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Marco Rubio calls for talks on migration as he meets Jaishankar

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NEW DELHI



Marco Rubio

The U.S. wants to address the issue of illegal migration with India, U.S. Secretary of State Marco Rubio told External Affairs Minister S. Jaishankar during their meeting in Washington. The bilateral meeting was Mr. Rubio's first with any foreign dignitary after taking charge of the U.S. State Department on Tuesday.

The comments on immigration issues came a day after U.S. President Donald Trump issued an Executive Order cancelling 'citizenship by birthright' and cracking down on illegal immigrants.

A readout issued by the U.S. State Department on Wednesday said the two leaders had discussed a "wide range of issues" including "critical and emerging technologies, defence cooperation, energy,

and on advancing a free and open Indo-Pacific region". "Secretary Rubio also emphasised the Trump Administration's desire to work with India to advance economic ties and address concerns related to irregular migration," it said.

Mr. Jaishankar, who posted photographs of the meeting on social media, did not refer to the conversation on "irregular migration".

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Excavation begins of ancient well near Sambhal mosque

The Hindu Bureau
LUCKNOW

The Sambhal district administration in Uttar Pradesh on Wednesday started excavating an ancient well found under alleged illegal encroachment near the Shahi Jama Masjid.

The administration said the excavation was initiated following complaints from locals that the well had been illegally covered up. The well, located about 50 metres from the mosque, is considered one of the 19 ancient wells in the region. Over time, the well was covered and its original form altered, according to residents.

"Preliminary investigation suggests the well was encroached upon and covered. We are excavating it to restore it," said Shirish Chandra, Assistant Superintendent of Police.

The administration's initiative is being seen as a

step towards clearing encroachments on ancient structures in Sambhal.

The excavation comes following the Supreme Court's order on January 10 directing that status quo be maintained with respect to a well located near the entrance of the Shahi Jama Masjid. The court directed private respondents and local authorities to file counter-affidavits and status reports within two weeks. It has posted the case on February 25.

Tense situation

Sambhal has been tense since a local court ordered a survey of the mosque following claims that a temple previously stood at the site. Violence erupted on November 24 last year as protesters gathered near the mosque and clashed with U.P. Police personnel, leading to stone pelting and arson. Five people died in the incident.



Changed dynamics

India must chart a new transactional course with Trump administration

The first 48 hours of U.S. President Donald Trump's second term have been proof of the radical shifts he plans over four years, with the overarching theme of putting "America First". While the strengthening of India-U.S. ties during his first term should give those in New Delhi attempting to strategise for this term some comfort, his moves now make it clear that it will be necessary to expect the unexpected as well. The slew of Executive Orders changes U.S. policy on energy, the environment and climate change, trade and global taxes, citizenship routes, health, border control and immigration. But the new administration has shown it is keen to engage India: External Affairs Minister S. Jaishankar, who was invited along with other Quad Foreign Ministers at the inaugural ceremony, was the first Foreign Minister to hold a one-on-one bilateral meeting with new U.S. Secretary of State Marco Rubio. The readout of their meeting and the Quad Foreign Ministers' joint statement make it clear that the two sides are on the same page on the Indo-Pacific partnership, concerns over Chinese actions, critical and emerging technology cooperation, strategic and defence ties. Yet, some Trump-Rubio pronouncements have set alarm bells ringing, notably on trade, immigration and the cancellation of citizenship by birth. On trade, India has escaped being named in the first round of tariff announcements, but Mr. Trump's comments on a "100% tariff" against all members of the BRICS emerging economies grouping raised the suspense and a possible market reaction. In his first term, he had withdrawn India's GSP status affecting Indian exporters. On immigration, he has announced a "border emergency", authorised a crackdown on illegal and undocumented migrants, and plans to crush the hopes of H-1B visa holders and other Indians working there, by cancelling the automatic path to citizenship for any children born to them in the U.S. With 7,25,000 undocumented Indians, any action to deport them in large numbers, beginning with about 18,000-20,000 on the Immigration "final list for removal", will be a major crisis for India.

In this context, Mr. Rubio's statement in talks with Mr. Jaishankar that they must address the "irregular migration" should be taken seriously. So too should Mr. Trump's pronouncements insisting on investments in the U.S., hiring in the U.S., and the buying of U.S. energy. The new administration's geopolitical outlook appears to be set on devaluing the multilateral world order, withdrawing from U.S. commitments of support to WHO, the WTO, and the UN, and putting NATO allies on notice. Given the signs, New Delhi must be prepared for a U.S. administration that will not be particularly sensitive to India's concerns or be a willing partner in India's growth unless it sees a benefit for itself, and instead chart a more transactional course, while moving to limit the damage from any adverse actions of the Trump era.

An exit of bluster

The rest of the world must reassess the U.S.'s role in fighting climate change

President Donald Trump has fired hisowitzers at multilateralism by signing into decree the United States' withdrawal from the 2015 Paris Agreement. This sets records that are in a class of their own. The U.S. is the only country to have withdrawn thrice from a climate agreement – beginning with George W. Bush's withdrawal, in 2001, from the Kyoto Protocol. Mr. Trump, of course, sets a new low by being the only President to withdraw from a climate agreement twice. In the run-up to the decree, there is a pall of gloom in the climate world over what the U.S.'s latest exit might mean, particularly when the globe has finished its first full calendar year above the 1.5° Celsius mark.

The U.S. is the second largest emitter of greenhouse gases. By virtue of being the most powerful economy, it has arrogated to itself the mantle of 'global leadership' in addressing climate change. But now that the leader has had the spottiest track record of keeping to the terms of a significant agreement – one, whose rule book the U.S. played a major role in compiling – perhaps it is time for the rest of the world to reassess America's role in addressing climate change. Under both Republican and Democratic governments, U.S. domestic policy on greenhouse gas emissions has been subservient to business interests. Oil and gas production increased under the Biden administration. The U.S. remains the world's largest crude oil producer, achieving record production in 2023. The country is also the world's largest producer of gas and, in 2022, became the world's largest exporter for liquefied natural gas (LNG). Mr. Trump has only committed to add on to this already substantial base. The U.S. is critically short of achieving its target of greenhouse gas emissions. As of 2022, the U.S. has achieved only about one-third of its 2030 emissions reduction target. In the last weeks of his Presidency, Mr. Biden increased the U.S.'s emission-reduction commitments to 61%-66% of 2005 levels by 2035. This too, calculations suggest, will be insufficient to meet a 1.5° C target. Private capital propping up renewable energy has grown exponentially since Mr. Bush, and is now too substantial for Mr. Trump and his financial backers to ignore. While it will take a year for the exit to be formalised, it is likely that the U.S.'s behind-the-scenes engagement – especially at the next climate meet (COP 30) in Brazil in November 2025 – will continue. The politics of Mr. Trump suggests that he is not averse to running with the hare and hunting with the hounds.

Over 70 years ago, Ian Fleming created the fictional character of a secret service agent called James Bond, code named 007, who had the licence to kill. On September 1, 1983, a Korean Airlines jet, flight 007, on a scheduled flight from New York to Seoul via Anchorage, was shot down by a Russian Air Force Sukhoi fighter plane when the Korean flight had deviated from its flight path due to a navigational error. All 246 passengers and 23 crew were killed. One of the passengers was the daughter of Hans Ephraimson-Abt, who began an organisation to aid the victims of air accidents. His initiative resulted in a big push at the International Civil Aviation Organization (ICAO) to publish rules regarding conflict risk. But this was shot down by Russia and its allies in ICAO.

Cases of misidentification

On July 3, 1988, an Iran Air plane, flight 655, was shot down by a United States Navy warship, *USS Vincennes*, over the Strait of Hormuz. All 290 passengers were killed when the ship's missile brought down the plane which was misidentified to be a fighter plane. During the Iran-Iraq war (1980-88), U.S. patrolling required civilian aircraft to transmit the Identification Friend or Foe mode code. Apparently, the warship crew identified the Iranian aircraft to be a fighter and orders were issued to shoot it down.

On November 22, 2003, a DHL Cargo plane took off from Baghdad for Bahrain. As the flight was making a rapid climb out, a surface to air missile launched by terrorists struck the left wing between the engine and the wing tip. The crew lost all hydraulics and because the fuel tank was full, there were no fuel vapours to explode in the exposed fuel tank. The crew controlled the flight using only differential engine thrust and managed to carry out a safe landing, displaying exceptional skill. This writer had the privilege of attending a special presentation by the crew at the Flight Safety Foundation IASS 2004 seminar at Shanghai, China.

