How a new artificial intelligence tool aims to reduce losses in translation

SHRUTI DHAPOLA explains Google's Neural Machine Translation for Indian languages, how it works, and how it might lead to a better online experience for those who speak only one language

GOOGLE TRANSLATE is a powerful tool — it exists as a separate app, is available on Search, auto-translate has always been part of Google Chrome, and can be tremendously empowering for new-age Internet users in India who speak only their mother tongue, but are keen to experience content that's in English.

Equally, Google Translate can be baffling and frustrating — stumbling on idiom and syntax, and frequently throwing up clunky or incomprehensible translations. Sample these 2 headlines from the front page of *Jansatta's* New Delhi edition of Wednesday: *"Kiski Dilli, faisla aaj"* (about the Municipal Corporations of Delhi election results) becomes "Whose Delhi decision is today", and *"Sapooton ko ashrupoorn antim vidaai"* (about the CRPF personnel who were killed in the Maoist attack on April 24) translates into a mystifying "Tears off to the sapons".
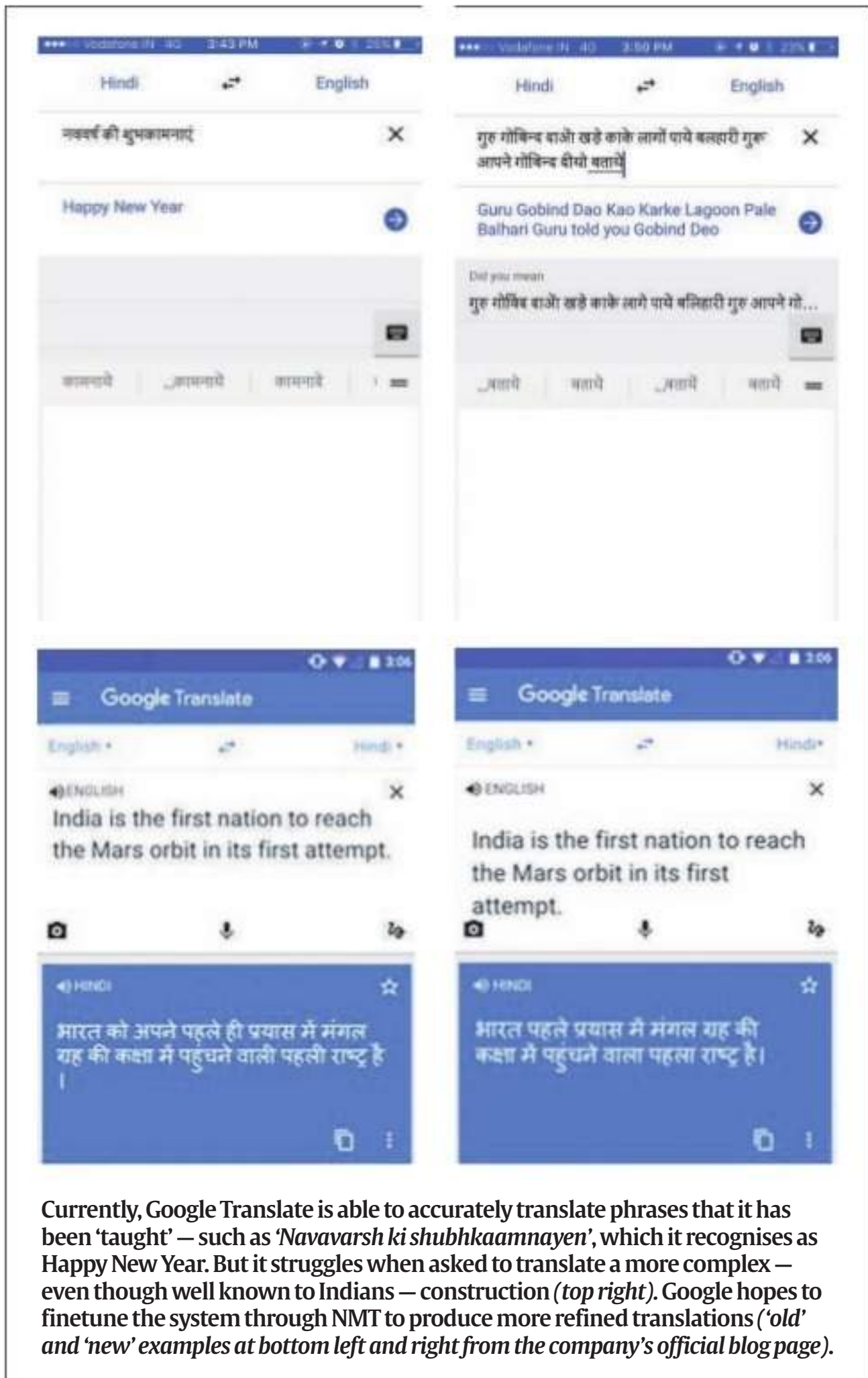
But this might be about to change.

Google has rolled out what it calls Neural Machine Translation (NMT) for 9 Indian languages to English. On the list are Hindi, Bengali, Marathi, Tamil, Telugu, Gujarati, Punjabi, Malayalam and Kannada. These are India's most widely spoken languages, and the special focus by Google makes sense when a Google-KPMG study has estimated that by 2021, 536 million Internet users will be Indian language speakers only. The new system of translations will also power Translate on Google Chrome, and the Reviews feature in Google Maps.

So what exactly is NMT? What will it do?

Essentially, NMT is intended to ensure faster, more accurate translations of these 9 languages to English. An NMT system is dependent on machine learning, where the system learns to translate sentence-by-sentence, rather than phrase-by-phrase. Because this is a machine learning-based system, it gets better over time with access to more data and training. [Machine learning is a kind of artificial intelligence (AI), which allows computers to learn without being specifically programmed.]

Google's Neural Machine Translation relies on deep learning neural networks to carry out translations. It is a multilingual model, where the system is taught to translate between more than one pair of languages. Google started the project in 2015 using its own TensorFlow machine learning library to see how it could improve translations done by computers.

Neural networks, Google Research Engineer Melvin Johnson explained to reporters, are modelled on the human brain — and respond to inputs in the same way as the human brain responds to external stimuli.

