

13 EXPLAINED



SOCIAL INTELLIGENCE

Theory: novels resemble their context's cities. Arab novels are labyrinthine, Latin American ones are stratified and US novels are sprawling.

KARL SHARRO

Architect and satirist based in London; bio on his web site, *Karl reMarks*, reads "Middle East satire, politics and culture". Its content has been featured in top Western publications; 94,700 followers.

Underground search for the ghost particle hits wildlife clearance wall

NGT has slowed down the hunt for one of the universe's fundamental particles in a giant cavern deep inside the Earth. What are neutrinos, why is the search for them so exciting, why does the observatory — India's most ambitious scientific research facility yet — appear jinxed? AMITABH SINHA explains.

SIMPLY PUT

THE ORDER of the National Green Tribunal last week suspending the environmental clearance for the India-based Neutrino Observatory (INO), a major scientific research facility, is just the latest in a long line of troubles that the project has faced after being conceived in the first few years of this century. The order of the NGT's Chennai Bench has forced the INO to seek fresh environmental clearance, and approval of the National Board for Wildlife — a process that could take between a year-and-a-half and two years, adding to the delay that the project already faces.

In the worst case scenario, the INO, which involves construction of an underground laboratory in Theni district of Tamil Nadu, might even be forced to look for an alternative site, something that it has already had to do once earlier because of similar environmental concerns.

The Problem

The latest problem has been triggered by the NGT's assessment that the INO site lies at a distance of 4.9 km from a national park in Kerala's Idduki district, at least 100 m inside the 5 km radius beyond which projects do not need NBWL approval. The INO project had received environment and forest clearance in 2011, but hadn't applied for wildlife clearance because of its own assessment that it lay outside the 5 km zone.

"We will make a fresh application for all the necessary clearances. We have been faulted on some counts and we would like to clear our name. There is nothing for us to hide. Our assessment, when we had sought clearances, was that we did not need to obtain wildlife clearance. But after the court order, we will go back and seek all the approvals. I don't think we will appeal this order," Vivek Datar, project director of INO, told *The Indian Express*.

The INO Project

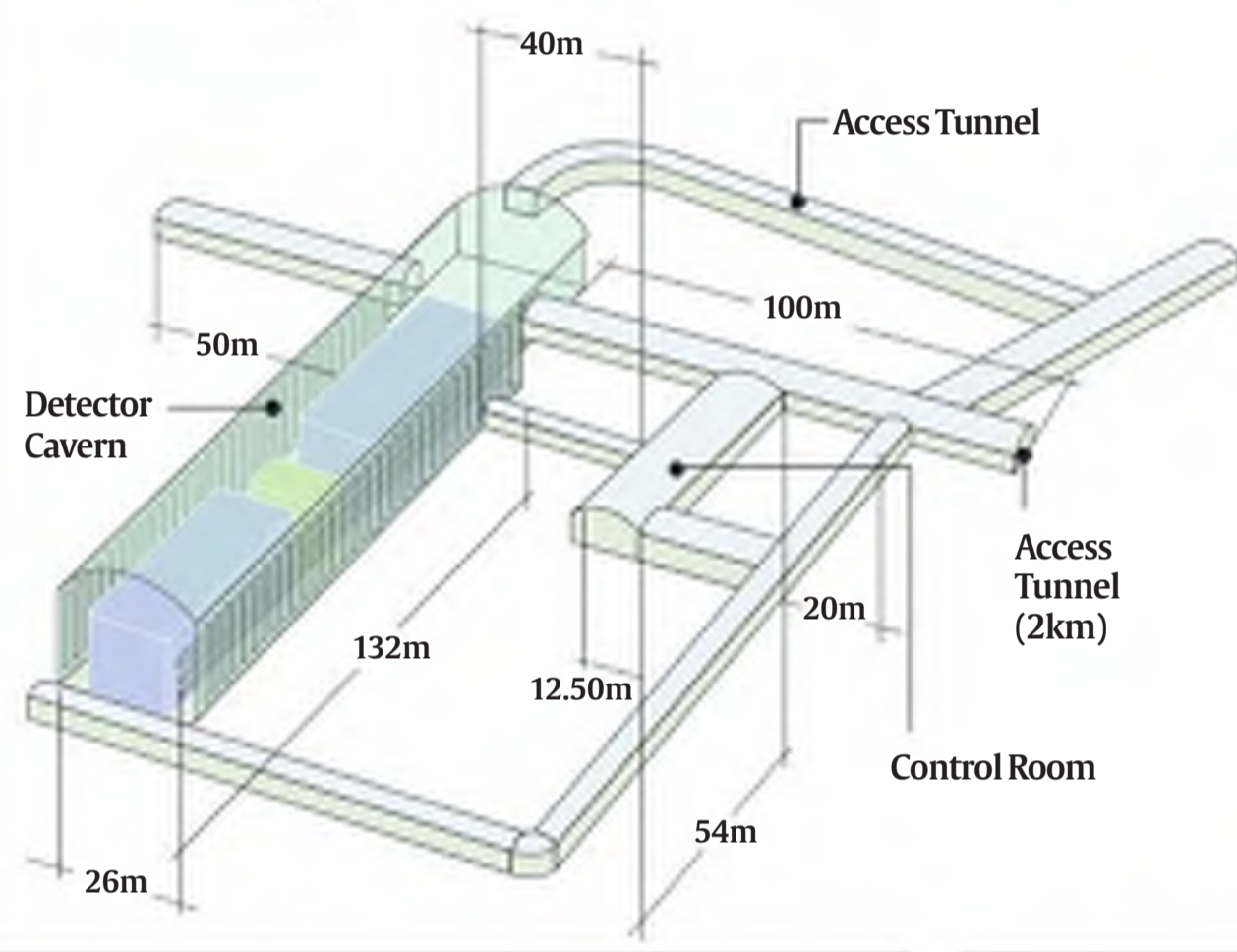
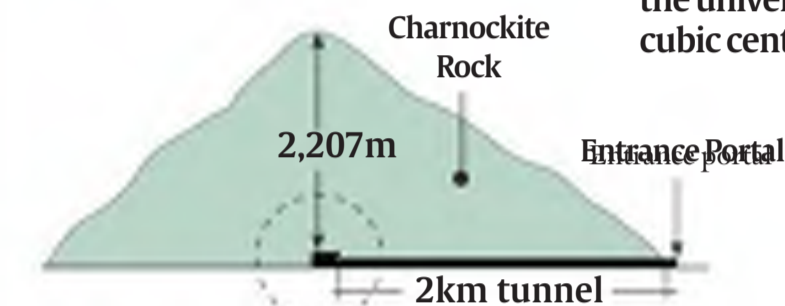
The neutrino observatory is the most ambitious scientific research facility that India is trying to build. To be located 1.5 km below the Earth's surface, this observatory would be used to detect and study neutrinos, one of the fundamental particles of the universe, but one which is also among the least understood. The underground laboratory would consist of a cavern of dimensions 132 m x 26 m x 20 m and several small rooms, and will be accessed by a nearly 2 km long and 7.5 m wide tunnel.

Neutrinos — not to be confused with neutrons, which along with protons make up the nucleus of an atom — are tiny particles, very similar to electrons, but without any electric charge. The study of neutrinos is among the most exciting and alive areas of global research in particle physics. Several groups in different countries are carrying out parallel research on neutrinos, which are believed to hold very important clues to some of the basic questions on the universe. In recent years, neutrino research has led to the Nobel Prize in Physics in 2002 and 2015.