On February 27, 2019, just after Balakot, when fighter planes of the Indian Air Force (IAF) and the Pakistan Air Force were engaged in a dogfight, an IAF Mi-17 helicopter was shot down by a surface-to-air missile of the IAF's air defence system. Six personnel lost their lives in what was a serious error. Here again, the helicopter was wrongly identified as a foe.



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With military conflicts and incidents of state players posing threats to civil aviation rising, the issue of training proficiency and skills assumes importance

On July 17, 2014, a Malaysia Airlines flight, MH17, from Amsterdam to Kuala Lumpur with 283 passengers and 15 crew, was shot down by Russian-backed forces with a surface-to-air missile while flying over eastern Ukraine.

All these examples highlight the issue of misidentification.

Post September 11, 2001, there are specific procedures to be followed in the event of track deviation due to weather, or a failure of navigation signals. Specific radio procedures are implemented for crew to comply with, else air force fighter jets may shoot down a civilian aircraft if perceived to be flying in a suspicious manner. On February 16, 2017, an Indian airline flight, Jet Airways flight 9W 118, with 330 passengers and 15 crew members, from Mumbai to London, was cruising at 36,000 feet. It flew over a few flight information regions without maintaining radio contact with the air traffic control of the region. The plane had not deviated from its assigned track. When it entered German airspace north of Cologne, the German Air Force deployed two of its Eurofighter Typhoons to intercept the Indian plane. Had the Jet Airways crew not responded to the Germans on an emergency frequency, they could have been shot down.

India's safety regulator, the Directorate General of Civil Aviation (DGCA), did a cover up terming it as a malfunction of the aircraft's communication system. If it was really a communication failure, the aircraft crew should have been using the necessary transponder code and ground stations would have known that it was an aircraft facing communication failure. Fighter jets would not have been deployed to intercept it.

Conflict zones, their dangers

The case of an Azerbaijani airliner, while on a flight from Baku in Azerbaijan to Grozny, in Russia, on December 25, 2024, but which crashed near the Kazakhstan city of Aktau after being diverted, has been the result of another event where a Russian anti-aircraft defence system may have caused the loss of lives. Of the 67 passengers on board, there were some survivors. For a state to get away with it by just saying 'sorry' does not bring back the precious lives lost. The aircraft had veered from its scheduled route due to fog. There is also the issue of GPS spoofing and false signals

or a loss of signals that affect navigation.

More than 500 people have lost their lives due to civil airlines being shot down. With growing wars and conflicts, flying over or near conflict zones is becoming dangerous, especially when there are countries which do not respect international borders and there are rogue elements who cause trouble by interfering with GPS signals.

The Indian regulator's silence

This brings the focus on a serious issue. Do airlines in India have comprehensive training in place for pilots to recognise jammed signals and do the airlines have standard operating procedures in place for taking over the navigation with alternate methods? There are reports of GPS errors or failures in the airspace over Pakistan, Afghanistan and Myanmar. With a rapid expansion of flights and with large numbers of aircraft being inducted, do airlines in India have enough experienced pilots? For example, Air India operates many of its non-stop flights to the west coast of the United States on routes that are avoided by American carriers. There are also reports of some leased aircraft with Air India not being equipped for extended flights over mountainous terrain. We hear nothing from the DGCA on what preventive measures it is taking in these cases.

We have had three passenger aircraft shot down by the Russians or Russian-linked agents. We have had the U.S. Navy shooting down a passenger airliner. We have had a cargo aircraft shot by a terrorist group with missiles supplied by either Russia or the U.S. as conflicts in West Asia have involved one or the other super power aiding sides in the conflicts. The large-scale use of drones and defence forces using missiles to shoot down flights make the skies really unsafe for passenger aircraft while flying over conflict regions. There is another danger. Skill levels have dropped as there is now rapid training which has resulted in degraded monitoring to assess pilot proficiency. The world has to wake up and take cognisance of this new danger. Indian aviation may be expanding rapidly but, at the same time, there is no urgency or compulsion to ensure the quality of pilots' flying skills. As James Reason's Swiss cheese theory explains, the holes in the cheese are lining up.

Do we act now or let another disaster pass?

China's moves must recast India's critical minerals push

On January 2, 2025, China's Ministry of Commerce (MOFCOM) expanded its export control list by including 28 entities from the United States, effectively restricting their access to a swath of items classified under dual-use export controls. At the core of these restrictions lies minerals and rare and refined materials that are vital for high-technology applications such as in aerospace, semiconductors, batteries, and advanced electronics. Beijing's list encompasses tungsten, gallium, magnesium, beryllium, hafnium, lithium-6 (isotope), and others – minerals with uses ranging from chip production to speciality alloys.

This is not the first time that China has weaponised the exports of its critical minerals. And it is an approach that is strategic and calculated. Beijing primarily targets minerals that are deemed to be critical by western nations and their allies, especially those essential for semiconductors, batteries, and high-tech manufacturing. However, China carefully balances these decisions against two constraining factors: it avoids controlling minerals which are heavily dependent on western raw material imports. And it refrains from actions that could disrupt its domestic industrial enterprises or export-dependent sectors. This strategic calculus was evident in China's rare earth minerals embargo against Japan in 2010, its recent restrictions on antimony, gallium, and germanium exports, and its ban, in December 2023, on rare earth extraction and processing technologies.

The situation in India

Meanwhile, policymakers in the United States and elsewhere are becoming increasingly concerned. These developments underscore a larger trend: the competition for critical minerals has become a fulcrum of international economic diplomacy. For nations such as India, these events are also a wake-up call – to improve domestic mineral exploration and production capacity.

India's push for critical minerals development



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India's critical minerals development plans face challenges; a way out may be to adopt the semiconductor fabrication model

has faced stubborn challenges. In 2023, lithium deposits that were found in Jammu and Kashmir's Reasi district made headlines, hinting at a game-changer moment for India's energy transition. However, a little over a year later, the story remains lacklustre: no company has shown interest in bidding for these resources, and the block remains in limbo. Unfortunately, this is not an isolated incident. Government data show that only 48% (24 out of 49) of the mineral blocks available for auction in recent years have been auctioned.

This lack of market enthusiasm cannot be pinned entirely on government negligence. Over the last three years, the Union government has introduced measures to spur activity in critical minerals. The Ministry of Mines identified 30 critical minerals that are deemed essential for national security. And before that, the Union government set up a designated body, Khanij Bidesh India Ltd. (KABIL), which has been tasked with obtaining overseas investments in critical minerals such as lithium and cobalt. Parliament passed the Mines and Minerals (Development and Regulation) Amendment Act, 2023, lifting restrictive classifications on some rare earth elements that used to be considered 'atomic minerals'. These reforms theoretically opened the door for greater private-sector investment and technology sharing.

Reforms and results

A key highlight of the 2023 amendments is the introduction of an 'exploration license', devised to attract specialised resource exploration agencies, including foreign companies, to survey potentially rich but geologically challenging deposits. Instead of having to commit to a full-scale mining operation that can take over a decade or more to turn profitable, these exploratory firms can now participate in reconnaissance and prospecting alone. The law also promises to reimburse 50% of the exploration expenditure once mining begins, aiming to de-risk early-stage operations.

Despite these promising reforms, the results have been tepid. Only a handful of exploration

licences for minerals such as lithium, rare earth elements, and graphite have been cleared, and those mostly went to Indian public sector firms. Foreign participation is sparse, and further downstream, mining license auctions for critical minerals have largely stalled.

One explanation is that India's resource classification system is outdated, leaving miners unsure about the commercial viability of mineral blocks. Exploration levels – often categorised under international norms as G1, G2, G3, or G4 – require progressively detailed geological data on ore grade and quantity. Many auctioned blocks in India have yet to reach advanced exploration status, making them riskier to prospective bidders. That said, a more puzzling factor is the low demand for exploration licences themselves – an option that should, in principle, help de-risk investments but evidently has not had the intended effect.