In NMT networks, the system is fed sentences from languages which are to be translated. For instance, for a Hindi to English translation, the system is taught both sentences in Hindi and their appropriate (linguist-created) versions in English so that it 'understands' the translation.

The system relies on machine learning, similar to how Google is teaching computers to recognise images. In the latter case, the network is fed millions upon millions of images of a particular object, like say, a cat or a dog, until it is able to recognise on its own the physical characteristics of the animal.

And how will the NMT-based system work better than what Google has been doing so far?

Google says the new system of translation is much better qualitatively, and faster.

Currently, Google Translate is able to accurately translate phrases that it has been 'taught' — such as *'Navavarsh ki shubhkaamnayen'*, which it recognises as Happy New Year. But it struggles when asked to translate a more complex — even though well known to Indians — construction *(top right)*. Google hopes to finetune the system through NMT to produce more refined translations *('old' and 'new' examples at bottom left and right from the company's official blog page).*

The older system of translation for computers required these to be done phrase-by-phrase, and given that Google supports 103 languages, it made the process slow and tedious.

In the new multilingual NMT system, the same model can be taught multiple languages, and allows Google to be both faster and more accurate. Google says it is closer to human-based translations than the previous system, and improves the speed of translations from 10 seconds per sentence to 0.2 seconds per sentence. The overall idea is to bridge the gap between human and computer translations.

So is the system perfect? Or does it have some challenges still?

One has to remember that machine learning, be it around translation or image recognition, is still in its infancy. Google's Johnson stressed that the NMT system for translation, though a huge improvement, continues to face some challenges — especially in India, which has so many regional languages and dialects. The system needs to be fed parallel constructions in both English and the Indian language in order for it to understand and translate — and sometimes, finding parallel content in a regional language on the web is a challenge. Because English dominates, and content in a regional language is no more than, in Johnson's words, a "small cherry on top", the task of training machines to do the translation becomes all the more difficult. The system will get better only as Google gets more data, more content in regional languages.

Then, there is the question of nuance and tone in translations, which humans can interpret and understand, but teaching that to a machine will be much harder. Plus, Google relies on crowdsourcing from across the world to improve translations for words, and it takes time for updated libraries to be rolled out.

What is the future for users of the system?

The idea of the model is not restricted to just translating a pair of languages, like say, Hindi to English. Google Translate could eventually be able to translate Hindi to, say, Tamil directly, without actually being taught this specifically. Last November, Google had revealed that its system could do "zero-shot translation" — that is, translate a pair of languages where it wasn't specifically taught to do so. The system had at the time been shown to have figured out translations between Korean and Japanese. An assured ability to 'learn' on its own could be a huge leap.

SIMPLY PUT

Where's the next forest? New way to check green cover

PAPER CLIP

FLAGGING INTERESTING RESEARCH

ECOLOGY

MISSING THE TREES
Published in *PLOS One*, February 2017

AUTHORS: Giorgos Mountrakis and Sheng Yang

SCIENTISTS have long tried to estimate the precise extent of deforestation across the world. One of the most common ways of doing so is to simply measure the total amount of forest cover lost. But not all deforestation is the same, say researchers who have tried to look at the phenomenon differently.

Using satellite maps, the researchers calculated the average distance to the nearest forest from any point in the continental United States in 1992 versus 2001. Between these years, they found, the distance to the nearest forest increased by one-third of a mile.

This new metric, which the researchers named "forest attrition distance", reflects a particular type of forest loss: the removal of isolated forest patches. When these patches are lost — a process the authors refer to as attrition — adjacent forests become farther apart, potentially affecting biodiversity, soil erosion, local climate and other conditions.

The authors calculated the change in total forest cover from 1992 to 2001, and found a loss of 3% or 35,000 sq miles. Over the same time period, they said, forest attrition distance increased by 14% — a striking contrast.

The difference in the magnitude of these two metrics has to do with the fact that forest attrition distance takes geographic distribution into account. Two forests can each lose 25% of their tree cover, but have very different forest attrition distances — and different ecological outcomes — depending on the pattern of tree removal. A high forest attrition distance means tree loss has occurred in complete swathes away from other trees. A low forest attrition distance means tree loss has occurred in patches dispersed among other trees.

The researchers believe the new metric "goes beyond forest quantity" to give a glimpse into forest quality, and hope it will inform conservation strategies. Isolated forest patches can have a very specific importance for biodiversity, they say — as birds migrate from one location to another, for instance, they use these isolated forests as pit stops, rather like oases in a desert.

But other forest ecologists think that the new way of presenting forest loss will add only so much to efforts at conservation, and that there are broader issues at play.

"I don't think we need another metric," said Aaron Ellison, a researcher at the Harvard Forest, adding that measures of other processes like fragmentation — the breaking of large forests into smaller, disconnected forests — already provide a nuanced picture of deforestation.

Decades of scientific knowledge about forest management have not managed to halt clear-cutting and unsustainable development, Dr Ellison said. To him, the challenge is much larger, and involves altering people's demands for short-term economic gains.

THE NEW YORK TIMES

WHO RUNS THE MUNICIPAL CORPORATIONS IN INDIA'S BIGGEST CITIES?

1 BRIHANMUMBAI MUNICIPAL CORPORATION

Population	Number of Wards	In power	Main Opposition
1,24,42,373	227	Shiv Sena (84)	Congress (31)

The Shiv Sena has been in control of the BMC since 1997. The BJP, which has just 2 fewer corporators than the Shiv Sena currently, has chosen to remain neutral in the present House, giving issue-based support to the Sena.

2 MUNICIPAL CORPORATIONS OF DELHI*

Population: 1,10,34,555

The BJP, which dropped all sitting councillors for the April 23 elections, has beaten 2 terms of anti-incumbency to sweep all 3 civic bodies.

North MCD	104	BJP (64)	AAP (21)
South MCD	104	BJP (70)	AAP (16)
East MCD	62	BJP (47)	AAP (11)

3 BRUHAT BENGALURU MAHANAGAR PALIKE

84,95,492	198	Congress + JD(S)**	BJP

BBMP has been controlled alternately by BJP and Cong-JD(S) for the last 2 decades.