Detected for the first time in 1959 — though their existence was predicted almost three decades earlier, in 1931 — neutrinos were later found to be omnipresent. They are the second most abundant particles in the world, after photons, or the light particle. They are so numerous that about a billion of them pass through a cubic centimetre of space every second. These high-energy particles are produced in natural radioactive decays and all sorts of nuclear reactions happening in nuclear power reactors, particle accelerators or nuclear bombs. But the most common source of neutrinos are celestial phenomena — the birth and death of stars,

NEUTRINOS

ARE THE second most abundant subatomic particles after photons, and one of the several fundamental particles the universe is built of. They have no charge, but are thought to have a small, as-yet-undetermined, mass. They are everywhere, but are extremely difficult to detect because they interact poorly with other objects, passing through the human body without a trace.



The site of the observatory at Bodi West Hills, Theni district, Tamil Nadu. INO

collisions and explosions happening in space. The core of the Sun is an important source of neutrinos. Every fusion reaction in the Sun, in which two hydrogen atoms fuse into one helium atom, releases two neutrinos. And there are billions of these fusions happening every minute.

A large number of the neutrinos present in the universe are supposed to have been produced at the time of the Big Bang, making them good candidates to extract more information from about the origins of the uni-

INO PROJECT

WILL PLACE a specially-built iron calorimeter (ICAL) detector about 1.5 km under the ground, where the chances of detecting neutrinos are higher. The project will aim to determine the mass of neutrinos, and to establish a "mass order" among the three known types of neutrinos — electron, muon and tau.

KEY FACTS

NEUTRINOS are thought to have been produced just after the Big Bang that created the universe. The neutrino density of the universe is 330 per cubic centimetre.

100 TRILLION neutrinos are believed to pass through the human body every second.

RS 1,500 CR is the estimated cost of the project. Building the lab is likely to cost Rs 470 cr.

50,000 TONNES of magnets will make up the iron calorimeter detector.

23 INSTITUTIONS are part of the project, involving over 100 engineers and physicists.

PROJECTS ELSEWHERE

CHINA: Jiangmen Underground Neutrino Observatory in Kaiping, Jiangmen, aims to determine mass hierarchy of the three types of neutrinos and their oscillation properties, using a 20,000-tonne liquid scintillator detector.

JAPAN: Hyper-Kamiokande detector at the Kamioka Observatory in Hida aims to determine mass hierarchy and study cosmic neutrinos, using 2 cylindrical tanks filled with 1 million metric tonnes of ultrapure water as detector.

EUROPE: The Large Apparatus studying Grand Unification and Neutrino Astrophysics, or LAGUNA, is a European project aimed at building a next-generation neutrino observatory.

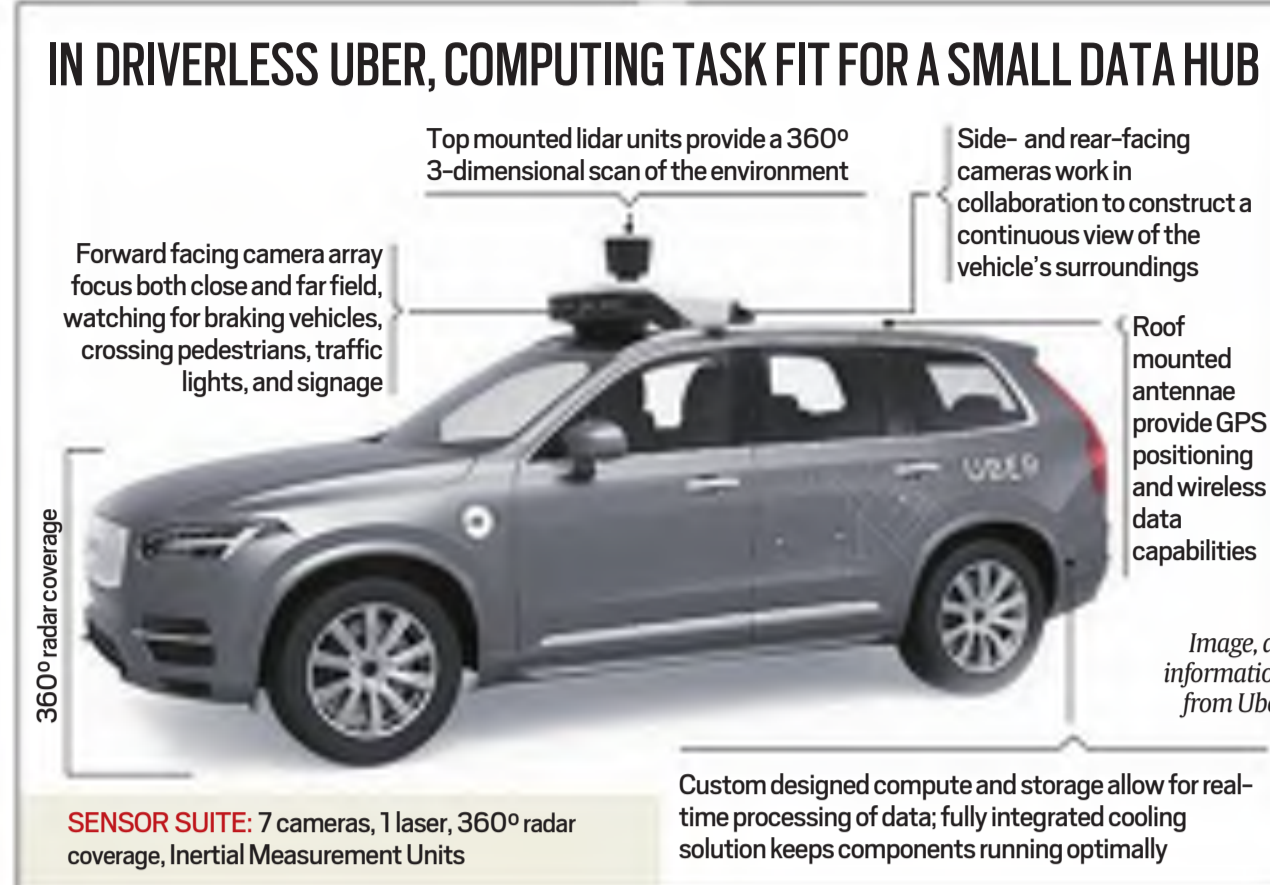
INO's woes

The state-of-the-art laboratory might inspire pride amongst the scientific community, but it has had a very troubled history. Mistaken by a section of the public and some activists for many things that it is not, the Rs 1,500-crore INO project has faced several objections and protests. There have been fears that the facility was meant to store nuclear waste from the country's nuclear power plants, or that the experiments underground would lead to the release of radioactive substances.

A major part of the INO project so far has been to carry out an outreach and educational exercise to dispel such misconceptions. At several public meetings, scientists have had to clarify that what they were building was not a nuclear arms factory, and that it would not emit harmful radiation, affect soil or water, or damage forests.

Even environmental trouble of the kind it faces now is not new to the INO. The original site selected for the project was located in Singara, near Ooty, in the Nilgiris that had a hard, rocky surface. The site was suggested by the Geological Survey of India based on the requirements of having a large underground facility. Two hydro power stations, one functional, the other abandoned, in the vicinity had ensured that some infrastructure, including a series of tunnels, was already present. The INO team was all set to move in at that location. But the nearby Mudhumalai National Park was declared a tiger reserve during the same time, and environmental clearance to the project was denied for this reason.