Fiscal incentives may be essential

This brings us to the essential role of high-quality data. Exploration is at the heart of mitigating 'information asymmetry', where potential buyers (mining companies) and the seller (government) do not share a clear view of the resource's true value. Without robust geological surveys, many bidders discount their offers or abstain entirely. The result is suboptimal auctions, with some potentially valuable blocks simply overlooked.

A possible remedy is to offer larger upfront fiscal incentives during the exploration phase. In other words, the solution might be to approach critical minerals extraction as a semiconductor fabrication project. In chip manufacturing – another sector with enormous upfront costs and slow returns – India has taken an aggressive approach, pledging direct capital support early in the construction phase. A similar model could work for critical minerals, offsetting immediate exploration costs instead of reimbursing them only after production begins. Upfront capital support for exploration would resolve a market failure and help unlock value many times over in downstream mining, exploration, sales, and exports.

Text & Context

Number of people killed in the Indonesian landslide

19 Hundreds of rescuers were searching through thick mud and debris to find survivors. Intense rainfall in a mountainous area near the Pekalongan city in Central Java province sparked the landslide on Monday, collapsing bridges and burying houses. AFP
COMPILED BY THE HINDU DATA TEAM

What is U.S.'s new rule for exporting AI chips?

What is the main objective behind one of the last orders of the Biden administration? How will the tiered framework for licensing and exporting Artificial Intelligence chips work? How has the tech industry responded to the move? Will it affect India?

EXPLAINER

Saptaparno Ghosh

The story so far:

With an objective to advance increased control over circulation of Artificial Intelligence (AI) chips and technology, the U.S. Bureau of Industry and Security (BIS) introduced a tiered framework for licensing and exports. It held the regulations were in tandem with “national security and foreign policy interests”. Further, it would help “cultivate a secure and trusted technology ecosystem for the responsible use and diffusion of AI”.

What technology are we discussing?

Broadly, the regulation concerns advanced computing chips and certain closed AI model weights. AI models are software programs that comprise a series of mathematical operations. When data is entered into the program, it executes those operations on the entered data (provided by the user) to produce outputs which could be information, analysis or media. It is the design of these operations and their arrangement, known as the model architecture, that determines the nature and quality of the output.

What do the regulations propose?

The new regulations update existing rules for export, re-export and transfers (in-country) by segregating countries into three tiers – each harbouring different rules for licensing and authorisation. The first of these tiers entail no restrictions for the export, re-export or transfer of advanced computing chips to 18 U.S. allies and partners, including Australia, Belgium, Canada, South Korea, U.K. and Japan, among others. The second tier introduces caps on volume and exemptions based on specifications alongside mandatory authorisation and licensing. It holds that transactions that could contribute to the development of



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advanced AI models would require a Validated End User (VEU) authorisation. Those that do not contribute to the development of advanced AI models, such as chips with a collective computation power of roughly 1,700 advanced GPUs, would not need an authorisation. China and India together have been categorised under this sub-head. The third tier includes arms-embargoed countries, such as North Korea, Iraq, Iran and Russia, among others. These countries will have no access to the technology.

Why has access been curtailed?

One of the main objectives has been to ensure that the technology (or equipment) do not reach the ‘countries of concern’ or U.S. adversaries. Furthermore, as detailed in the Federal Register, it strives to ensure that model

weights are stored outside the U.S. “only under stringent security conditions” and that the large clusters of advanced integrated circuits (ICs) necessary to train those models are “built in destinations that pose comparatively low risks of diversion or misuse”. The BIS determined that adversaries could potentially use the advanced AI systems to improve speed and accuracy of their military decision making, planning and logistics. BIS also observed that access to systems could potentially lower the barrier for non-experts to develop weapons of mass destruction, support offensive cyber operations and assist in human rights violations (such as through mass surveillance). Separately, it is essential to note that the BIS placed concerns about Chinese companies utilising “foreign subsidiaries in a range of uncontrolled destinations to buy ICs”.

What are the concerns?

The primary concern relates to the threat to U.S.’ global competitiveness in the realm. Ned Finkle, Vice President of Govt Affairs at NVIDIA – among the largest chip makers globally, wrote in a blogpost that it would undermine the innovation that has kept the U.S. ahead. Mr. Finkle argued that the rules would do nothing to enhance U.S. security. “The new rules would control technology worldwide, including technology that is already widely available in mainstream gaming PCs and consumer hardware.”

Ken Glueck, Executive Vice President at Oracle, wrote in December 2024, that the rules assumed there were no other non-U.S. suppliers to procure GPU technology from. Explaining the aspect about competitiveness, the Oracle executive stated that by adding “more chips to the problem, you can keep playing the game”. “If your alternate supplier has less performance, you can achieve parity by just adding more GPUs for the task. Enter Huawei and Tencent. Do it a cheaper price. Enter the CCP. And deploy it globally, enter Alibaba,” he explained. The rules have been introduced less than a week before President-elect Donald Trump’s return to the White House. The tech industry have pinned their hopes on the incoming administration to withdraw the framework.

Do these rules impact India?

According to Pranay Kotasthane, Chairperson at High Tech Geopolitics Programme at Takshashila Institution, big Indian data centres wanting to deploy advanced AI chips might need to apply for the VEU authorisation to speed things up. He observed that Indian companies acquiring the VEU authorisation can utilise the exported items for civilian and military purposes except for nuclear-end uses. “All in all, it does not seem to be a big deal. The bigger story is that India is not in the trusted allies and partners category, probably because of the leakages of chips to Russia,” he said.

THE GIST

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Is the government encouraging ‘crosspathy’?

Why did the Maharashtra Food and Drugs Administration issue a directive allowing homeopathic practitioners to prescribe allopathic medicines?

Zubeda Hamid

The story so far:

The Maharashtra Food and Drugs Administration has, in a recent directive, allowed homeopathic practitioners, who have completed a certificate course in modern pharmacology, to prescribe allopathic medications.

Why is it being challenged?

In 2017, the Maharashtra Medical Education and Drug Department had issued a notification allowing homeopathic practitioners to practise modern medicine. As per this notification, doctors who had obtained the Licentiate of the Court of Examiners of Homeopathy degree from 1951-1982 (the degree was abolished in 1982), and were registered with the Maharashtra Medical Council, were allowed to practise

modern medicine. This directive was challenged in the Bombay High Court by the Indian Medical Association (IMA). The High Court issued a stay, with the Bench questioning the risk that could be posed to patients if these doctors were allowed to practise allopathy.

IMA Maharashtra president Santosh Kadam said it was unclear why the Maharashtra FDA had now issued this directive. He said that even the central body for homeopathy had no provision to allow its practitioners to practise another stream of medicine and that ‘crosspathy’ was banned by the Supreme Court. Following the Bombay High Court stay, homeopathic practitioners were not allowed to prescribe allopathic medication, until the final decision of the court came in, he said.

Former secretary of the IMA, Maharashtra, Parthiv Sanghvi, pointed out that the issue has been portrayed as

the Maharashtra government allowing homeopathic practitioners to practise modern medicine – which is not the case, as this has already been stayed by the High Court. “This was a direction to chemists to entertain allopathic prescriptions of homeopathic practitioners. But who has given the FDA the authority to issue such a directive, in light of the fact that court has stayed the order allowing homeopathic practitioners to practise modern medicine,” he asked.

What is SC’s stance on ‘crosspathy’?

In 1996, in *Poonam Verma versus Ashwin Patel and Others*, which involved a homeopath treating a patient with allopathic medications and the patient subsequently dying, the Supreme Court held the homeopath liable for negligence as he had prescribed medications that he was not qualified to. A 2015 research paper by Suresh Bada Math et al states:

“Across judgments, the judiciary has held that cross-system practice is a form of medical negligence; however, it is permitted only in those states where the concerned governments have authorised it by a general or special order.”

Is there a shortage of doctors?

The Central government has been promoting AYUSH medicine for some years now, with a push being given to integrative/integrated medicine. The rationale, in general, has been that India has a shortage of doctors, particularly in rural areas, and that the AYUSH cadre of practitioners can help fill in these gaps.

As per a Parliament statement in February 2024, there are 13,08,009 allopathic doctors registered with the State medical councils and the National Medical Commission as on June 2022, and 5.65 lakh AYUSH doctors. The shortage of specialists is dire – the Health Dynamics of India 2022-23 report reveals a nearly 80% shortage of specialist doctors in community health centres across rural India. Public health specialist Soham Bhaduri pointed out that while there is evidence that mid-level providers can provide care of comparable quality to that of medical doctors, their orderly integration into the system is crucial. “Allowing just any cadre of alternative medical practitioners to assume roles and functions that are meant for medical doctors is a recipe for anarchy.”