4 GREATER HYDERABAD MUNICIPAL CORPORATION

69,93,262	150	TRS (99)	AIMIM (44)

GHMC has always been controlled by the party in power in the state. During the TDP and Congress regimes, GHMC was ruled by them.

5 AHMEDABAD MUNICIPAL CORPORATION

56,33,927	192	BJP (142)	Congress (49)

The BJP has been in power since 2005, when it dethroned the Congress.

6 GREATER CHENNAI CORPORATION

46,46,732	200	AIADMK (168)	DMK (24)

Chennai Corporation has been a traditional DMK stronghold, but swung the AIADMK's way in 2011 after the 2G scam. Fresh elections have been delayed; the Election Commission has told Madras HC that it can hold them by July if the state government completes formalities, which seems unlikely given the current crisis in the AIADMK and a looming workers' strike in June.

7 SURAT MUNICIPAL CORPORATION

45,01,610	116	BJP (80)	Congress (36)

The BJP has been in control of the Corporation since 1995.

8 KOLKATA MUNICIPAL CORPORATION

44,96,694	144	TMC (114)	Left Front (15)

The Trinamool Congress has been in control at KMC since 2010; Sovan Chatterjee has been Mayor throughout this period.

9 PUNE MUNICIPAL CORPORATION

31,24,458	162	BJP (97)	NCP (39)

The BJP came to power for the first time in February 2017, ending NCP's 10-year rule. It contested the elections after parting ways with ally Shiv Sena.

10 JAIPUR NAGAR NIGAM

30,46,163	91	BJP (64)	Congress (18)

Over the last three-four elections, the same party — BJP or Congress — has ruled both the local bodies as well as the state.

Lists India's biggest cities by population. Populations are of the area under each municipal corporation, plus 'outer grounds', as per Census 2011.

*Elections to 2 wards will be held on May 21. The original Municipal Corporation of Delhi was trifurcated in 2012 to create the North, South and East Corporations. The 3 MCDs cover 95% of Delhi's population; the capital also has the New Delhi Municipal Council (NDMC) and the Delhi Cantonment Board.

**In 2015, BJP won 100 seats, Cong 76, JD(S) 14, Independents 8. But MPs, MLAs, MLCs from Bengaluru also have voting rights in BBMP, taking the total number of votes to 255 and the effective majority to 128. BJP (100 councillors, 12 MLAs, 8 MLCs, 5 MPs) fell short by 3 votes.

EXPRESS NEWS SERVICE

MEANING
LAFFER CURVE
The economic theory underlying Trump's low-tax, high-growth idea

US President Donald Trump's much-awaited tax plan, the blueprint of which was unveiled Wednesday, boils down to substantial cuts for businesses across the board — from giant corporations to mom-and-pop stores — and an increase in the standard deduction for individuals. As media organisations scooped the plan's details ahead of their announcement, the financial world buzzed with talk of return to the Laffer Curve, an economic concept that guided President Ronald Reagan, but which his successor, George H W Bush, described as "voodoo economics". What is the Laffer Curve, how did it get its name, and what does it show?

THE LAFFER Curve is considered to be among the most influential concepts in economics in recent decades. It was famously sketched on a cloth napkin by the economist Arthur B Laffer as he sat in a cafe in Washington DC in 1974 with friends Dick Cheney and Donald Rumsfeld (later the Vice-President and Secretary of Defence respectively under President George W Bush), and a journalist with *The Wall Street Journal,* Jude Wanniski. Laffer was upset with President Gerald Ford's decision to raise taxes to control inflation, and argued that lowering taxes, in fact, would increase economic activity. It wasn't a new idea; Laffer's credit lay only in mainstreaming it successfully.

The basic idea is simple: Just as a 0% income tax rate will get no revenue, a 100% rate will not bring any either, because people will just stop working. As the tax rate is raised from 0%, work is progressively disincentivised, leading to less earned income — even though a progressively larger share of it goes to the government as tax. As tax rates go up, tax collections rise, even as the disincentive to work keeps increasing — until the inflection point is reached, and the disincentive to work starts to reduce income by more than the increasing tax brings revenue. Thus, somewhere in between 0% and 100% must lie the optimal income tax rate, Laffer argued.

The Curve was meant to illustrate the theory that cutting taxes would spur enough economic growth to generate new tax revenue. This week, Trump's Treasury Secretary Steven Mnuchin, the main architect of the new tax plan, said the plan "will pay for itself with economic growth".

Mnuchin argued that a deep cut — corporate tax rates were set to be cut to 15% from 35% — would unleash businesses that now feel constrained by one of the world's highest corporate tax rates. Corporations would be freed to build plants and create jobs in the US instead of in foreign countries, and would bring home money stashed overseas. According to Mnuchin, while the cut in corporate tax would shrink revenues by more than $2 trillion over the next 10 years, an increase in economic growth of a little more than 1 percentage point would generate close to that same amount.

Presidents Reagan and George W Bush both cut taxes deeply on the promise of economic payoffs, brushing aside concerns about deficits, which grew during their tenures. However, both won second terms in office. But the elder President Bush was no fan of Reaganomics, and critics of Trump's plan say there is zero empirical evidence to link tax cuts to faster and more sustained growth.

THE NEW YORK TIMES & AGENCIES

This is the 15-inch-by-15-inch cloth napkin on which Arthur Laffer sketched his Curve on September 13, 1974. It reads, "If you tax a product less results. If you subsidize a product more results. We've been taxing work, output and income and subsidizing non-work, leisure and unemployment. The consequences are obvious!". At the bottom, he wrote, "To Don Rumsfeld at our Two Continents Rendezvous, 9/13/74, Art B. Laffer".

