemented itself as the top exporter in the world, accounting for 40% of all reactors delivered since 2000 and inheriting the rich legacy of Soviet nuclear exports. Russia's success in the field is backed by state-owned enterprises like Rosatom and Atomstroyexport and its ability to offer a comprehensive package that includes the reactor and fuel supply, training, and financing, making it an enticing option for developing nations.

Similarly, China's emergence in the market has been primarily accomplished through its wide-reaching Belt and Road Initiative, which integrates nuclear energy exports into broader infrastructure and development deals. South Korea's success in the field is primarily based on its successful Barakah atomic project in the UAE, with the country looking to build nuclear exports into a significant part of its economy, setting a goal to construct 80 reactors overseas by 2030. In contrast, France and the US have declined in the market. Despite being one of the most significant nuclear success stories, with 71% of its energy being produced by nuclear power, France has scaled back from large international projects. Similarly, once a dominant force in nuclear energy development, the United States has seen its global presence wane as domestic challenges have stalled both international projects and advancements at home. America's nuclear industry faces numerous regulatory hurdles and has nearly abandoned the idea of any new domestic projects until recently. This retreat has stifled domestic growth and weakened the global supply chain for nuclear technology, leaving fewer options for countries seeking to develop their own programs. Despite the contributions of leading exporters, the current scale of nuclear energy trade is insufficient to address the global energy and climate crises. For many developing nations, the high costs and technical demands of nuclear infrastructure remain major barriers, leaving them reliant on fossil fuels and unable to transition to clean, reliable energy fully.



Growing exports of nuclear technologies are a vital avenue for addressing global energy inequality and climate change. For developing nations, atomic power offers a decisive solution to the chronic energy shortages accompanying their industrialization, providing abundant, stable electricity. Unlike coal and natural gas, nuclear energy produces very few greenhouse gas emissions, making it an essential tool for combatting global climate change, which threatens developing nations in numerous ways. For example, China's partnership with Pakistan on the Karachi Nuclear Power Plant (K-2 and K-3) has provided

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Pakistan with over 2,200 megawatts of clean electricity, reducing its reliance on imported fossil fuels and helping alleviate the country's energy shortages. The Karachi plant will also offset approximately 14 million tons of carbon dioxide, helping Pakistan reduce its emissions – especially important as climate change causes more volatile natural disasters to hit the nation. Moreover, atomic power's reliability surpasses renewable energy sources that produce their energy on intermittent resources like wind and solar while offering a more centralized energy grid. Renewable energy sources like wind and solar have capacity factors – a measurement of the difference between the energy produced and the maximum theoretical output – averaging 35-40%, while nuclear energy operates at a far higher capacity factor of approximately 90%, ensuring consistent energy supply. Finally, nuclear power is also a driver of economic growth due to the need for high-skilled labor, the fostering of energy independence, and the support of numerous industrial sectors around its operation. By closing gaps in nuclear exports, the global community can unleash numerous benefits and massively aid developing nations on their path to modern, ecologically friendly, and productive economies.



Expanding the international trade of nuclear reactors will require addressing financial, technological, legal, and social barriers through coordinated global efforts. Financially, nations like China and institutions like BRICS need to double down on their open investment and low-interest lending policies. At the same time, the IMF and World Bank should reinvent their offerings to be more competitive on the world stage. The World Bank estimates that transitioning to low-carbon energy infrastructure, including nuclear, will require developing countries to invest over \$1 trillion annually by 2030. Further improvements to the safety and efficiency of reactors could make nuclear energy a more viable option in various parts of the world, especially in nations at high risk of natural disasters. Former leaders like the United States and France should reinvigorate their private markets by reducing the legal challenges towards foreign projects and returning atomic exports to active use as tools of foreign influence and power projection. Public education campaigns are equally critical to countering misconceptions and building trust in nuclear energy, emphasizing its safety, reliability, and environmental benefits. With the cooperation of existing and future market leaders, the global community can make nuclear energy a cornerstone of sustainable development and energy equity.

Nuclear energy is a testament to human achievement and progress, remaining a powerful solution for climate change and global energy demand. By expanding and fostering atomic exports, the world can unlock a transformative solution that would provide clean, reliable power while building new advanced economies and accompanying developing countries on their industrialization. As of 2023, over 30 developing nations have expressed interest in acquiring nuclear technology, according to the IAEA, highlighting a growing demand for atomic energy. However, achieving this requires renewed commitments from developed nations, financial institutions, and a new focus on international education. The stakes could not be higher – Bridging the nuclear gap is not just an opportunity but a necessity for building a cleaner, fairer, and more resilient future for all nations of the world.