THE GIST

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BIBLIOGRAPHY



Guiding light: An illuminated installation of Mahatma Gandhi in Belagavi, Karnataka, on December 26, 2024. PTI

Gandhi and reflections on the idea of India, past and present

Two writers engage with Gandhi and his fertile world of ideas and actions to understand the forces that have shaped contemporary India. Both Krishna Kumar and Vivek Dhareshwar reveal to readers how Gandhi offers rich conceptual resources to reflect on the present

Shashikala Srinivasan

How did we come to be where we are today? What kind of forces have shaped us and brought us to our current moment in history? Two recent books, both published in 2024, are an attempt to answer precisely these questions. Despite being vastly different forms of engagement, Gandhi and his fertile world of actions and ideas is central to both.

The first book is *Thank You, Gandhi*, a labour of love, by the well-known educationist and thinker, Krishna Kumar. Though referred to as a novel, the book defies easy generic classification and is an innovative blend of fiction and non-fiction. It is a unique exploration of Gandhi's thoughts and the challenges of keeping his legacy alive in the current political landscape.

The story is largely told through the eyes of the central character Munna, or Viresh Pratap Singh, a brooding, thoughtful IAS officer and the narrator K's childhood friend. Before falling victim to COVID, Munna sends his unfinished manuscript to K and urges him to complete it and present it to a larger audience. Using this fictional device of reconstructing his friend's manuscript, Kumar gives us an evocative portrayal of the events of the last few decades and their disturbing, psychological impact on a generation brought up on the vision of India as dreamt by Gandhi, Nehru and others, an India that was "a modern yet kind, considerate nation." The author vividly portrays Munna's tragic descent into despair and desperation as he sees the more expansive idea of India that he is brought up on slowly collapse with the

rise of the new dispensation. It is during these moments of darkness that Munna engages with Gandhi, walking alongside the philosopher-saint, in dialogue with him.

Thinking with, and against, Gandhi
A powerful socio-political commentary, the author captures the transformation of Bhopal from being a vibrant, plural culture to a discordant, divisive one. The Union Carbide tragedy of December 1984 that killed innumerable people in one night, the festering effect of Partition, the growth of Hindu nationalism and other significant shifts and events of the last few decades are delineated in a layered, compelling narrative. These are interwoven with Munna's engagement with Gandhi's rich idea of Hinduism, his guarded view of science, his notion of truth as a symbol for "the ingredients of morality" and not as mere "fidelity to facts" and his complex ideas on non-violence, swaraj and satyagraha. Sometimes thinking along with Gandhi and sometimes against him, grappling with some of his "quixotic" ideas in Hind Swaraj, these sections, where the past deftly merges with the present, make a fascinating read.

In a moment of acute self-reflexivity, Munna even asks Gandhi whether it was "all right to hate" those in power. Gandhi responds by asking him to instead "hate the system" and urges Munna to think about why truth for him had to be clubbed with non-violence. It is here that Munna seems to grasp that there is something inherent in modern politics that produces excessive identities and hatred. In one of his thoughtful musings, Munna recognises that Hindu nationalism

is a child of colonialism. However, that Hindu nationalism is produced by secularism, escapes him.

Therapeutic engagement
In effect, engaging with Gandhi, for Munna, becomes almost therapeutic, a process of healing and preserving himself, and a way to continue to serve the world in the way he knows best. The narrative ends on a poignant note where K longs for Munna to hear him say "India is a great teacher, my friend, and it never fails to teach whoever tries to bend it." It is in Gandhi, the philosopher-healer, who virtually becomes the embodiment of India, that we have a reminder of India's distinctness and its plural ethos.
Gandhi is also central to our second book, Vivek Dhareshwar's *Sites of Learning and Practical Knowledge: Against Normativity*. A demanding but rewarding read, the book is a tenacious, philosophical enterprise that focuses on the loss of concepts and the destruction of a practical form of life caused by the "experience-occluding structures" of colonialism that persist till today.

Ethical learning
While not exhausted by Gandhi, Gandhi is vital to the book in illuminating the notion of a practical form of life and the idea of ethical learning that is salient to the book's argument. Describing India as a practical form of life that nourishes inquiry into living through various practices, making it possible "to discover experiential truth," the author argues that these varied, rich practices are destroyed by the secularised, moral norms of Western civilisation, brought in by colonialism.

It is precisely these modes of practical learning that enable one to attend to "how to live well" by reflecting on experience that Gandhi aims to restore. It is thus not surprising that it is through Gandhi that practical or experiential knowledge finds the most obvious expression in anti-colonial struggles and he is able to turn an elite freedom struggle into a mass movement.

One can make better sense now of Gandhi's criticism of modern medicine, economics, lawyers, history and representative democracy. Gandhi instead attempts to reconstruct several practical domains in an integrated way as alternative "sites of learning" – the sphere of health and dietetics, erotic, civic conduct and others – all of which are meant to nurture the "practices of the self."

Contrasting religion as inquiry with religion as identity, a distinction informing Gandhi's reflections on religion, the author shows what we take to be Hinduism are "traditions of reflecting on experience." It is immersion in these traditions that "allow Gandhi to diagnose and resist experience-occluding structures in different domains."

Despite their different formulations and diagnoses of our current predicament, both Krishna Kumar and Vivek Dhareshwar reveal to us how Gandhi and his world of ideas offer us rich conceptual resources to reflect on our present and invite us to engage with the question of how we came to be where we are as a society.

Dr. Shashikala Srinivasan is an independent scholar and author of 'Liberal Education and Its Discontents: The Crisis in the Indian University'

THE DAILY QUIZ

Please send in your answers to dailyquiz@thehindu.co.in

U.S. President Donald Trump signed an executive order cancelling the provision of "citizenship by birth". Here is a quiz on citizenship laws from across the world

Sindhu Nagaraj

QUESTION 1
This country grants citizenship only under exceptional circumstances. It is not based on blood or soil, and it is granted and revoked based on work and residence. If one is a cardinal residing in the country, or due to employment within the church, citizenship is granted. Name the country.

QUESTION 2
Citizenship of the Mercosur is granted to eligible citizens of which bloc? Which are the countries part of the bloc?

QUESTION 3
These citizens are the members of this international association of 56

member states. A vast majority of them are former territories of the British Empire from which it developed. In addition to voting and residency rights, many receive consular assistance from member countries. What is the group called?

QUESTION 4
This form of citizenship exists within a smaller administrative unit, like a state or province, within a nation, granting residents certain rights and participation in local governance, distinct from their national citizenship at the country level. An example of this is Aaland, a small region within Finland. What is this citizenship called?

QUESTION 5
Nationality law can be broadly categorised into three principles. What are they?



Visual question: In this image, the protest is related to which country?

Questions and Answers to the previous day's daily quiz:
1. This officer was one of the founding members of the All India Democratic Women's Association. **Ans: Capt. Lakshmi Sahgal**
2. The three INA officers who were court-martialled by the British. **Ans: Col. Prem Sahgal, Col. Gurbaksh Singh Dhillon, Major-General Shah Nawaz Khan**
3. Name the person who represented the three INA officers in the Red Fort trial. **Ans: Pandit Jawaharlal Nehru**
4. This former British Army officer was captured by Japanese troops in World War II in the Malayan campaign and later on, founded the INA. **Ans: Gen. Mohan Singh**
5. This officer served as Governor of Andaman Islands during the Azad Hind Fauj's occupation. **Ans: Major General AD Loganathan**
Visual: Identify this INA veteran. **Ans: John Thivy**
Early Birds: ViswanadhaRao Batchu| Sumana Dutta| C. Saravanan| Barnali Biswas| Piyali Tuli

From Page One

Rubio seeks talks on migration with India

The Minister said the meeting reviewed the “extensive bilateral partnership, of which Mr. Rubio has been a strong advocate”, adding that they had shared views on regional and global issues.

“[I] look forward to closely working with him to advance our strategic cooperation”, he added.