National Museum of American History, Kenneth E Behring Center

THE EDITORIAL PAGE

SNATCHING DEFEAT

AAP's MCD drubbing is an outcome of its inattention to the civic governance issues that it highlighted to rise to power

THE CAMPAIGN FOR the municipal corporation of Delhi was uniquely resonant this time. Here was a civic body election writ larger than usual. Hearteningly, it showcased a wider engagement with politics at the lowest tier of government. More problematically, this politics seemed to bypass the local issue. The contest for the municipal body this time saw national themes and the figure of the prime minister tower over the city's smaller, specific concerns, be it worsening sanitation or growing corruption. The outcome of the polls — the BJP's sweep back to power in the three corporations, in spite of an indifferent performance in its two tenures — is to be read, therefore, for its broader messages. Following close on the heels of the triumph in UP, it confirms the Modi-BJP winning streak, its success, for now, in taking the initiative, setting the pace, and changing the subject to its own advantage. More importantly, it sounds a warning to Arvind Kejriwal's AAP, the young challenger with an attitude, that had swept everything before it in Delhi only two years ago.

The manner in which the AAP burst into the political firmament was politics as usual. In a polity where the entry barriers for new players are set inordinately high, the AAP's birth and its steep rise in a short period of time were made possible by a rare constellation of factors — the Anna movement, in a media-saturated locale, against the backdrop of a regime at the Centre seen to be scandal-riddled. In this moment, the AAP pledged to wage pugnacious war against a corrupt establishment. Then, from a single issue party, it widened its repertoire to include the decentralisation of power and bijli-paani issues of governance. In 2015, on the back of these promises, it helped itself to as many as 67 seats in the Delhi assembly. In the two years since, however, the AAP was seen to be constantly distracted and complaining. It pointed fingers at an antagonistic and interfering Centre. It sought to spead outside Delhi to build itself into a national alternative in Punjab and Goa. While many of its complaints against the Centre were justified and its ambition to conquer new territories legitimate, the lack of delivery and sustained groundwork in Delhi was taking its toll. The MCD outcome shows that the AAP has lost the plot in its birthplace, even as it failed to script new stories in Punjab and Goa.

To be sure, going by the tortuous trajectories of political parties in India, it could be argued that the AAP is still a success story — ruling the Delhi assembly, the principal opposition party in Punjab, with a foothold in Goa. But if the party were to be honest with itself, and not keep blaming it on the EVM, it would see that this drubbing in the civic body by the BJP in the name of Modi could mean that it is on its way to extinguishing its own possibilities.

DISCIPLINE AND PUNISH

Government action against Public Health Foundation of India appears arbitrary and opaque

LAST WEEK, THE Union Ministry of Home Affairs invoked the Foreign Contribution Regulation Act (FCRA) to bar the Public Health Foundation of India (PHFI) from receiving foreign funds. Neither the NGO's track record — it collaborates with the Centre and several state governments on health-related issues including access to drugs, immunisation, HIV prevention, universal health coverage and tobacco control — nor the presence of Union Health Secretary, C.K. Mishra, on its governing board, were enough to save the PHFI from punitive action. The government has justified the action on grounds that the PHFI violated FCRA rules. But, by all accounts, the NGO was not given a chance to respond to the allegations — it could do so only after its FCRA license was revoked.

The NGO's main crime, according to the government, is that it lobbied with parliamentarians and the media on matters related to tobacco control. The accusation seems unfair because the PHFI has helped the government build up a cadre of public health officials who can take up anti-tobacco initiatives in different parts of the country. It has been a partner of the government — not a lobbying agency. A report of the Lok Sabha Committee of Subordinate Legislation, tabled last year, notes, "They (PHFI) highlighted before the committee the serious repercussions of tobacco use on the health of humans, the effect and impact of printing of big and visible pictorial warnings on different products, cigarette, bidi and pan masala packs on the illiterate and the youth of the country, the position of India vis-a-vis other countries in printing size of pictorial warning on tobacco products." For the past two years, the government too has been trying to impress the committee — whose members include Allahabad MP and bidi baron, Shyama Charan Gupta — about the desirability of a law making it compulsory that "horrific pictorial warnings" cover 85 per cent of the package surface area of tobacco products. How can fighting a battle, that the government has been engaged in, be construed as lobbying?

Principles of natural justice demanded that the PHFI be given a chance to respond to the charges, before revoking its license. Meanwhile, the government's action has invited suspicions that it was prompted by the Swadeshi Jagran Manch's criticism of the PHFI's funder — the Bill and Melinda Gates Foundation. The government must urgently clear the air on why it has moved against the PHFI.

COUNTING ON YOUNIS

The 10,000-run mark is spectacular. But the cricketer has already blazed a quieter trail

IT WAS WITH a bit of reluctance, and only after he had scored his 10,000th Test run, that Younis Khan was finally extended the "great" title. It was not difficult to see why, especially in the Pakistani context, where greatness is always correlated with not just the body of work but also the persona. It was the magic of Wasim Akram, the charisma of Imran Khan, the bloody-mindedness of Javed Miandad, or the sheer eye-catchiness of Shahid Afridi that got them their cult status. Younis had none of these magnetic traits. He, and his batting, were more an acquired taste, one that will be missed when the 39-year-old skids down the sporting sunset at the end of the Caribbean series.

But sometime in his 18-year-old career, without anybody realising, he became indispensable for Pakistan cricket. When the team had plunged to the depths of trauma and tragedy, Younis remained the immovable force, taking everything with zen-like composure. He has seen it all — his teammates getting exposed in the spot-fixing scandals, the death of coach Bob Woolmer and the terrorist attacks that stopped all international cricket in his homeland. Younis remained unfazed, leading Pakistan to the T20 World Cup triumph and then becoming the blazing force in their ascent to the pinnacle of Test rankings.

Few other cricketers would have had the stoicism to plug away as prolifically as Younis, despite these setbacks. In a sense, it reflected his own batting style. The 10,000-run mark gives a roundedness to his Test career. But the true worth of Younis shouldn't be weighed by the volume of runs but the times he hand-held Pakistan cricket when the lights went out.

AAP, interrupted

MCD setback shows that it has lost the political initiative. It needs to remake itself

SANJAY KUMAR AND PRANAV GUPTA

NEARLY TWO YEARS after its overwhelming victory in the Delhi assembly election, the Aam Aadmi Party (AAP) has suffered a crushing defeat in the city's civic body elections. The BJP successfully managed to retain control over all three corporations as it emerged victorious in 182 wards across Delhi. Under the leadership of Prime Minister Narendra Modi and party president Amit Shah, the party has been consistently winning state and local elections across the country. This victory is a continuation of that momentum.