A search for an alternative site led the INO team to the present location of the project in Theni district.



Going driverless is exciting, provided other drivers help

Pathbreaking experiment also poses challenges, as Friday's crash showed, says NANDAGOPAL RAJAN

FROM Google to Uber to Nissan, dozens of companies are working on the concept of self-driving cars with varying degrees of autonomy. All have different end goals — from reducing the number of cars on the road to making cars more efficient and safe. However, as Friday's crash involving an Uber driverless car in Arizona — in which the other car was at fault, but which still led to Uber suspending the testing of its driverless cars — has shown, the ride is likely to be bumpy.

To begin with, what are self-driving cars?

Self-driving — or driverless or robotic — cars use artificial intelligence and computing power to navigate from point A to point B, sensing their environment and making decisions in real time to avert mishaps. They do this using a range of sensors and cameras on all sides, as well as predetermined digital maps and real time inputs about traffic and obstacles. The first experimental self-driving cars started in 1984, but commercial trials are just a few years old. Mercedes Benz, one of the first players in the space, showcased its concept car, the F015, at the Consumer Electronics Show in Las Vegas in 2015. The US is the hotbed of this technology, with at least 27 companies — including Tesla, Google and Volkswagen — seeking permissions for tests in California alone. In August 2016, Uber acquired the self-driving technology company Otto, and in October used an Otto self-driving truck to deliver a consignment of Budweiser beer in Colorado.

But why do we need driverless cars?

In theory, it is great economics. The 120 crore cars in the world sit idle for almost 95% of the time, making them perhaps the most inefficient human creation ever. Uber thinks that if all cars were autonomous and shared to scale, we could eliminate 90% of these vehicles. For residents of cities from Los Angeles to New Delhi, traumatised by traffic jams, this is an attractive idea. Fewer cars also mean reduced need for parking spaces — the US alone as over 2 billion — and a drastic reduction in pollution. Plus, it is possible that self-driving cars would eliminate the human errors that kill thousands on the roads every year.

Are there any special laws for these cars?

They are still being ironed out. Recently, California became one of the first US states to draft a set of broad rules for the "autonomous test vehicles" on its roads. Among other requirements, the company running a test vehicle must put a driver behind the wheel as a fail safe, and make it known to everyone on the road that the vehicle is an autonomous one, and whether it is running in remote mode at a given point in time.

What are manufacturers of driverless cars trying to achieve?

Different things. Uber's vision is to take reliable transportation to everyone, everywhere and everything. Nissan wants self-

EVERYONE TO ANYTHING

UBER sees its acquisition of Otto as a way to extend its vision of transporting "everyone, everywhere" to moving around "anything". According to Matt Sweeney, who heads product at Uber's Advanced Technology Group, "the truck and passenger vehicles share software and hardware components, and this helps us work on different aspects of the self-driving problem at the same time". But while passenger vehicles are for urban environments where Uber focuses on ridesharing, the trucks will run on high-speed highways where the constraints are different.

OTTO trucks are powered by a rig of radars, laser scanners and stereo cameras that give the computers inside a live 360-degree vision of the vehicle's environment with high dynamic range, high resolution and high colour information imagery. As a result, the computing task is "almost as big as a small data centre". Sweeney says while the truck has as many cellphone radios as possible, the bandwidth limitations are still very real, as gigabytes of data come in every minute, and "a lot of the computing has to be done in the vehicle itself".

INDIA, with its chaotic driving environment, presents a slew of challenges, accepts Sweeney. "Those are situations we think we will be able to tackle, but those are not the first places we will go," he said.

NANDAGOPAL RAJAN

(The author was invited to the Uber media summit in San Francisco.)

driving capabilities to make life easier for the driver, but not, unlike Uber, to replace her. Mercedes-Benz wants to help consumers put their time to better use, turning the commute into an opportunity to share lounge space. Since passengers won't need to keep an eye on the road, they can use the travel time to relax or work.

So what's in the way of realising these?

Google's self-driving car has been caught in multiple collisions, and the crash in Arizona involving an Uber SUV last week was, even though no one was hurt, pretty serious. The technology is clearly nascent, and subject to other factors such as errors made by humans in other cars. There is bitter competition — Otto, Uber's startup acquisition, is being sued by Google's Waymo self-driving car unit, which claims it stole the company's proprietary design for its laser-based radar system. Otto co-founder Anthony Levandowski is a former Waymo employee.

In world of academic journals, sometimes open access for fakes



PAPER CLIP

FLAGGING INTERESTING RESEARCH

RESEARCHING RESEARCH SCHOLARLY STING

Published in *Nature*, March 22, 2017

AUTHORS: Piotr Sorokowski, Katarzyna Pisanski and Others

THE APPLICANT'S *nom de plume* was not exactly subtle, if you know Polish. The middle initial and surname of the author, Anna O Szust, mean "fraudster". Her publications were fake and her degrees were fake. The book chapters she listed among her publications could not be found, but perhaps that should not have been a surprise because the book publishers were fake, too.

Yet, when Dr Fraud applied to 360 randomly selected open-access academic journals asking to be an editor, 48 accepted her and four made her editor-in-chief. She got two offers to start a new journal and be its editor. One journal sent her an email saying, "It's our pleasure to add your name as our editor-in-chief for the journal with no responsibilities."

These journals had fallen for a sting, plotted and carried out by a group of researchers who wanted to document the seamy side of open-access publishing. While those types of journals began with earnest aspi-

rations to make scientific papers available to everyone, their proliferation has had unintended consequences.

Traditional journals typically are supported by subscribers who pay a fee while authors pay nothing to be published. Non-subscribers can only read papers if they pay the journal for each one they want to see.

Open-access journals reverse that model. The authors pay and the published papers are free to anyone who cares to read them.

Publishing in an open-access journal can be expensive — the highly regarded Public Library of Science (PLOS) journals charge from \$ 1,495 to \$ 2,900 to publish a paper, with the fee dependent on which of its journals accepts the paper.

The open-access business model has spawned a shadowy world of what have been called "predatory journals". They have similar names to legitimate journals, but exist by publishing just about anything sent to them for a fee that can range from under \$

100 to thousands of dollars.

There are now thousands of fake open-access journals, about as many as legitimate ones, according to one of the creators of Dr Fraud, Katarzyna Pisanski, a researcher in the School of Psychology at the University of Sussex in England, and her colleagues.

While the legitimate journals rejected Dr Fraud's application out of hand, many fake ones did not hesitate to take her on.

The investigators said they had seen young colleagues fall for the blandishments of predatory journals, not realising that the emails they received were from publications that only wanted their money.

"The emails can be very flattering," Dr Pisanski said, telling the recipients they are "eminent researchers" and "inviting" them to contribute. When researchers send in papers, "they are published at lightning speed, often without peer review", she said.

The researchers decided not to list any of the fake journals that they uncovered in

the sting because some have names that are very close to those of legitimate journals.

Not everyone who publishes in these journals is an innocent dupe. Jeffrey Beall, scholarly communications librarian at the University of Colorado, who until recently published a list of predatory journals, said he believes many researchers know exactly what they are doing when they publish there.