There are an estimated 7.25 lakh undocumented Indians in the U.S. among 1.4 million in total, according to the U.S. Immigration agency ICE, of which nearly 18,000 are on a list for “final removal” or deportations.

India’s Ministry of External Affairs (MEA) did not respond to requests for a comment on Mr. Rubio’s demand, nor did it respond to reports that India has agreed to cooperate in the deportation of the 18,000 Indians on the list.

The revocation of ‘citizenship by birth’, which is due to be implemented within 30 days if not annulled by U.S. courts, would affect hundreds of thousands of Indians working in the U.S. on H-1B and other temporary visas and hoping to raise families there.

Tax on BRICS

Neither side referred to Mr. Trump’s other statement while issuing the Executive Orders, that he would levy a “100% tax” on members of the BRICS grouping of emerging economies, if they sought to sideline the U.S. dollar in trading.

Earlier, Mr. Jaishankar attended the Quad meeting along with Australian Foreign Minister Penny Wong and Japanese Foreign Minister Iwama Takeshi, which was Mr. Rubio’s first foreign policy engagement after meeting State Department employees. A joint statement issued by the four Ministers said that they “strongly opposed any unilateral actions that seek to change the status quo by force or coercion”, a message believed to be aimed at China’s actions in the region.

The next Quad Summit is due to be held in India, which was not able to host the Summit in 2024 as the then-U.S. President Joe Biden was unavailable.

Mr. Jaishankar said that it was “significant that the Quad FMM took place within hours of the inauguration of the Trump Administration”. “This underlines the priority it has in the foreign policy of its member states,” he wrote on X.

Union Minister Vaishnaw takes part in series of meetings at WEF 2025

The Hindu Bureau
NEW DELHI

Union Minister Ashwini Vaishnaw took part in a series of strategic meetings in Switzerland, underscoring India’s commitment to fostering international collaboration and embracing innovative technologies in the railway sector. He also made a presentation on the Indian semiconductor ecosystem.

Before heading for the World Economic Forum (WEF) 2025 in Davos, Mr. Vaishnaw on Tuesday held several meetings. He said: “Prime Minister Narendra Modi has always guided us to benchmark our efforts to the global bests. Today’s visit is also in this direction. There is a lot of interest around the world in ‘Made in India’ products.”

A presentation showcasing the latest advancements in infrastructure diagnostics was held by the Swiss Federal Railways. Mr. Vaishnaw engaged with



Railways Minister Ashwini Vaishnaw visits the coach manufacturing plant of Stadler Rail in Switzerland on Wednesday. PTI

Swiss experts to understand the technologies that can bolster operational efficiency and safety within the Indian Railways system. It was followed by a meeting with leading railway sector small and medium enterprises, including Rhomberg Sersa Ag, Selectron, Ucentrics, Autech, and nu Glass.

Visit to rail coach plant
Another key meeting was with Stadler Rail Management and a visit to their state-of-the-art manufac-

turing facility in St. Margrethen. Stadler Rail’s expertise is in producing double-decker multiple-unit trains. Mr. Vaishnaw also attended the opening dinner hosted by the board of trustees of WEF.

Semiconductor push
The Union Minister made a presentation on the Indian semiconductor ecosystem to Arvind Krishna, an Indian-American business executive and the chairman and chief executive officer of IBM.

Need more time to propose amendments to Waqf Bill: Opposition to panel Chair

The Hindu Bureau
NEW DELHI

The Joint Parliamentary Committee examining the Waqf (Amendment) Bill, 2024 has completed its tour to meet stakeholders in various parts of the country, and is now being called to Delhi for a meeting on Friday and Saturday to discuss amendments to the legislation.

Opposition MPs have demanded a postponement to allow them more time to propose the amendments, asking why the committee's Bharatiya Janata Party leadership was in such a hurry to wrap up the deliberations.

Representing the Opposition's concerns, Dravida Munnetra Kazhagam MP A. Raja shot off a letter to the committee's chair and BJP MP, Jagdambika Pal, pointing out that panel members ended their tour to meet stakeholders in Patna, Kolkata and Lucknow only on Tuesday.

"It is very strange that the next dates for sitting of JPC were hurriedly announced without any for-



DMK MP A. Raja and other Opposition members on the Waqf panel leaving to meet Lok Sabha Speaker Om Birla. FILE PHOTO

mal discussion when the JPC was already on tour," Mr. Raja noted.

Even during the panel's meeting in Lucknow, Mr. Raja said, the members had pointed out that the next proposed meeting on January 24 and 25 was not practical, since the MPs also have commitments in their own constituencies.

'No time'

The schedule leaves little time to gather evidence and go through the deliberations that took place over the several meetings in Delhi and other States. The questions asked during the meetings in Patna, Kolkata

and Lucknow have not yet been answered, the Opposition leader said.

The DMK MP also recalled Mr. Pal's assurance to positively consider the members' request after consultation with the government. "Unless the sittings of the JPC is postponed, the purpose of the Constitution of the JPC itself will be defeated as it raises the doubts in the minds of the people of India that the secular fabrics of the Constitution embodied in its preamble itself are endangered and the due process in conducting the JPC is also not followed," Mr. Raja wrote.

Flagship scheme for girl child has helped defeat bias: Modi

Districts with historically low child sex ratios have reported significant improvement, awareness campaigns have instilled a deeper sense of the importance of gender equality, says Prime Minister

The Hindu Bureau
NEW DELHI

Asserting that the *Beti Bachao, Beti Padhao* (Save and educate the girl child) campaign had helped overcome gender bias, Prime Minister Narendra Modi on Wednesday said districts with historically low child sex ratios had shown remarkable improvement since the campaign was launched a decade ago.

The scheme, launched by the Prime Minister at Panipat in Haryana on January 22, 2015, addresses the declining child sex ratio (CSR) and related issues of women empowerment. It is a tri-ministerial effort of the Ministries of Women and Child Development, Health and Family Welfare, and Education.

The key elements of the scheme include enforcement of the Pre-Conception and Pre-Natal Diagnostic Techniques Act, a nationwide awareness and advocacy campaign, and multi-sectoral action in select 100 districts (low CSR) in the first phase.

"Thanks to the dedicated efforts of the people and various community



The scheme was launched in 2015 to address the declining child sex ratio and related issues of women empowerment. FILE PHOTO

service organisations, *Beti Bachao Beti Padhao* has achieved remarkable milestones," Mr. Modi said in a post on X.

"Districts with historically low child sex ratios have reported significant improvement, and awareness campaigns have instilled a deeper sense of the importance of gender equality," he said.

"I compliment all stakeholders who have made this movement vibrant at the grassroots level. Let us continue to protect the rights of our daughters, ensure their education and

create a society where they can thrive without any discrimination," Mr. Modi added.

Rise in enrolment: Shah Union Home Minister Amit Shah said the campaign had given a new dimension to the rights, education, and respect of daughters in the country.

"Today, there has been an increase in the enrolment rate of girls in schools and an unprecedented improvement in the sex ratio. Today daughters are increasing the country's prestige by playing a lead-

ing role in every field," Mr. Shah said on X.

At a special event to mark the 10th anniversary of the programme in the national capital, Union Health Minister J.P. Nadda underscored the progress made in critical sectors such as health and education.

"The success of *Beti Bachao Beti Padhao* scheme is evident in the substantial improvements in child sex ratio, institutional deliveries, and access to healthcare services for girls. The Government of India is committed to ensuring that every girl child receives the care and opportunities she deserves to grow into a leader of tomorrow," he said.

The national sex ratio at birth has improved from 918 in 2014-15 to 930 in 2023-24.

The gross enrolment ratio of girls at the secondary level has risen from 75.51% to 78%, and institutional deliveries have surged from 61% to 97.3%. Additionally, first-trimester antenatal care registrations have increased from 61% to 80.5%, according to an official statement released after the event.

National Health Mission has curbed several public health concerns, says Centre's report

Bindu Shajan Perappadan
NEW DELHI

The National Health Mission (NHM) has significantly contributed to improving India's public health, including lowering of the maternal mortality ratio, incidence of tuberculosis (TB), and sickle cell anaemia.

It has also contributed to expanding human resources in the field while fostering an integrated response to health emergencies, the Union government said on Wednesday in its assessment report (2021-24) presented to the Union Cabinet.