The result may be a huge setback for the AAP and indicative of the brewing public dissatisfaction with its performance in government. But considering the volatile nature of the Delhi voter observed in recent years, it may be too early to term this a complete rejection of the party.

The steady decline of the Congress in the city, ongoing since 2013, ceased in this election: The party's vote share has increased as compared to 2015. Yet, it may be too little and too early to term this a revival of the Congress in Delhi since it has failed to make substantial gains in terms of seats.

However, the real story of this election is the massive negative vote swing for the AAP. The party's vote share in this election — 26 per cent — is almost half of what it got in the 2015 assembly election. The BJP's vote share increased only marginally, by around 5 percentage points to 37 per cent as compared to the 2015 assembly election.

Interestingly, there is almost no change in the party's vote share when compared to the 2012 MCD election. Meanwhile, the Congress's vote share has more than doubled, from 10 per cent in the 2015 assembly election to 21 per cent in this election.

The BJP's victory in this election may be attributed to an interplay of multiple factors. First, the party correctly sensed the public anger against many incumbent councillors and the overall performance of the corporations. The campaign narrative of the BJP in this election focused on delivering a "new MCD" to people rather than recalling its 10-year performance. The party's gambit of not re-nominating incumbent councillors was an implicit acceptance of dissatisfaction with their performance, but it proved to be extremely helpful in countering anti-incumbency: In fact, it helped to place the party as the challenger in the eyes of the voters. In the minds of many voters in the city, the AAP and Arvind Kejriwal were the incumbents in this election.

Second, unlike in 2015, the AAP failed to capture the public discourse and allowed the BJP to set the agenda. In 2015, the AAP's victory could be partly attributed to promises like cheaper electricity and water, which had caught public imagination. However, in this election, the AAP failed to raise an issue or a promise that had mass appeal. For instance, the promise of a house tax waiver had limited appeal among the lower classes. Also, the party should have realised that the claims of EVMs being rigged would not help it in consolidating public support.

Third, as seen in multiple elections over the last three years, the BJP seems to be benefiting immensely from the personal popularity of Prime Minister Narendra Modi. The BJP has performed extremely well in elections where regional opponents have allowed themselves to be directly pitted against the prime minister. In such scenarios, the party is able to convert PM Modi's popularity into votes even in state or local elections.

Fourth, an analysis of the vote shares reveals that a division of the opposition space between the AAP and the Congress is an important reason for the BJP's massive victory. The split in votes between the AAP and the Congress led to a significant lead for the BJP in terms of seats despite a marginal increase in vote share. Like in Maharashtra, Jharkhand and Haryana, a split in the "anti-BJP" votes between the Congress and

> The real story of this election is the massive negative vote swing for the AAP. The party's vote share in this election — 26 per cent — is almost half of what it got in the 2015 assembly election. However, the BJP's vote share increased only marginally, by around 5 percentage points to 37 per cent as compared to the 2015 assembly election. Interestingly, there is almost no change in the party's vote share when compared to the 2012 MCD election. Meanwhile, the Congress's vote share more than doubled, from 10 per cent in the 2015 assembly election to 21 per cent in this election.

the regional alternative (AAP) helped the BJP. The partial revival of the Congress in Delhi is likely to help the BJP immensely as the AAP and the Congress have a common core support base. Many traditional Congress voters who had voted for the AAP in 2013 and 2015 and the BJP in 2014 are now returning to the party. The Congress also seems to have regained the trust of Muslims, who had voted almost unidirectionally in 2015 for the AAP. Party candidates won in Muslim-dominant wards like Zakir Nagar and Darya Ganj.

How is Delhi politics likely to shape up after this result? A single electoral defeat or even a string of defeats do not seal the political future of a party. What matters is how parties react to defeats. The AAP needs to reinvent itself and find a new agenda if it hopes for political expansion.

The Congress needs to do a lot more if it seeks to regain past glory. Severe infighting observed between rival factions in the state unit during the recent ticket distribution, and then, the exit of senior leader Arvinder Singh Lovely, hampered the party's prospects in many wards.

The prime minister's popularity may be helping the BJP when national factors take precedence in elections. But the party must remember that many opponents would try to make local and regional factors salient in elections. In such cases, the party may find itself in a tough situation if it relies solely on the PM's popularity.

The MCD poll was the fourth election in the city since December 2013. Interestingly, each election has thrown up a result markedly different from the previous election. The massive vote swings that each election has witnessed and the seemingly volatile nature of the Delhi voter in recent times should keep both the BJP and the AAP on their toes and the Congress hopeful about a revival in the city.

Kumar is director, CSDS and Gupta is with Lokniti-CSDS
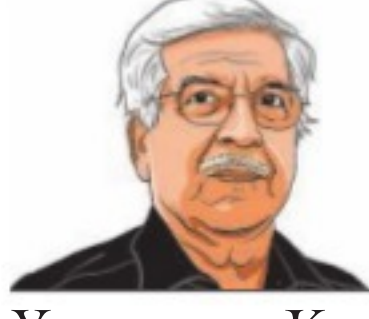
THE BLIND MEN OF NITI AAYOG

It outlined a vision, but has failed to reveal the path

YOGINDER K. ALAGH

THE NITI AAYOG has given us visions. They are for three years and long-term. I thought there would be some technical work behind it, but if it is there, it is a closely guarded secret.

Meanwhile, cars and air conditioners, much desired in this terrible heat, and other goodies as well are coming out of our ears. If you ask how and why, I guess you are being anti-national. To be fair, it is the job of a futures think tank to give us a perspective. But without details of how we get there, we are left like Oliver Twist, asking for more. Not more cars, but more details of how we get to that Nano.

Of course, we also expect this from Arvind Panagariya, the vice-chairman of the Niti Aayog. His book on the Indian economy was the best for teaching and now, Vijay Joshi also competes. Very few Indian economists (not NRIs, but those living here) write text books — I am soon coming out with one.