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THE EMERGENCE OF REDNOTE AS TIKTOK ALTERNATIVE

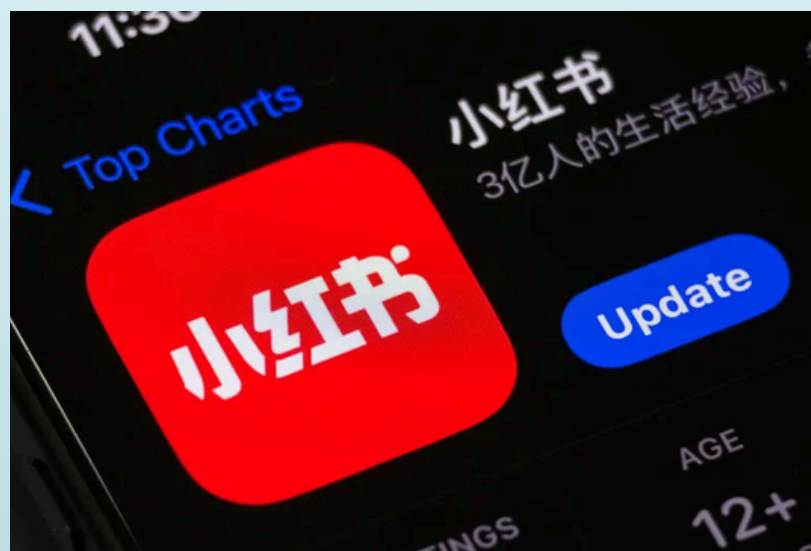
Hai Lam (Apple) Ngoc

Rednote: A New Player in Social Media

Recently, Rednote, a Chinese social networking and e-commerce platform, has attracted significant attention online. The platform has emerged as a notable player in the social media landscape, bringing in users looking for alternatives to established platforms like TikTok.

According to an article by Campaign, Nicky Wang, CEO of We Red Bridge, an award-winning Chinese consultancy, recognizes that the growing number of Americans in RedNote can present certain opportunities along with challenges for both the platform and its users. She describes the sudden international exposure as a “double-edged sword”.

Despite primarily focusing on Chinese users, RedNote gained popularity internationally as it started implementing more features tailored to a global audience. Influencers and content creators began endorsing it, trying to make the platform more appealing



RedNote vs TikTok: Key Differences

While Rednote and TikTok are both popular social media platforms, there are several key differences between them. Firstly, RedNote integrates e-commerce into its social experience. This means that users can directly shop from the app. E-commerce also provides users with opportunities for creative expression. This multifaceted approach could appeal to users, both in China and globally, who would love to combine social media with shopping. On the other hand, TikTok takes an entertainment-focused approach; it is solely focused on trending content.

Moreover, RedNote aims to cultivate a more community-centric experience. By prioritizing interaction and connection between users, RedNote is a suitable platform for those who want to find a group of people that would foster a sense of belonging and collaboration for them. Unlike TikTok, where content consumption can often feel solitary, RedNote encourages users to engage with one another, which can lead to long-lasting friendships through the internet. However, TikTok is more geared towards individual content creation, where people upload their fun videos and compete for attention in a sea of diverse content

TikTok Refugees

As the ban on TikTok in the USA looms, individuals are starting to see more and more of RedNote's presence on the web. Why? Likely because Americans are not exactly happy with the current talk of TikTok being banned in court. These Americans are angry and they have joined RedNote as a replacement for TikTok to protest against the U.S. government. In light of the situation, these users have called themselves “TikTok refugees”. This self-identification underscores the community's sentiment of seeking a new digital home amidst the geopolitical tensions affecting their social media usage.

From another perspective entirely, as stated by CNN News, RedNote has been struck with a new challenge: to strive for a balance between its stringent content moderation rules and providing a positive experience for its non-Chinese speaking users.

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Additionally, there would be a few challenges that “TikTok refugees” would have to face. Individuals worldwide are well aware of China’s harsh content censorship rules, including limited freedom of speech and expression on topics like politics, keyword bans, and the Great Firewall of China which blocks foreign websites like Facebook, etc. It is no different for RedNote. If an individual replaces TikTok with RedNote, they would have to follow these rules because they have chosen to reside in Chinese social media platforms. For instance, according to the same CNN News article, one American user, who identified themselves as “non-binary” on RedNote, was censored after publishing a post asking if the platform welcomed gay people; the post was removed within hours.