Listing out key achievements of the NHM in the past three years, the Centre noted that there had been a significant increase in human resources within the healthcare sec-

With NHM, maternal mortality ratio has declined by 83% since 1990, which is higher than the global decline of 45%

tor. "In FY 2021-22, NHM facilitated the engagement of 2.69 lakh additional healthcare workers, including general duty medical officers, specialists, staff nurses, AYUSH doctors, allied healthcare workers, and public health managers. Additionally, 90,740 community health officers (CHOs) were engaged. This number grew in subsequent years, with 4.21 lakh additional healthcare professionals engaged in FY 2022-23, including 1.29 lakh CHOs, and 5.23 lakh workers engaged in FY 2023-24, which includ-

ed 1.38 lakh CHOs," the report stated.

It further noted that under NHM, the Maternal Mortality Ratio (MMR) has declined by 83% since 1990, which is higher than the global decline of 45%. Infant Mortality Rate (IMR) has fallen from 39 per 1,000 live births in 2014 to 28 in 2020.

Moreover, the Total Fertility Rate (TFR) decreased from 2.3 in 2015 to 2.0 in 2020, according to the National Family Health Survey (NFHS-5). These improvements indicate that India is on track to meet its U.N. Sustainable Development Goals (SDG) targets for maternal, child, and infant mortality well ahead of 2030. The NHM has also been instrumental in the elimination and control of various diseases, including the incidence of TB.

Tax avoidance treaties: India sets new norms for claiming benefits

The Central Board of Direct Taxes has issued fresh guidelines for applying the Principal Purpose Test (PPT) provisions under Double Tax Avoidance Agreements or DTAA; deals with Cyprus, Mauritius and Singapore to remain outside for now

Press Trust of India
NEW DELHI

The Income Tax department has come out with a fresh guidance note on applicability of Principal Purpose Test (PPT) for claiming tax treaty benefits, which will apply prospectively.

The Central Board of Direct Taxes (CBDT) in its guidance note on PPT also clarified the grandfathering provisions under the India-Cyprus Double Tax Avoidance Agreement (DTAA), and the similar pacts with Mauritius and



Singapore would stay outside the purview of the new PPT provisions. India has made certain treaty-specific bilateral commitments in the form of grandfathering provisions in the

DTAAs signed with these three nations.

“These commitments, as reflected in the bilaterally agreed object and purpose of such grandfathering provisions, are not intended to interact with the PPT provision as such,” the CBDT said.

The grandfathering provision in the treaties would be governed by the specific provisions specified in the respective DTAA.

Deloitte India partner, Rohinton Sidhwa said the circular clarifies various aspects for interpreting the PPT that now featured in

most Indian tax DTAA.

Crucially, it establishes the primacy of the grandfathering article featuring in some treaties, namely Cyprus, Mauritius and Singapore. The circular protects such treaty-specific bilateral commitments and carves them out of the purview of the PPT provisions.

“This was a grey area when the new protocol was made public for the India Mauritius treaty. With this clarification, there is a likelihood that the protocol would be notified and go into effect in the coming financial year beginning

April 1, 2025,” he said.

Nangia Andersen LLP partner Vishwas Panjiar said as per the note, PPT provisions shall apply prospectively and would also not be applicable in cases where India has entered into treaty-specific bilateral commitments in the form of grandfathering.

“The guidelines nudge tax authorities to refer to BEPS Action Plan 6 as well as UN Model Tax Convention for supplementary source of guidance while deciding on invocation and application of PPT provisions,” Mr. Panjiar added.

Ashwini Vaishnaw steers Davos parleys

The Hindu Bureau
NEW DELHI



NEW DELHI: Union Minister Ashwini Vaishnaw has participated in a series of strategic meetings in Switzerland, underscoring India's commitment to fostering international collaboration and embracing innovative technologies in the railway sector, and also made a presentation on the Indian semiconductor ecosystem.

Before heading for the World Economic Forum (WEF) 2025 in Davos, Mr. Vaishnaw on Tuesday held several meetings. Speaking on the occasion, he said: “Prime Minister Narendra Modi has always guided us to benchmark our efforts to the global bests. Today's visit is also in this direction. There is a lot of interest around the world for made in India products”.

A presentation showcasing latest advancements in infrastructure diagnostics was held by the Swiss Federal Railways. Mr. Vaishnaw also engaged with Swiss experts to understand the cutting-edge technologies that can bolster operational efficiency and safety within the Indian Railways system.

This was followed by a meeting with leading railway sector “Small and Medium Enterprises”, including Rhomberg Sersa Ag, Selectron, Ucentrics, Autotech, and nu Glass.

Another key meeting was with Stadler Rail Management and a visit to their state-of-the-art manufacturing facility in St. Margrethen. Stadler Rail's expertise in producing double-decker multiple-unit trains.

Mr. Vaishnaw also attended the opening dinner hosted by the Board of

Trustees of WEF.

The minister made a presentation on the Indian semiconductor ecosystem to Arvind Krishna, the chairman and chief executive officer of IBM.

Andhra Pradesh, under the theme ‘Business with Speed and Innovation’, is presenting its 1,054-km-long coastline, business-friendly policies, and seven airports, as a unique selling point to global investors. Chief Minister N. Chandrababu Naidu will engage with top executives from global firms like Unilever, DP World Group, Petroleum National Berhad (Petronas), Google Cloud, PepsiCo, and AstraZeneca.

Telangana Chief Minister Revanth Reddy was also present at the Davos WEF meet. “Telangana means business. We are promoting sectors like electric vehicles, semiconductors, pharma, and infrastructure,” he said.

Global companies “really want to involve themselves” with India, which is the world's third-largest domestic market, added Civil Aviation Minister Ram Mohan Naidu.

The India Pavilion features eight States seeking investment opportunities from executives of companies worldwide – Kerala, Telangana, Uttar Pradesh, Andhra Pradesh, Maharashtra, Tamil Nadu, Karnataka, and West Bengal.

H-1Bs fill critical skills gap in U.S.: Nasscom

Press Trust of India
NEW DELHI



Nasscom on Wednesday said H-1B visas have nothing to do with immigration issues and instead fill critical skills gap in the U.S., as the apex industry body asserted technology will be the “lynchpin” of U.S. economic growth, triggering continued need for ‘win-win partnerships’ between companies on both sides.

Nasscom vice-president Shivendra Singh slammed the ‘myth’ that H-1B workers were cheap labour, replace American workers, or depress U.S. salaries, and sought to assuage concerns around any adverse impact of President Donald Trump's latest moves and orders on flow of Indian tech professionals to the U.S.

Mr. Singh told PTI Nasscom does not have any reason to be less optimistic about Indian IT industry's growth story, given India and Indian talent have a very important role in the growth of the U.S. economy. He expressed optimism that the developments in the U.S. would not cloud the outlook for the Indian IT industry.

Nasscom's comments assume significance given the growing unease around Mr. Trump's policies and the impact it could have on export-led \$250 billion Indian IT industry, which derives the biggest chunk of its revenue from the U.S. market.

President Trump began his second term with a spate of executive orders on Tuesday and moved quickly to end a decades-old immigration policy of birthright citizenship – that is automatic citizenship for children born in the U.S. to non-citizen pa-

rents. Many believe, and worry this could potentially impact children born in the U.S. to H-1B visa holders as well as other categories like green card holders and those on temporary visas.

De-dollarisation threat

Mr. Trump repeated his warning he will impose 100% tariffs on BRICS countries, of which India is a part, if they take any step to replace the U.S. dollar.

Asked how the revoking of birthright citizenship would impact H-1B holders, Mr. Singh expressed his empathy for those likely to be affected but emphasised that immigration policies are the absolute prerogative of a nation.

“I empathise...on challenges it may bring to those who have children during their tenure in the US...but immigration is absolute autonomy of a country - in this case the U.S.,” he said.

He stressed H-1B visas were nowhere linked to immigration debate or issue as it is a non-immigrant visa. Mr. Singh drew attention to Indian IT industry's hiring efforts in the U.S.

“Our companies have invested \$1.1 billion in the U.S. for local upskilling, and we are working with 2,55,000 employees who have been upskilled and 2.9 million students have been positively impacted.