Writing in *The Financial Express*, he has set to rest the characterisation of the Eighties by economists like Meghnad Desai, asserting that "in contrast to the isolated ad hoc policy measures taken to release immediate pressures prior to the 1980s, [the Eighties] taken as a whole, constituted significant change and an activist programme. For example, by 1990, approximately 20 per cent of the tariff lines and 30 per cent of imports had come under OGL (open general licence)... import licensing on many

> I am struck by the careful attempt at reconstructing planning. We want the aura of the much benighted Yojana Bhavan. We want the experts to talk about it and the chief ministers to go there. We want three-year action plans (then, I suppose, a 'mid-term review') and a perspective.

other products was eased up".

So, the standards for him have to be set high. By that, I mean not more cars but details.

Panagariya is too good an economist not to know the mess we are in. The Index of Industrial Production grew, the CSO told us recently, by 2.4 per cent in 2015/16, but only by 0.4 per cent in April 2016/February 2017, the latest period for which we have the facts. In February 2017, the growth was minus 1.2 per cent. Since 2012, when the slide started, we are routinely that told the next quarter will be better, but not how. Of course, this does not mean that we should not have a vision for a better future. Just that the consolidation of the past can give us a foothold on the ground on which we will know how the future can be solidly constructed, brick by brick. But the Niti Aayog, giving us a vision, steadfastly refuses to construct the future.

At the beginning of the century, I was asked, amongst others by the UN, about how, looking ahead, India would move to a higher growth path of, say, 7 to 8 per cent. Going back to the lessons my teachers taught me, I said we will have to save more. What is called factor productivity will have to grow at 5 per cent annually, not 3 per cent. For that, we will need more trade. The desi abroad is doing the saving for us and sending it across with a benign Urjit Patel underwriting him with an impossible interest rate. But President Trump may put a spanner in all that.

If there are other ways, Panagariya could tell us. Then we could seriously debate the vision. Until then, as Keynes said, even mad men have visions. The Niti Aayog is too respected an institution to fall in that category.

As an old-timer in this game, I am struck by the careful attempt at reconstructing planning. We want the aura of the much benighted Yojana Bhavan. We want the experts to talk about it and the chief ministers to go there. We want three-year action plans (then, I suppose, a "mid-term review") and a perspective. I see this in respected figures, who want to meet me over *chai* or *lassi* in my lair in Ahmedabad. I meet everybody who has time for me for that is the only way I can earn my pension. I insist they come to my place and since many are "politically influential", not to my apolitical workplace.

With some of the head beagles, as it were, at the thought level, we have fascinating detours, sometimes of over two hours; more often than not, we decide the real issue for India to get its global glory is growth across gender, caste or religious lines, for markets cannot function otherwise. Also, we must grow fast or we will end up in the dustbin of history. If we do, we may be able to show another way. The head beagles agree, so Insha Allah, I hope, we will turn around and do it. In these things, consensus matters.

The writer, an economist, is a former Union minister

APRIL 27, 1977, FORTY YEARS AGO

DISSOLVING ASSEMBLIES

THE FACT THAT a party suffered losses in the general election was no justification for dissolving the state assemblies, Niren De, former attorney-general, told the Supreme Court. De, counsel for Rajasthan, was concluding his arguments before a seven-judge Constitution bench hearing petitions for the injunction to restrain the Union government from dissolving state assemblies or imposing president's rule. De contended that the assemblies were sought to be dissolved on considerations which were extraneous to Article 356. He said the letter of April 18 from the Union home minister to chief ministers of nine states, commending to them that they advise the governors to dissolve the assemblies, amounted to a threat. The letter, as also the broadcast by the Union law minister, he said, disclosed that the assemblies were sought to be dissolved on extraneous considerations. It was extraneous as far as the Constitution was concerned to say that because they lost in the general election, they had lost the confidence of the people, De said.

CHASNALA MINE PROBE

THE MAJOR CAUSE of the Chasnala mine disaster was negligence by the management, the inquiry commission which probed the accident, found. According to the commission, the accident's cause was a ventilation connection opened at an unauthorised point. If that ventilation connection had been opened a hundred feet away, the accident would probably not have occurred. The accident at Chasnala, near Dhanbad, occurred on December 27, 1975 and killed 375 people.

INDIRA'S NEW HOUSE

THE FORMER PRIME minister, Indira Gandhi, likely to shift to 12, Willingdon Crescent, has reportedly been asked to furnish a guarantee — signed by a gazetted officer — about payment of rent. The premises, owned by this government, carries a monthly rent of Rs 3,000. Mrs Gandhi is likely to move out of 1, Safdarjung Road, in a couple of weeks.

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THE IDEAS PAGE

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India's medieval counter-insurgency

The Maoist attack in Sukma underlines that our internal security paradigm is well past its sell-by date

PRAVEEN SWAMI

"I WISHED TO have depopulated the country of Roh," wrote Sher Shah Suri, as he contemplated the Mughal offensive that would destroy his empire in 1555, "and to have transferred its inhabitants to the tract between the Nilab and Lahore, that they might have been constantly on the alert for the arrival of the Mughals, and not allow anyone to pass from Kabul to Hind". "Another is to have entirely destroyed Lahore, that so large a city might not exist on the very road of an invader, where immediately after capturing it on his arrival, he could collect his supplies".

Five centuries on, it's hard not to miss how little has changed in India's counter-insurgency paradigm: Even today, planners depend on gargantuan concentrations of forces, coupled with denial of access to population centres, to dominate the physical terrain.

This week's loss of 26 Central Reserve Police Force personnel isn't significant of itself: in war, tragedy is but punctuation. Its real significance, though, ought to be tell us that the paradigm itself is past its sell-by date.

In 1961, the French special forces officer Roger Trinquier authored his findings on why militarised counter-insurgencies were fated to fail. The French military in Algeria and Indochina, he noted, persisted "in studying a type of warfare that no longer exists and that we shall never fight again". "The result of this shortcoming", he went on, "is that the army is not prepared to confront an adversary employing arms and methods the army itself ignores. It has, therefore, no chance of winning." He concluded memorably: "Our military machine reminds one of a pile-driver attempting to crush a fly, indefatigably persisting in repeating its efforts".