"I believe there are countless researchers and academics, currently employed, who have secured jobs, promotions, and tenure using publications in pay-to-publish journals as part of their credentials and experience for the jobs and promotions they got," Beall said. "Examining someone's publications now requires close scrutiny," he added. "Merely eyeballing a CV is insufficient now."

David Knutson, manager of communications at PLOS, said young researchers may feel relentless pressure to publish, at all costs. "These authors are shopping around their papers," he said.

As for Dr Fraud, she got some lucrative offers. One journal suggested she organise a conference, whose papers would then be published; she would get 40% of the proceeds. Another invited her to start a new journal and offered her 30% of the profits.

Dr Pisanski and her colleagues told the journals that accepted Dr Fraud that she wanted to withdraw her application to be an editor. But it was not easy to withdraw.

Dr Fraud remains listed as a member of the editorial boards of at least 11 of those journals. She is also listed as a member of conference-organising committees. At least one journal she did not apply to also listed her as an editor.

Dr Fraud is even listed as an advisory board member of the Journals Open Access Indexing Committee. Its mission? To "increase the visibility and ease of use of open-access scholarly journals".

GINA KOLATA, THE NEW YORK TIMES

14 THE EDITORIAL PAGE

WORDLY WISE

IF BEEF-EATING HAD REMAINED A SECULAR AFFAIR, A BAR BETWEEN THOSE WHO ATE BEEF AND THOSE WHO DIDN'T WOULD NOT HAVE ARISEN.—B.R. AMBEDKAR

The Indian EXPRESS

FOUNDED BY

RAMNATH GOENKA

BECAUSE THE TRUTH INVOLVES US ALL

Oh Romeo, Romeo

What next for UP police? Keeping a headcount of legit butchers, and confiscating meat cleavers?



KEKI N. DARUWALLA

MEAT OF THE MATTER

Crackdown on abattoirs, processing plants in UP threatens to derail dairy economy

THE UTTAR PRADESH government's current crackdown on buffalo slaughterhouses, meat processing plants and retail outlets in the state — which doesn't seem to be limited to just "legal" establishments — is seen by many as threatening the livelihoods of a particular community. The fact is that it goes beyond that, while having the potential to undermine the country's dairy economy. The cow in traditional agricultural systems was much more than just a milch animal. It was the mother of bullocks that helped the farmer plough the field, draw water from wells for irrigation, thresh grain by trampling and pull his cart. The cow and its progeny were also the source of dung, which was composted into manure for fertiliser application as well as dried and caked for use as fuel. But with the advent of tractors, electric/diesel-powered tubewells, chemical fertilisers and kerosene/LPG cylinders, the cow's utility has largely reduced to being a milk-producing machine. Male cattle have become increasingly redundant, more so with artificial insemination taking the place of breeding bulls.

One way to view the above transition, which is a product of the last 50 years or so, is through the lens of nostalgia and sentimentality. But whether one likes it or not, the farmer today rears cattle and buffaloes essentially for milk. The viability of milk production, in turn, is a function of herd management: Maintaining only high-milking animals or young heifers and calves that will produce in future. But that is not possible if there is no mechanism available for disposal of unproductive bovines or animals that happen to be male. The farmer simply cannot afford to spend money on feed and fodder for these animals that generate no income for him. One reason why UP's buffalo population has grown by around 61 per cent between 1997 and 2012 — and, within that, female buffaloes by over 82 per cent — is precisely because of an avenue for their disposal in the form of slaughterhouses. The "Muslim" butcher, in a sense, has created a market for the redundant buffaloes of the "Hindu" farmer, allowing the latter to invest in new productive animals.

The current environment — of closing down abattoirs and so-called unlicensed meat shops, while not applying the same standards to other food processing and retail establishments — could well upset the above ecosystem that is essential to the working of the dairy economy. The increasingly draconian anti-slaughter laws have already left farmers with little incentive to rear cattle, which includes high milk-yielding crossbreds. With that same intolerant fervour now being extended to buffaloes, it could eventually hit the country's milk production and force reliance on imports similar to edible oils and pulses. Is this what Yogi Adityanath's government in UP wants?

I AM TOLD there is much excitement in Firenze, Milano and Roma over the pro-Juliet squads launched by our headline ascetic newly-appointed chief minister. Instead of watching a Raphael Madonna or Botticelli's "Birth of Venus", or kneeling at the tomb of St Francis of Assisi, Italians are busy on their iPads, looking for further information on our chief minister's take on Romeo and Juliet.

But Italy can wait. Would anyone know what our inspectors — the Tripathis, Tiwaris, various Singhs from the Jat belt of Meerut and Muzaffarnagar, and the Yadavs from Mainpuri and Etawah (alleged beneficiaries from the previous regime) — say to the unsuspecting males? The first words invariably are "Oh Romeo, Romeo! Wherefore art thou, Romeo?" The wannabe Lotharios are usually stumped since their knowledge of Shakespeare does not match that of the Uttar Pradesh cops. (The next line, "Deny thy father and refuse thy name", is not articulated by the learned gentlemen in khaki.)

This very crucial question used to be asked in Gujarati by producers of the 19th century Parsi theatre, when they enacted the play. A dowdy Parsi Juliet, her bosom heaving, would emote (she would put our Shah Rukh Khan in the shade) and beseechingly ask, "Oh Ramiah, Ramiah, kain chai thu pan, Ramiah?" Scholars tell me Juliet was actually asking Romeo, why he was not a Capulet.

Then the Shakespeare-literate cop switches of a sudden to Hamlet's "What is Hecuba to him, or he to Hecuba" speech and shouts "bloody, bawdy villain! Remorseless, treacherous, lecherous, kindless villain. O vengeance!" When there is still no answer from the stunned male, the squad at last breaks into our national language, "Kyun

salay, lakwa mar gaya tujhe?" Has paralysis hit you? (Notice how lockjaw and lakwa sound so similar.) After that, the squad enters into *business*, according to unverified sources of the Intelligence Bureau. The IB, believe me, will shortly be on the job. Instead of reporting which politico is doing what and intriguing with whom, and asking for how much demonetised dough to cross the floor, their officers in UP have been tasked to find out which Ranjha is moving out with which Heer, in which particular park. Who knows, they may soon be tasked with keeping a headcount of legit butchers, and confiscating meat cleavers. You can never tell what could happen in Ulta Pradesh.

England, rather the entire West, had a consensus about one thing — give unto Caesar what is Caesar's and to the church what belongs to the church. Yes, King Henry II may have got himself scourged after one-time friend, but now Archbishop Thomas Becket, was murdered in the cathedral. But as Jean Anouilh shows in his play *Becket*, friendship was all very fine, "In all save the honour of the realm." And Becket's motto was "in all save the honour of God". We seem to be adding to these two with "in all save the meat of goats, sheep and buffaloes".

The church's lands and money were not touched, but they were kept away from wielding power. A few exceptions do come to mind — Cardinal Wolsey in the reign of Henry VIII, or Cardinal Richelieu in France. Wolsey came to a sad end though Henry makes his first appearance in Shakespeare's *Henry VIII*, leaning on Wolsey's shoulder.

But read Hilary Mantel or Wolsey's last speech in Shakespeare: "Had I but serv'd my God with half the zeal I serv'd my king,

he would not in mine age Have left me naked to mine enemies." What is to be noted is the cardinal "serv'd", didn't rule. Thomas More was sent to the chopping block and Archbishop Cranmer was burnt at the stake by Queen Mary.