TAIPEI

China's Navy gets new-generation frigate to counter U.S. and others



AP

China's Navy commissioned a new-generation frigate to counter the U.S. and other regional powers, saying the ship will "play a vital role in enhancing the overall combat effectiveness" of its forces. The first Type 054B frigate, christened the Luohe, was commissioned on Wednesday in Qingdao, a port city in northern China. AP

Trump warns of tariffs against EU and 10% rate on China by February

'They treat us very, very badly. So they are going to be in for tariffs,' says the U.S. President about the EU; Trump's charges against Beijing include that of sending fentanyl to Mexico and Canada; China says there are no winners in a trade war

Agence France-Presse
WASHINGTON

U.S. President Donald Trump pledged on Tuesday to hit the European Union with tariffs, adding that a 10% duty on Chinese imports could also come as soon as February 1.

Mr. Trump, who was speaking to reporters at the White House a day after being sworn in, cited the need to rectify the EU's trade imbalances with the United States while taking aim once again at Beijing over fentanyl trafficking.

"They treat us very, very badly. So they're going to



Shock factor: Donald Trump has issued a slew of orders since assuming office as the U.S. President on Monday. AP

be in for tariffs," Mr. Trump said of the EU. "You can't get fairness unless you do that."

A day earlier, Mr. Trump

accused the bloc of not importing enough American products, saying he would "straighten that out" by imposing duties or by seeking

more oil and gas purchases. Regarding China, Mr. Trump on Tuesday reiterated his threat to impose a 10% tariff, saying it was "based on the fact that they are sending fentanyl to Mexico and Canada."

When asked how soon these tariffs could be enacted, he added: "Probably February 1st is the date we're looking at."

This was the same date he earlier said he could impose 25% tariffs on Canada and Mexico, accusing them of failing to stop illegal immigration and fentanyl trafficking into the United States.

Beijing on Wednesday

vowed to defend its "national interests" in response to Mr. Trump's threats. "We have always believed that there are no winners in a trade war or a tariff war," foreign ministry spokeswoman Mao Ning said.

Ready to defend

The EU's economy commissioner also vowed this week that the bloc stands ready to defend its interests.

Speaking at an annual meeting of global elites in Davos EU chief Ursula von der Leyen declared that Europe was ready to negotiate with Mr. Trump.

Space telescopes stumble on rule-breaking black hole

LID-568 is a low-mass supermassive black hole that existed just 1.5 billion years after the Big Bang. An analysis of its effects on its neighbourhood has indicated that it was feeding on a surrounding cloud of matter at almost 40 times greater than what astrophysicists thought was the upper limit

Shreejaya Karantha

An international team of researchers using NASA's James Webb Space Telescope (JWST) and the Chandra X-ray Observatory has discovered a bizarre black hole that may provide insights into the genesis and growth of supermassive black holes.

Supermassive black holes are among the most common types of black holes in the universe. Most galaxies contain a supermassive black hole at their centres. These black holes have masses ranging from millions to billions of times that of the sun. The supermassive black hole Sagittarius A*, located at the center of the Milky Way galaxy, has a mass of approximately 4.3 million solar masses.

However, scientists are not yet fully certain how these giants grow to become so big.

Beyond the upper limit

The newfound black hole, designated LID-568, is a low-mass supermassive black hole that existed just 1.5 billion years after the Big Bang. If the universe were a human, it could be said to be around eight years old at this time.

A detailed analysis of its effects on its neighbourhood indicated that the black hole was feeding on a surrounding cloud of matter at an exceptional rate – almost 40 times greater than what astrophysicists thought was the upper limit.

The study was led by International Gemini Observatory/NSF NOIRLab astronomer Hyewon Suh, and the results were published in the journal *Nature Astronomy* in November 2024.

"We first identified this unusual object through Chandra X-ray observations, as it was exceptionally bright in X-rays but completely invisible in the deepest optical and near-infrared observations, even with the Hubble Space Telescope," Suh, the lead researcher, said.

"Because it was only detected in X-rays, we couldn't determine its nature. With JWST's unparalleled sensitivity in the infrared, we were finally able to uncover this exotic object, highlighting the complementary power of these observatories," she added.

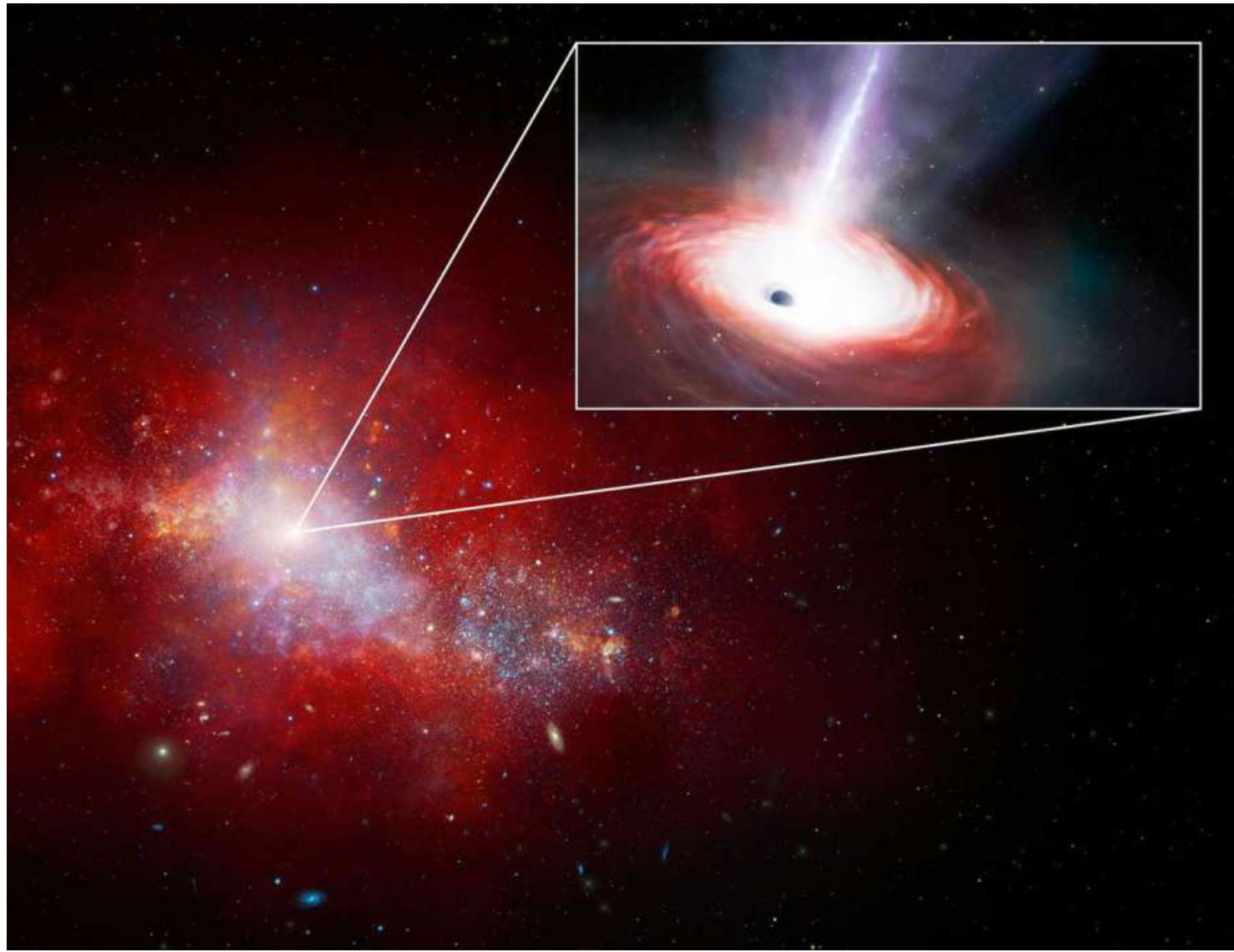
A class apart

The rate at which a black hole feeds on matter is governed by what astronomers call the Eddington limit. This limit – named after the English astronomer Arthur Stanley Eddington because he worked it out first – is also related to how brightly a black hole can shine.

Nothing can escape a black hole, of course. But when a black hole pulls surrounding matter towards itself, the infalling material becomes compressed, heats up, and emits radiation, especially X-rays.

The concept behind the Eddington limit is straightforward: as matter collects around the black hole and gets packed into the disc, it heats up and emits radiation that generates an outward pressure capable of counteracting the gravitational pull of the black hole. When this radiation pressure balances the force of gravity, the black hole will stop accreting the matter. Ergo, there is a limit on how brightly the black hole can shine.