In November 2009, when then-Home Minister P. Chidambaram launched what the media called Operation Green Hunt, the task seemed simple: The gerontocrats who run India's national security were persuaded that pumping huge forces into under-policed Bastar would sever links between the Maoists and adivasis, degrading the insurgency. It was a classic medieval response — move in a few risalas to stamp out the bandits, and fly the imperial flag. Thus, Union Home Secretary G.K. Pillai announced: "Within 30 days of security forces moving in and dominating the area, we should be able to restore civil administration there."

The promise has been brutally exposed. Ill-prepared CRPF personnel, often trained in tents, short of about half their sanctioned requirement of key assistant commandant-level officers, were slaughtered. In April, 2010, 76 CRPF personnel were killed in a single ambush, while wandering aimlessly in a forest patrol.

How this came about, though, has as much to do with serious errors in conception. For one, there was no looming "red-corridor", with 180 affected districts — or, rather,

there was only one if one used the government's dubious index of one Maoism-related First Information Report having been filed in the previous year.

There was, moreover, no prospect of "clear, hold and build" in Bastar — the then-fashionable doctrine Chidambaram's mandarins had borrowed from the United States. The Bastar division of Chhattisgarh sprawls across 40,000 square kilometres, an area larger than the Kashmir Valley. New Delhi pumped in 14 battalions of the CRPF — each of 1,000 men — and five of the Border Security Force. That means each battalion of security forces were expected to engage with insurgents in areas larger than 2,000 square kilometres, thinly covered by road.

Fatalities in 2009 were, unsurprisingly, higher, at 941, than in 2008, which saw 648. The higher fatalities in 2009 included a sharp rise in security force losses, from 214 to 312, and civilians, from 220 to 391. Indeed, fatalities in 2007 and 2008 were lower than in 2009. Thus, "Green Hunt" had the proximate consequence of making the region less secure — not more.

After the 2010 debacle, the counter-insurgency campaign in Chhattisgarh wound down, with the police force — battered by allegations of human rights violations — leaving the fight to the CRPF, which, bereft of a specialist intelligence wing, local language skills and a higher management proficient in counter-insurgency, could do nothing: Maoist losses declined steadily year on year.

Then, in 2016, two states registered sharp upticks in offensive Maoist operations, while figures for the others remained static: Chhattisgarh saw a jump from 36 to 133 Maoists killed, while numbers of police lost declined from 41 to 35, and Odisha saw killings of insurgents rise from 11 to 45.

Though disaggregated figures on these operations aren't available, there is reason for concern: There is no known means that

In November 2009, when then-Home Minister P. Chidambaram launched what the media called Operation Green Hunt, the task seemed simple: The gerontocrats who run India's national security were persuaded that pumping huge numbers of forces into under-policed Bastar would sever links between the Maoists and adivasis, degrading the insurgency. The promise has been brutally exposed. Ill-prepared CRPF personnel, often trained in tents, short of about half their sanctioned requirement of key assistant commandant-level officers, were slaughtered. In April, 2010, 76 CRPF personnel were killed in a single ambush, while wandering aimlessly in a forest patrol.

makes relatively dysfunctional forces perform miraculously well inside a year. In Chhattisgarh, killings of individuals unconnected or tenuously connected to the insurgency are reported to have led to a resurgence of support to the Maoists.

Force seduces — but it comes at a price. In a signal 2001 essay, the former Assam Chief Secretary, Vijendra Singh Jafa, recorded how the village of Darzo was relocated. "My orders," a soldier told him, "were to get the villagers to collect whatever moveable property they could and to set their own village on fire at seven in the evening. I also had orders to burn all the paddy and other grain that could not be carried away by the villagers". The officer, Jafa recounted, ordered village elders at gunpoint to certify "that they had burnt down their own village".

But the insurgency did not end. New Delhi and Laldenga were able to agree on the contours of a peace agreement as early as 1976, but the deep anger provoked by the army's campaign made it impossible to settle the deal. National Security Advisor Ajit Doval knows the story well, for he eventually helped bring about peace through intelligence operations in 1986.

It's painful for many to admit — but India's counter-insurgency record isn't luminous. Punjab and Tripura might stand out, but much of the Northeast is a desolation of degraded insurgent fiefdoms; in Kashmir, the military defeat of the jihad hasn't yielded peace. Though terrorism-related violence remains well below the levels seen even a decade ago, 1,00,000 troops deployed on counter-insurgency duties, in addition to the 83,000-plus Jammu and Kashmir Police and 60,000 CRPF personnel, haven't succeeded in tamping down violent protest. The option to finding better answers is endless war, corroding the Indian republic from within.

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C R Sasikumar

Death of the telegram

But we still have the Indian Telegraph Act of 1885. It must be replaced, instead of piecemeal amendments

BIBEK DEBROY

MOST PEOPLE HAVE read, or heard of, the Lynne Truss book, *Eats, Shoots & Leaves* (2003), about the importance of correct punctuation. The title is a reference to the clichéd panda story. A panda walks into a bar, eats a sandwich, draws out a gun, kills a few people and leaves. That's because a panda eats shoots and leaves, but a manual stated a panda eats, shoots and leaves.

I was reminded of this because an old myth about telegrams has started to circulate again. But, before that, a true story, not a myth: A gentleman I know was supposed to travel abroad from Kolkata. He didn't live in Kolkata and took a train to the city. Meanwhile, a telegram arrived at his home in a mofussil town: "ARRANGEMENTS MADE STOP TRAVEL." The panic-stricken wife took the next train to Kolkata, to dissuade her husband from travelling. This myth about telegrams has been floating around for a long time and courtesy the internet, keeps getting circulated.

A lady visited Europe and found an expensive bracelet. She sent a telegram to her husband, wanting to know if she might buy it. The husband responded by return telegram, "No, price too high." The operator transmitted, "No price too high." The husband successfully sued the telegraph company. Since that suit, telegraph companies have spelt out punctuation. So runs the myth — and it is nonsense. There has never been any such suit.