The Future: Potential Impact

As the debate on banning TikTok in the U.S. intensifies, it is very likely that RedNote could face the same regulatory challenges as the government prioritizes national security and data sovereignty.

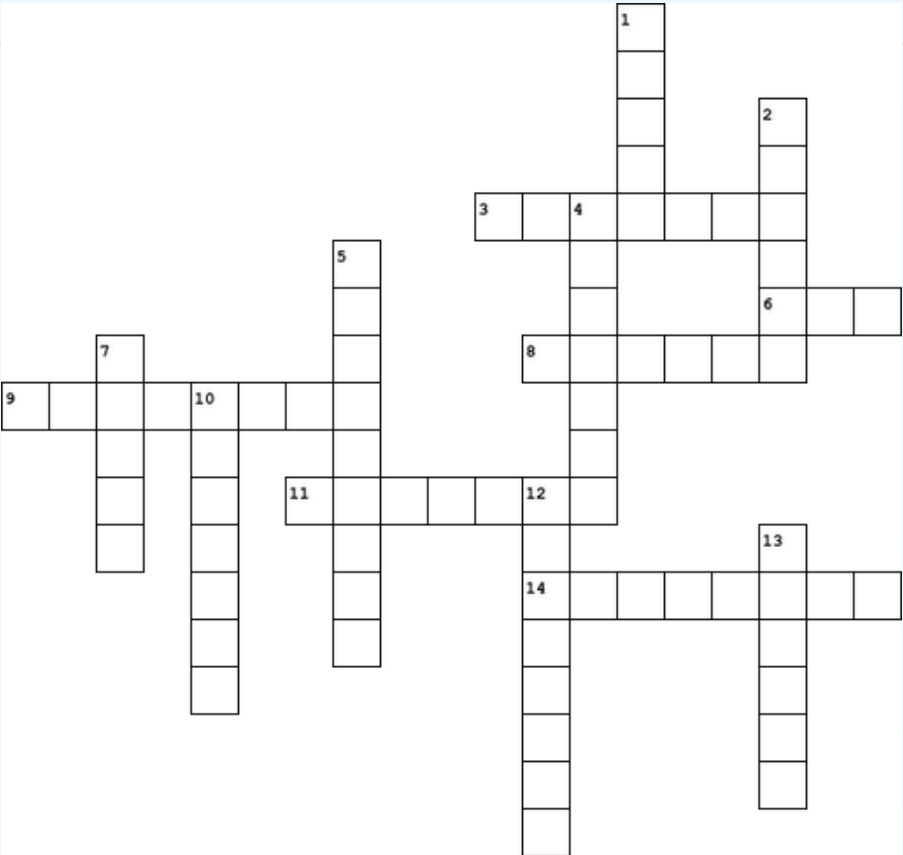
China would continue to be isolated from the social media landscape, which could encourage other countries to start pushing for the development of homegrown social media platforms to reduce reliance on foreign technology. Although this possible effect likely won’t be soon, the fragmentation of the global internet would lead to a trend toward platform nationalism. Not only that, the user shift from TikTok to RedNote has also only further escalated the raised tensions between the U.S. and China, highlighting their growing tech rivalry.



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Crossword: Deadly Doses



Across:

- 3. Uninvolved.
- 6. Cole has one of these and it includes cabbage.
- 8. Someone who plays a lot of sports is _____.
- 9. When someone takes a deadly amount of a drug.
- 11. This word is one letter away from being a monument.
- 14. What you hope is possible when your file corrupts.

Down:

- 1. "War on _____."
- 2. Metal things you need if you want to knit.
- 4. A leading cause of death currently in adolescents.
- 5. Usually done with a syringe.
- 7. Having to do with the law.
- 10. Honor.
- 12. What you may need to transfer between in an airport.
- 13. Eating chocolate every day would be bad for this.

Word Search: Chain Changes



Word Bank:

- | | |
|------------|-----------|
| authentic | popular |
| cheap | shop |
| clothes | style |
| generation | thrifting |
| model | vintage |

Crypto-Quote: Leading Now

“APC MQLUCA ST YUKCBNZSUN
BLMSF WRLUNC. SO UZARSUN
ST FZUC, JX NCUCBLASZU
DZYQF EC ARC ZUE LOOCWACF
ARC JZTA,” -- HLUCTTL ULGLAC

Rules:

Figure out the quote from one of these articles by figuring out a simple code. In this code one letter will replace another, (it will be the same letter throughout the puzzle). Example: KLFFRFLP = SYNNONYM. Solution is found through trial and error.