If this limit is crossed, the scenario is called a super-Eddington accretion. This



An artist's concept of a red, early-universe dwarf galaxy that hosts the black hole LID-568 at its centre. While short-lived, this black hole's 'feast' could help astronomers explain how supermassive black holes grew so quickly in the early universe. NOIRLAB/NSF/AURA/J. DA SILVA/M. ZAMANI

is the category in which LID-568 lies.

Suh said that they measured the total light coming from the black hole and its mass using observations from Chandra and JWST's Near-Infrared Spectrograph instrument, which revealed the exceptional accretion behavior of LID-568.

Experts have hypothesised that super-Eddington black holes can exist. They have even found a few. But LID-568 has defied their expectation in two ways. First, it's much, much farther away. The most distant of these other black holes is "only" around 2.3 billion light years from earth. Second, while the known rule-breakers exceeded the Eddington limit by a factor of two or three, LID-568 has done so by a factor of roughly 40, according to Suh.

Super-Eddington episodes in black holes are expected to be short-lived, so it is also remarkable that researchers captured LID-568 in action.

Making sense of the oddball

The existence of supermassive black holes that are millions or even billions of times more massive than our sun poses a challenge to current models of black hole formation and growth. Scientists have confirmed that such black holes reside at the centres of many galaxies that should have formed when the universe was less than a billion years old. However, they can't explain how these objects came to be when the universe was so young, when there shouldn't have been enough matter for them to form.

According to some traditional models, Suh said, "supermassive black holes are thought to form from the death of the first star, i.e., light seeds with 10-100 times the mass of the sun, and/or through the direct collapse of primordial gas clouds, such as heavy seeds with 1,000-100,000 times the mass of the sun."

"However, these models lack direct observational confirmation and require sustained, continuous accretion of large amounts of matter over several hundred million years to account for the most extreme supermassive black holes observed in the early universe, which is likely difficult," she added.

The discovery of LID-568 is crucial because it suggests that large black holes could have put on a significant fraction of their weight during short-lived episodes of rapid feeding. If true, this mechanism would do away with black holes having to feed on large quantities of matter for a very long time and offer "a convincing explanation for how supermassive black holes could form so quickly, regardless of their initial seed mass," whether heavy or light.

Chasing more black holes

Suh also said there are several theories to explain how black holes can exceed the Eddington limit, including geometrically thick accretion discs, powerful black hole jets, and black-hole mergers. However, she said that her team still doesn't fully understand the exact mechanism that allowed LID-568 to feed so fast and that follow-up observations with JWST will be

The existence of supermassive black holes millions or even billions of times more massive than our sun poses a challenge to current models of black hole formation. Scientists can't explain how they came to be when the universe was so young, when there shouldn't have been enough matter for them to form

crucial to admitting or eliminating other hypotheses.

The researchers also found that the galaxy where LID-568 resided wasn't producing many new stars – the result of the black supermassive hole driving powerful streams of material outward from the centre, called outflows. These outflows could be preventing matter from accumulating in enough quantities to form stars.

To confirm this idea as well as to inform it with more data, Suh said she and her team are planning to examine similar galaxies and examine their outflows, especially those driven by very large black fast-snacking holes.

The research team is also planning to find out how long a black hole can accrete matter at a super-Eddington rate as well as what percentage of all black holes do so.

(Shreejaya Karantha is a freelance science writer and a content writer and research specialist at The Secrets of The Universe. shreejayakaranth@gmail.com)



The Wuhan Institute of Virology in Hubei province, China, during a visit by a WHO team tasked with investigating the origins of COVID-19 in February 2021. REUTERS

Wuhan keen to shake off pandemic label after five years

Agence France Presse

Built in just days as COVID-19 cases spiked in Wuhan in early 2020, the Huoshenshan Hospital was once celebrated as a symbol of the Chinese city's fight against the virus that first emerged there.

The hospital now stands empty, hidden behind more recently built walls – faded like most traces of the pandemic as locals move on and officials discourage discussion of it.

On January 23, 2020, with the then-unknown virus spreading, Wuhan sealed itself off for 76 days, ushering in China's zero-COVID era of strict travel and health controls and foreshadowing the global disruption yet to come.

Today, the city's bustling shopping districts and gridlocked traffic are a far cry from the empty streets and crammed emergency rooms that marked the world's first COVID lockdown.

"People are moving forward; these memories are getting fuzzier and fuzzier," Jack He, a 20-year-old university student and Wuhan local, said.

At the former site of the Huanan Seafood Wholesale Market, where scientists believe the virus may have crossed over from animals to humans, a light blue wall has been built to shield the market's closed stalls from view.

When AFP visited, workers were putting up Chinese New Year decorations on the windows of the market's second floor, where a warren of opticians' shops still operates.

There is nothing to mark the location's significance – in fact, there are no major memorials to the lives lost to the virus anywhere in the city.

Official commemorations of Wuhan's lockdown ordeal focus on the heroism of

Wuhan has shunned celebration of any reminders of the pandemic, and people are reluctant to get drawn into conversations about the past

doctors and the efficiency with which the city responded to the outbreak, despite international criticism of the local government's censorship of early cases in December 2019.

The market's old produce stalls have been moved to a new development outside the city centre, where it was clear the city was still on edge about its reputation as the cradle of the pandemic.

Over a dozen vendors at the aptly named New Huanan Seafood Market refused to speak about the market's past.

The owner of one stall told AFP on condition of anonymity that "business here is not what it was before."

One of the few remaining public commemorations of the lockdown is next door to the abandoned Huoshenshan Hospital, an unassuming petrol station that doubles as an "anti-pandemic educational base."

One wall of the station was dedicated to a timeline of the lockdown, complete with discoloured photographs of President Xi Jinping visiting Wuhan in March 2020.

An employee said a small building behind the facility's convenience store housed another exhibit, but it was only open "when leaders come to visit."

But days before the fifth anniversary of the lockdown, those memories seemed far away, the city now a hive of activity.

Chen Ziyi, a 40-year-old Wuhan local, said she believed the city's increased prominence has actually had a positive impact, with more tourists visiting.

"Now everyone pays more attention to Wuhan," she said. "They say Wuhan is the city of heroes."

THE SCIENCE QUIZ

The psychology of colours

Yasudevan Mukunth

QUESTION 1

In a person with X, stimulating one sensory pathway, like smelling petrol, evokes a response from a different pathway, like seeing a blue square. For example, people with chromesthesia, a form of X, see colours when they hear sounds. Name X.

QUESTION 2

Y is an unusual feature where a person might see colours in an image that aren't really there, i.e. a disagreement between perception and sensation. It happens when the viewer doesn't know where the source of light in an image is. Name Y.

QUESTION 3

The Kruthof curve shows colours on a graph that are pleasing to the eye. The graph is a plot between _____ on one axis and colour temperature on the other. Colours towards the plot's centre are said to resemble those from natural sources. Fill in the blank.

QUESTION 4

Physical objects don't have Z but they're known to exist in a theoretical sense thanks to the mathematics used to describe all colours. One theory to explain the "invisibility" of Z is called the opponent process. What is Z referring to?

QUESTION 5

Sometimes when you expose your eyes to a particular image for more than a short duration, then take it away, your eyes continue to see the image. When

this happens in the form of a disorder, it's called palinopsia. When it happens due to natural conditions, what is it called?

Answers to January 21 quiz:

1. Path of an object through spacetime – **Ans: World line**
2. Device capable of sending receiving signals before they're sent – **Ans: Tachyonic antitelephone**
3. Physicist who won a Nobel Prize for 1988 experiment – **Ans: Anton Zeilinger**
4. Paradox examining free will in a universe with time travel – **Ans: Newcomb's paradox**
5. Hugh Everett's interpretation of quantum physics – **Ans: Many-worlds interpretation**

Visual: DeLorean

First contact: ViswanadhaRao Batchu | K.N. Viswanathan | Anmol Agrawal | Sahil Agrawal | Kanad Saha



Visual: A common test to check for colour vision deficiency, colloquially called colour blindness, is called the _____ test. Fill in the blank with the name of the person (shown) who invented it. CREDIT: WELLCOME IMAGES (CC BY 4.0)

Please send in your answers to
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