One has been marking the sudden ascendance of so-called holy men and their stamp on politics. Some months back, Double Shri was handed over the whole Yamuna bank to ruin as he pleased, and the media is silent about whether he paid the crores that were asked of him.

The Dera Sacha Sauda of Gurmeet Ram Rahim Singh was, according to a press report, handed over fifty lakh rupees by the sports minister of Haryana. (Our politicians never seem to realise that there is no such thing as *sarkari paisa*. It is the tax payer's money.) Never mind the fact that he is also facing criminal charges, including murder. Ramdev has become an icon. Asaram has been jailed for molestation of women disciples, but quite a few of the witnesses against him have been bumped off.

Which brings me to the question, what about "holy" men or women from other communities? They have still not got their due. I am certain that someone from Deoband or Bareilly or Aligarh will soon be picked up and handed over some plum post. Piety and "holiness" cannot be the monopoly only of the majority community, right? We can await some imam to be showcased as the BJP's chief ministerial candidate for Delhi in the next elections. And why not some BJP pastor to wrest Karnataka from the defunct Congress?

Daruwalla is a poet and writer

MARTYR TO NO GOD

Atheism is the NOTA button of religious choice. It deserves every safeguard from law and the state

DESPIITE LEGAL PROTECTION accorded to the freedom of religion, the assault on rationalism in general and atheism in particular continues. H. Farook has joined Narendra Dabholkar, Govind Pansare and M.M. Kalburgi in the ranks of the martyrs to no god. The only difference between them is that he was not a prominent rationalist, but a Coimbatore scrap dealer with a strong sense of identity. Farook's father has offered the finest tribute to his son's memory. Disappointed by an orthodoxy which will not brook dissent, he has decided to become an atheist himself. Thus, he has expanded a question pertaining to the freedom of religion into an issue of the freedom of speech. It is not enough to be an atheist; one must also have the freedom to proclaim it without fear.

While this instance involves Muslims, it is not a Muslim issue. When political events turn religion into a focus of identity, atheism and agnosticism threaten orthodoxies across religious divides, ignoring legal precedents which safeguard religious freedoms. The most significant precedent is a 2014 judgment of the Bombay High Court, which held that the government cannot force anyone to declare their religion in an official document. It also observed that citizens have the right to declare that they do not belong to any religion. This is really not unusual, in a region where numerous schools of atheism have flourished from antiquity. While Buddhism and Jainism are commonly understood to be heterodox, the Carvaka and Ajivika schools of Hinduism are unfortunately known only to scholars. This is apart from the numerous atheist and agnostic groups that have flourished in modern times, often as part of reform movements.

In modern times, of course, the right to be guided by the senses and the intelligence rather than scripture is a given. So is the importance of tolerance, without which the ideal of a borderless, globalised world would be unattainable. The intolerant persecution of the atheist is a special case, along with honour killings and caste abuse, since victims are attacked by the very community they were born into. Religious identity is only one of the many personas which are assigned to us, and which we should be free to change or discard. At a time when identity is central to politics, this freedom is as fundamental as the right to change party allegiances, and those who would constrain it are enemies of democracy.

LATERAL TACTICS

Protests in Russia are subtle in their attempt to undermine the Putin regime

HOW DO YOU protest against a popular leader, who has the entire might of a powerful state apparatus behind him? In Russia, thousands took to the streets across 99 cities and towns over the weekend to protest the alleged corruption of the Putin regime. The current demonstrations are the first of this scale since 2011-12, when a burgeoning sentiment against the Kremlin spilled over in the wake of accusations of election fraud against the Putin dispensation. Led by opposition leader Alexei Navalny, demonstrators have thus far refrained from making President Vladimir Putin the focus of their ire, or being overly combative against security forces. Instead, they have adopted a path which will likely provide a better platform for next year's presidential elections in Russia.

In Moscow, the demonstration took the form of a synchronised walk to circumvent the ban on unsanctioned stationary gatherings. The protests, while ostensibly against corruption, are an open and rare show of defiance against Putin. The placards and slogans have by and large focussed on the larger issue than making polarising arguments against their popular president — something Putin has used in the past to discredit his opponents as agents of foreign powers and subversive elements within Russia. Corruption is a theme that is both vague and powerful enough to have resonance across Russian society, including with Putin's support base. In fact, many of the protesters have been waving the national flag in an attempt to make the ostensibly anti-corruption movement a nationalist cause. Thus far, Russian pride and patriotism are themes almost exclusively, and successfully, deployed by Putin.

The government's response has also been far from ham-handed. While hundreds of demonstrators — including Navalny — have been arrested, security forces have not resorted to violent methods. Russia's politics, for now, may be playing out on the streets. But it's still a game of competing subtleties.



SUSHANT SINGH

THE MESSAGE IS THE MEDIUM

Lessons from Rwanda genocide tell us to worry about hatred on WhatsApp

"THE GRAVES ARE not yet full." This was the slogan broadcast on the privately-owned Radio-Television Libre des Mille Collines (RTLNC) during the worst modern-era genocide: In 1994, about 800,000 Tutsis were killed in 12 weeks by the Hutus in Rwanda. The genesis of the genocide lay in Rwandan colonial history but the trigger and direction was provided by the media, particularly the radio. It became a powerful weapon to incite and direct the Rwandan genocide.

Twenty three years have passed hence, and India is miles away from Rwanda, but the lessons offered then hold great relevance today. The fake messages, hate videos and mean jibes that we get on WhatsApp and other digital forums cannot be simply dismissed as irrelevant. Put together, this narrative of animosity portends dangerous times as part of a larger project of "Hatriotism".

From early 1990, anti-Tutsi articles and graphic cartoons had begun appearing in the *Kangura* newspaper. In June 1993, the RTLNC began broadcasting in Rwanda. The radio station was rowdy and used language of the street — like any other popular radio station, there were disc jockeys, pop music and phone-ins. It was designed to appeal to the unemployed, the delinquents and the gangs of thugs in the militia. As Linda Melvern, a British journalist, noted, "In a largely illiterate population, the radio station soon had a very large audience who found it immensely entertaining."

The transcripts of RTLNC's broadcasts are available in Duke University's International Monitor Institute. A lot of attention has since been focused on the radio station's efforts to direct the extermination — broadcasts told people to "go to work" and everyone knew that meant get your machete and kill Tutsis. But what has escaped greater scrutiny is the manner — by demonising the Tutsis and encouraging hate and violence — in which the radio station prepared the ground among the

people of Rwanda for genocide.

The transcripts reveal RTLNC's efforts to claim authority over the telling of Rwandan history whereby the headline Hutu extremists exercised a monopoly over the truth. These encounters with the truth provided the basis on which genocide became justified. "Slavery" is a term repeated through the transcripts, with guests on the radio station recalling the state of Hutu slavery during colonisation. Drawing on such a vocabulary, the radio broadcasts characterised the Rwandan genocide as a slave rebellion. The RTLNC was, Hutus came to believe, helping them unpeel the layers and discover their true history, as opposed to the one told by the colonisers and the local elite.

If radio was a powerful medium then, where you only needed a transistor and a few batteries, we have the smart phone and WhatsApp today. The plethora of hate messages we get on WhatsApp mirror the phenomenon of the RTLNC, a concerted attempt to fabricate a newer version of history. Slotted amidst entertaining GIFs, videos, memes and jokes, these crude stories of hate, vitriol and victimisation provide the justification for political action. Some of us find these tales — that Nehru died of AIDS or there is a satellite tracking chip in the new Rs 2000 note — absurd but that is essentially how they work. It is akin to the Nigerian 419 scam with deliberately implausible emails which maximise the scammer's efforts by entrapping only the most gullible, a kind of self-selection. When fake WhatsApp tales make it to top television news stories, we know that the most gullible include those who should know better.

Technology is value-neutral and what makes WhatsApp popular also makes it more dangerous than the radio or platforms like Twitter and Facebook. Unlike them, it is a targeted mass-broadcast. The platform has made it extremely easy and swift to disseminate hate-messages, by allowing people to record and spread audio and video messages among a select group. At the push of the button, these passion-inciting messages are passed on to the selected people, with the highly inflammable raw emotions in them intact.

At the push of the button, these passion-inciting messages are passed on to the selected people, with the highly inflammable raw emotions in them intact.

In the past few years, several instances have come to light where communal clashes are being planned or instigated through false videos circulating on WhatsApp. The police acknowledged that WhatsApp groups were used to incite the Muzaffarnagar riots in UP in the run-up to the 2014 elections. The gau rakshaks, the Jat agitators, and protestors in Kashmir also take advantage of WhatsApp groups to organise themselves. The government has responded by banning internet in such instances, making India the global leader in imposing internet blackouts. That is a tactical solution which prevents immediate violence. But the graver challenge of creating a fertile environment of hate, round-the-clock, by distorted story-telling continues unabated.

It is not just the poor and semi-educated who are taken in by the alternative narrative of political propaganda on WhatsApp. The educated elite are equally guilty. It is a reminder of what Fergal Keane, the renowned BBC journalist noted about the killers who participated in the Rwanda genocide: "A few gave the appearance of being truly psychopathic individuals. The mass of others were ragged and illiterate peasants easily roused to hatred of the Tutsis. Perhaps the most sinister people I met were the educated political elite, men and women of charm and sophistication who spoke flawless French and who could engage in long philosophical debates about the nature of war and democracy. But they shared one thing in common with the soldiers and the peasants: They were drowning in the blood of their fellow countrymen."

Rwanda gives us a warning. Only if we would care to heed.

sushant.singh@expressindia.com



MARCH 28, 1977, FORTY YEARS AGO

RAM JOINS CABINET
CONGRESS FOR DEMOCRACY leader Jagjivan Ram is the new defence minister while H.N. Bahuguna was made minister of chemicals and fertiliser in the Morarji Desai government. George Fernandes will head the communications ministry, Raj Narain the Ministry of Health and Family Planning and Brij Lal Verma the Ministry of Industries. Prakash Singh Badal, who earlier held the communications portfolio, was shifted to the Ministry of Agriculture. The CFD will join the Janata in Parliament, but retain its separate identity outside. Ram said he had taken the decision to join the government in deference to Jayaprakash Narayan's wishes.

REVOLT AGAINST SANJAY
AS MANY AS 125 Congress members of Parliament and legislatures met at the house of Charanjit Yadav and demanded the expulsion of Sanjay Gandhi, Bansilal, V.C. Shukla and Om Mehta from the Congress. They also sought the resignation of the Congress president, D.K. Barooah. The meeting was presided over by Amarnath Vidyalkar and attended by Priya Das Munshi, H.D. Malaviya, Himmat Singh, K.P. Unnikrishnan and Vayalar Ravi among others.

J&K GOVT DISMISSED
GOVERNOR L.K. JHA dissolved the Jammu and Kashmir assembly and imposed gover-

nor's rule. Jha said Chief Minister Sheikh Abdullah advised the dissolution of the assembly. He had also received intimation of the withdrawal of support from the Congress to the Abdullah government.

EMERGENCY REVOKED
THE MORARJI DESAI government revoked the external emergency proclaimed on December 3, 1971, the night of the first Pakistani attack on the western front. The internal Emergency proclaimed on June 25, 1975, allegedly to "save the nation from chaos" was revoked last Monday. It was the last act of the outgoing Indira Gandhi government.

15 THE IDEAS PAGE

WHAT THE OTHERS SAY

"When terrorism prevails, the whole of mankind must unite to fight against it, regardless of geopolitical rivalry."
— GLOBAL TIMES, CHINA

Halting the welfare state

Universal Basic Income (UBI) could replace Central schemes which have many socio-economic benefits



BHALCHANDRA MUNGEKAR

AFTER TAKING THE most irrational decision — demonetising high-value currency notes, accounting for about 86 per cent of the total notes in circulation, a move that caused terrible hardships to common people for nearly three months, impacting the economy but not the black economy — the government is now contemplating introducing Universal Basic Income (UBI) for all citizens. In Chapter Nine of this year's *Economic Survey*, under the title "Universal Basic Income: A Conversation With and Within the Mahatma", the government has spelt out the UBI's philosophy, saying that "a just society needs to guarantee to each individual a minimum income which they can count on, and which provides the necessary material foundation for a life with access to basic goods".

This could indeed be the most innovative, laudable idea, not only for India but for the whole world as it embodies the "essence" of human activity, that is, earning one's livelihood. After delineating the UBI's philosophy, rationale, logistics and feasibility, the ES boldly states that "it is a powerful idea whose time... is ripe for serious discussion." Hence, this attempt at the same.

First, it is ridiculous to invoke the Mahatma while intending to initiate the scheme, and more so, during its implementation, for achieving "macro-economic stability", Gandhiji being a "fiscal conservative". Those who are even peripherally acquainted with "Gandhian economics" would know that in the Mahatma's scheme, the human's material needs should be a bare minimum; these needs are to be fulfilled through one's physical labour; the owners of property must act as "trustees" of the people and use as much property to only to satisfy their needs; machines should be controlled by humans and not the other way round; no poverty, no inequality, no tensions, no conflicts. Even his celebrated idea of *antyyodaya* (the rise of the lowly) would entail that, in time, there would be perfect parity amongst all. This will ensure that society would live in harmony and self-perpetuating social equilibrium.

Lastly, if Karl Marx visualised the "withering away of the state" in the transition of society to a mature "communism", the Mahatma believed in a society "without state", to begin with. Thus, the Mahatma would not have visualised any of what is spelt out in the said chapter on the government's alleged conversation with him.

The UBI scheme has three components: First, universality, that is, all individuals, by virtue of being citizens, will be assured basic (minimum) income to ensure that everyone lives a life of dignity, minimising the chances of falling below the poverty line. This would also avoid "errors of omission" (meaning that the deserving shall not be omitted), as happens in the case of most targeted welfare schemes.

Second, unconditionality, implying that there shall be no condition, including one's level of income, to access this scheme. Third, the government's thinking weakens the relationship between employment and access to certain basic income; though the ES categorically argues that "all societies must



Subrata Dhar

aim for full employment", it maintains that "in the 21st century it may no longer be possible to guarantee social security or minimum support by linking it to employment". Lastly, basic income is to be transferred to citizens in the form of cash.

As the ES spells it out, the "powerful" idea of the UBI shall have many objectives, such as securing social justice, reducing vulnerability, giving dignity to citizens, curbing poverty, creating flexibility in the labour market by giving work choices to individuals and creating employment, greater administrative efficiency, financial inclusion and so on. Thus, the UBI is expected to be the most innovative, indeed, revolutionary scheme since Independence, achieving almost all socio-economic goals at one go. For this, beside the Mahatma, Nobel Laureate John Rawls, Tom Paine and, surprisingly, even Jawaharlal Nehru are invoked to seek philosophical justification for the scheme.

Be that as it may, let me now turn to the financial aspects of the UBI. On the basis of the Tendulkar Committee poverty line, a sum of Rs 7,620 per person per annum is considered adequate to keep a human being above the poverty line. (This is arrived at by treating Rs 893 per month per person as base line poverty in 2011-12, multiplied by 12 months, yielding an annual income of Rs 5,400, which is adjusted against inflation during 2011-12 to 2016-17). Now, in view of the financial burden and treating only the bottom 40 per cent of the population as needing the benefits of UBI, the remaining 60 per cent kept outside its purview, the ES gives a quick goodbye to "universality" and settles at "quasi-universality", where it considers only 75 per cent of the population, including, as the ES discusses, 35 per cent non-poor population. This would cost 4.9 per cent of the GDP.

Now, what is striking about the UBI scheme is that it will replace all other Centrally sponsored and Central sector schemes such as Mid-Day Meal (MDM), Pradhan Mantri Gram Sadak Yojana, National Health Mission, Pradhan Mantri Awas Yojana, Sarva Shiksha Abhiyan, MGNREGA, PDS and so on. Will dismantling these

UBI will replace Centrally sponsored and Central sector schemes such as Mid-Day Meal (MDM), Pradhan Mantri Gram Sadak Yojana, National Health Mission, Pradhan Mantri Awas Yojana, Sarva Shiksha Abhiyan, MGNREGA and PDS. Will dismantling these really compensate for their present benefits once these are converted into direct cash transfers? The MDM offers hot, cooked meals to more than 150 million school children upto class eight per day across the country. MGNREGA gives, on average, 60 to 70 days employment annually to about 200 million unskilled persons in 45 to 50 million rural households — 50 per cent belong to SC and ST groups, one-third are women. Dismantling the PDS will adversely affect the bottom 50 to 60 per cent poor consumers.

schemes really compensate for their present benefits, once these are converted into direct cash transfers? For instance, the MDM offers hot, cooked meals to more than 150 million school children upto class eight per day across the country. The MGNREGA gives, on average, 60 to 70 days employment annually to about 200 million unskilled persons in 45 to 50 million rural households — 50 per cent belong to SC and ST groups and one-third are women. The dismantling of the PDS will adversely affect the bottom 50 to 60 per cent of poor consumers spending relatively more on food by paying higher prices; the suspension of procurement of rice and wheat at guaranteed minimum support prices will mostly result in the collapse of their market prices due to the bargaining power of traders vis-à-vis farmers.

Second, it must be noted in this context that the top ten of these schemes (excluding food, fertiliser and petroleum subsidies) accounted for only 1.4 per cent of GDP in 2014-15, and the remaining 940 odd sub-schemes, for an additional 2.3 per cent of GDP, totalling 3.7 per cent of GDP. Third, though it would be naïve to neglect the shortcomings of the schemes in fulfilling intended goals, due partly to their design and mainly to their faulty implementation, as evidence shows, over time, their implementation is improving: It could be further improved if the nexus between the political class and the bureaucracy at all levels is broken; greater participation of the people, particularly of women and their organisations in the implementation of these schemes is secured; and public accountability of all those involved from start to end is strengthened. It is both the constitutional and moral responsibility of the government to ensure this with a strong political will.

Dismantling the "welfare state", through converting "public" and "quasi-public" goods into money due to the lack of political will, in a poverty-struck and highly unequal country like India, must be unacceptable.

The writer is a former member of the Rajya Sabha and the Planning Commission

Neighbourhood defence

New Delhi is waking up to China's growing relations with India's neighbours



RAJA MANDALA

BY C. RAJA MOHAN

INDIA'S PLANS TO sign agreements on defence cooperation with Bangladesh during PM Sheikh Hasina's visit to Delhi next month and the Chinese Defence Minister General Chang Wanquan's travels to Sri Lanka and Nepal last week, underline the new dynamic of defence diplomacy in the neighbourhood. The Indian Army Chief, General Bipin Rawat, is also travelling this week to Nepal and Bangladesh.

One would think these would be routine among neighbouring countries, but Delhi and Dhaka have not had institutionalised defence engagement all these years. That it might happen finally has generated an anxious debate in the Bangladeshi press. Some in Dhaka wonder if this is about Delhi trying to limit Beijing's rising military profile in Bangladesh, including the most recent sale of submarines. Others worry about Dhaka drawing too close to Delhi.

On the eve of General Chang's visit to Sri Lanka and Nepal, the Chinese newspaper, *Global Times*, warned Delhi not to meddle in Beijing's strategic cooperation with India's neighbours and accused it of "treating South Asia and the Indian Ocean as its backyard". If "India seeks to balance China," the *Times* warned, Beijing "will have to fight back, because its core interests will have been violated". That's strong stuff, even from the usually outspoken *Global Times*.

What's going on here? It is not that China's security cooperation with India's neighbours is new. China's defence collaboration with Pakistan has long been a feature of India's security environment. It has included such extraordinary elements such as the transfer of nuclear weapons and missile technology to Pakistan.

What we see today is the geographic expansion of the Chinese defence profile way beyond Pakistan to cover India's other neighbours in South Asia and the Indian Ocean. The scope of Chinese defence cooperation now includes potential military basing arrangements in the region.

That China's port construction activity in Colombo and Hambantota might have a strategic dimension was highlighted when a PLA submarine showed up in Sri Lanka's waters in 2014. Meanwhile, China's first foreign military base is coming up in Djibouti. The Chinese navy has an impressive presence in Pakistan's Karachi port and Gwadar could turn into a formal military facility in the not too distant future.

The *Global Times* advised Delhi that it should "get used to" China's deepening ties with India's neighbours. "When an increasing number of Chinese companies get established in these countries", under China's One Belt, One Road initiative, the *Times*

went on, "it is inevitable that Beijing will boost defence collaboration with them to protect not only China's, but also the region's interest".

This point is beginning to register, if belatedly, in India. Delhi is now waking up to the proposition that the expansion of Chinese commercial and infrastructure cooperation with India's neighbours will have strategic consequences, including stronger defence and security partnerships.

The government of Prime Minister Narendra Modi has discarded the UPA government's low-key endorsement of President Xi Jinping's Belt and Road initiative, become more critical of the China-Pakistan Economic Corridor, stepped up work on its own trans-border connectivity initiatives, and intensified its defence diplomacy. That this is generating political friction between Beijing and Delhi is not surprising: It is the fact that India has taken so long to consider effective responses to China's strategic power play in the Subcontinent.

Despite its negative assessment of China's long-standing strategic military cooperation with Pakistan, and the growing volume of Chinese arms sales to South Asian countries, Delhi has been utterly unprepared for Beijing's widening strategic influence in its neighbourhood. Delhi has long been complacent in its assumptions about India's natural strengths in the Subcontinent.

After Independence, India was worried about Western, especially Anglo-American, military influence in its neighbourhood. It watched warily as Soviet Russia occupied Afghanistan in the 1980s. But the strategic influence of a distant America is diminishing in the 21st century — it is China's military power that has begun to envelop India.

But Delhi gains little by whining about Beijing's "encirclement of India". China is doing what comes naturally to great powers. Beijing is projecting military power and limiting the strategic influence of other nations in its neighbourhood. India, instead, must raise its own regional game by overcoming multiple limitations on its defence cooperation.

Two problems stand out. One is the lack of a defence industrial base. Delhi may not like Sri Lanka or Bangladesh buying Chinese military systems, but it has little to offer as alternatives. While PM Modi has talked up indigenous arms production and exports, he has not been able to get the Ministry of Defence to shed its indolent ways.

Nor has he been able to make the MoD receptive to the idea of defence diplomacy. Despite repeated treaties from the armed services and the foreign office, the MoD has been unwilling to facilitate vigorous defence exchanges with the neighbours. Without changing the MoD's current approach to defence diplomacy, Beijing will have little difficulty in chipping away at Delhi's much vaunted claims on "India's regional primacy" and the "strategic unity of the Subcontinent".

The writer is director, Carnegie India, Delhi and consulting editor on foreign affairs for *The Indian Express*

LETTER TO THE EDITOR

JUST CLAIMS
THIS REFERS TO the editorial, "Seeding change" (IE, March 27). Beneficiaries for subsidies and benefits are classified on the basis of landholdings. Barring Bengal and Kerala, none of the states have complete land records to verify claims. Tenant and leaseholder farmers also need accommodation. These groups, already at the margins, suffer the most. Unless real-time information includes these, the Direct Benefit Transfer is toothless.
Sayantan Ghosh, Kolkata

LETTER OF THE WEEK AWARD

To encourage quality reader intervention, The Indian Express offers the Letter of the Week award. The letter adjudged the best for the week is published every Saturday. Letters may be e-mailed to editpage@expressindia.com or sent to The Indian Express, B-1/B, Sector 10, Noida-UP 201301. Letter writers should mention their postal address and phone number.
THE WINNER RECEIVES SELECT EXPRESS PUBLICATIONS

BEYOND THE COW

THIS REFERS TO the article, "Development with cow" (IE, March 27). The writers' suggestions for agri-development as a whole are convincing. However, the focus should be on ensuring equitable development among the various regions of UP. Special priority should be given to less developed regions like Bundelkhand and Poorvanchal. There is a need for vigilance against corruption in the procurement system to enhance effectiveness.
Saksham Gupta, New Delhi

HINDUTVA REVEALED

THIS REFERS TO the column, "Hindus vs India" by Tavleen Singh (IE, March 26). It appears the writer's personal venom against the Nehru-Gandhis and the Congress, both of which have consciously built a secular India, is clouding her analysis. The columnist has a history in the liberal tradition and would do well to bring an unbiased insight to shed light on current events.
Abhishek Mishra, Allahabad

ADDICTED INDIA

THIS REFERS TO the report, "On a high" (IE, March 27). The shocking increase in drug addiction is because India is turning into a global operating base for drug dealers. These regions are proximate to two global drug hotspots — the "Golden Crescent" to the west and "Golden Triangle" to the east. Thanks to our corrupt police and law enforcement agencies, drugs are easily distributed across the country killing millions of our youth.
Kulwant Singh, Mohali



BRINDA KARAT

Hindutva's history rewrite

Hindu right is pushing post-truth versions of culture, nationalism, freedom

THE RSS "PARTICIPATED in the freedom movement". "No RSS literature discriminates against the minorities." RSS projects "never discriminate on the basis of caste or religion." "RSS never indulged in anarchy"... and so on. Welcome to the RSS post-truth narrative, as enunciated by Rakesh Sinha in his article titled "Of swayamsevaks and intellectuals" (IE, March 24).

For Sinha, facts do not count, personal belief does. So, if he believes so, it must be so and anyone who disagrees must be influenced by communists. In his article, Sinha refers to "archival evidence" of the RSS's role in the freedom movement. Now, this is a self-goal, one that RSS intellectuals such as he must avoid. It conjures up the image of RSS bhakts having to search dusty files to find their heroes and failing to, even as a footnote in India's glorious struggle for her freedom.

But, on the other hand, you don't need to search too hard to find how the Hindutva icon, V.D. Savarkar, cringed before the British, apparently begging for forgiveness from his cell in the Andamans, describing himself as "the prodigal son". Savarkar wrote, "where else can the prodigal son return but to the parental doors of the government". It is this person whom RSS bhakts glorify, insulting

the memory of our martyrs, naming the Andaman jail after him.

The contemporary RSS project, of a chauvinistic, aggressive Hindutva nationalism, requires a whitewashing of historical facts; that is what people like Sinha are expected to do.

As for discrimination, the BJP itself is an RSS project. Is it not blatant discrimination, prejudice and bigotry that while a range of criminals got BJP tickets in Uttar Pradesh, the party could not find a single Muslim candidate to put up? In the years of India's independence, in every single communal conflagration towards which commissions of inquiry have been set up, the hand of the RSS has been clearly identified; a day after Sinha's piece appeared, two RSS pracharaks were convicted in terror cases.

But, apart from the contempt for objective facts regarding the communal nature of RSS ideology and practice, more ominous is the stated aim that "while the RSS dominates India's politics, its domination in the country's intellectual discourse is awaited". For Sinha, the "challenge is to decolonise the Indian mind and to revitalise Indian culture".

In reality, it is precisely Indian culture, pluralist, multi-dimensional, diverse, of many streams and colours, that is sought to

be replaced by the Hindutva definition of "culture". Here is how Golwalkar, the "Guru" of the RSS and of the present prime minister, described it: "In this country Hindustan, the Hindu race, with its Hindu religion, Hindu culture and Hindu language (the natural family of Sanskrit and her offspring) complete the nation concept... All those not belonging to the national, that is, the Hindu race, religion, culture and language, naturally fall out of the pale of real national life."

There are several aspects to the "revitalisation" project which are unfolding in a more accelerated manner. The first is the take-over of institutions of higher education and other autonomous bodies through the appointment of persons whose main credentials are their allegiance to the RSS. The hit list has targeted all the important universities and colleges. It is now common for VCs and other office-bearers to openly flaunt their proximity to the RSS as a means of getting ahead; this includes a tweet from the JNU VC welcoming the verdict of the UP elections, or, the head of the ICCR describing Narendra Modi as an incarnation of God.

The second aspect of the "decolonising the Indian mind" project is the syllabus for school children. Dinanath Batra's atrocious

textbooks are now being taught in schools across BJP-governed states. The books include such gems as the example that the birth of 100 Kauravas in the *Mahabharata*, from one egg of Gandhari, was an example of stem cell research in India.

Science and rationalism are anathema to the RSS. Ironically, on the day Sinha's piece appeared, *The Indian Express* published the outrage expressed by Nobel Laureate Venkatraman Ramakrishnan at his alma mater, Maharaja Sayajirao University in Vadodra, bringing India's real, internationally acclaimed scientific achievements "into disrepute" by making absurd claims based on mythical figures.

The third is the open hostility, victimisation, hounding, bullying of intellectuals who refuse to acquiesce to the divisive, hate-filled agenda of the RSS. Where such intimidation fails, the ABVP, the student wing of the RSS, is called into action, as it has been, most recently, in Ramjas College of Delhi University.

In the coming days, we can expect more such fascistic methods, concealed under the guise of "revitalisation". We can also expect wider resistance.
The writer is a member of the CPM politburo