But there is a booklet authored in 1928 by Nelson E. Ross, titled *How to write telegrams properly*. Let me quote from the section on punctuation marks: "If it seems impossible to convey your meaning clearly without the use of punctuation, use may be made of the celebrated word 'stop', which is known the world over as the official telegraphic or cable word for 'period'. This word 'stop' may have perplexed you the first time you encountered it in a message. Use of this word in telegraphic communications was greatly increased during the World War, when the government employed it widely as a precaution against having messages garbled or misunderstood, as a result of the misplacement or emission of the tiny dot or period. Officials felt that the vital orders of the government must be definite and clear cut, and they therefore used not only the word 'stop', to indicate a period, but also adopted the practice of spelling out 'comma,' 'colon,' and 'semi-colon.' The word 'query' often was used to indicate a question mark. Of all these, however, 'stop' has come into most widespread use. It is interesting to note, too, that although the word is obviously English

it has come into general use in all languages that are used in telegraphing or cabling. 'Stop' is of course never necessary at the end of a message."

That quote sums up the use of STOP quite succinctly, started by governments during World War I. However, Nelson Ross probably got it wrong on "misplacement or emission of the tiny dot or period". At that time, transmission was through Morse Code which had dots and dashes for letters and numbers, but not punctuation marks. If you needed to use punctuation marks, there was no option other than spelling them out. After World War I and government use popularising STOP, others also started to use it.

There is another myth floating around, about telegraph companies deliberately spelling out punctuation marks, because this increased their profits. This is impossible to prove or disprove. However, it is true that in 1937, four major US telegraph companies (Western Union, RCA Communications, Postal Telegraph, Mackay Radio and Telegraph) agreed not to charge for punctuation marks in domestic telegrams. Charges were levied earlier.

Since 2013, we no longer have telegrams, though we still have the Indian Telegraph Act of 1885, amended several times. There should be a completely new Telegraph Act, instead of piecemeal amendments. The Communications Convergence Bill has some elements of this, though it has other sections too. In passing, Delhi has a Telegraph Lane, as do several cities in Britain. India Post has an ePOST service, which, at a stretch, incorporates some elements of the old telegram. Strictly speaking, the old telegram was a BSNL portfolio, not an India Post one. Finding telegrams unviable, BSNL terminated telegram services in 2013. But when terminated, it had several elements that were web-based, not quite the kind of telegraph service opened between Kolkata and Diamond Harbour (1851) and Kolkata and Agra, Bombay, Madras (1854).

Most people have forgotten there was an Electric Telegraph Act of 1854 that preceded the 1885 one. At that time, "Within the territories in the possession and under the Government of the East India Company, the said East India Company shall have the exclusive privilege of establishing lines of Electric Telegraph. Provided that the Governor General of India in Council may grant a license to any person or Company to establish a line of Electric Telegraph within any part of such territories, which license shall be revocable on the breach of any of the conditions therein contained."

A number has been attributed to BSNL sources, of a peak of 60 million telegrams sent, in 1985. Thereafter, the figure dipped to around 6,000. However, around 20,000 were sent on the last day, being a special occasion. Technology killed the telegram, as it did in other countries too.

The writer is member, Niti Aayog.
Views are personal

RSS and the revenge on history

Its 'cultural nationalism' is pushing India into one of its worst crises

ASHUTOSH

INDIA IS LIVING through its third most turbulent era. The first was Partition, the second was the Emergency and the third started ever since Narendra Modi became prime minister. If the first era was the crisis of a crystallisation of ideas from the freedom movement, impacting the existence of India as a unified nation, the second shook the edifice of our constitutional and democratic system. The present era features an attempt to disrupt an entire civilisational narrative in which different beliefs can coexist; this is not ideological warfare but a desire for civilisational conquest. It not only attacks a sense of being Indian but also rewrites Hinduism. This attempt is called "cultural nationalism", which my dear friend Rakesh Sinha, whom I have known personally for many years.

In 'Not an Imagined Community' (IE, April 22), Rakesh laboriously defends an argument that the Hindu rashtra is not a religious or political objective, but a way to define and aspire to "cultural nationalism". He says this is not "reactionary" but "assimilatory", based on mutual trust.

These are not new arguments; they are as old as the RSS. Through its history, the RSS suffered from a crisis of credibility and a desire to be accepted in mainstream discourse. In 1925, when the RSS was formed, the world was disrupted by left ideology. Gradually, country after country fell to communism. The Indian elite, in a pursuit of intellectual excellence, sided closely with the communist un-

derstanding. Like its communist friends, it did have a certain contempt for western capitalism and a disdain for the RSS's Hindutva.

Later, Mahatma Gandhi's murder and the ban on the RSS by Sardar Patel further discredited it. What saved it was the organisation's enormous patience and its instinct to survive; the RSS branched into so many avatars, it was impossible to distinguish one from the other — it seemed like formations were both independent and interdependent, one and many. So, one is political and religious at the same time; in the same vein, neither political, nor religious. How does one then define the RSS? Which is the BJP, which is the VHP? Both are different — both are one; is one political, the other religious? But Sinha calls them out as separate. The fact is, the RSS, the BJP and the VHP are not three entities — they are the same. It's like one big corporation which has different verticals but where all report to the same boss, espouse the same cause, work for the same mission, in this case, to make India a Hindu rashtra.

Who can say that Hindu is not a religious identity? I am a Hindu; this Hinduness distinguishes me from my Muslim, Christian and Sikh brothers. And "rashtra", by definition, is political. So, to call the Hindu rashtra anything but a politico-religious entity is camouflage. Every politico-social formation has the right to create its own rashtra, but the objection here stems from the fundamentals of the RSS's logic which is reactionary and

non-assimilatory. Its whole ideology hinges on its anti-Muslim and anti-Christian articulations. Its whole ideology hinges on its anti-Muslim and anti-Christian articulations. Rakesh forgot to quote the RSS's second chief, M.S. Golwalkar, who wrote in *Bunch of Thoughts*, "There are three enemies of India — Muslims, Christians and Communists."

Rakesh, on the one hand, talks about the progressive continuation of civilisation, and on the other, attacks Christianity and Islam for "Semitic exclusive-ness", forgetting Golwalkar's words, "The foreign races in Hindustan must either adopt Hindu culture and language, must learn to respect and hold in reverence Hindu religion, must entertain no ideas, but those of glorification of the Hindu race and culture... or may stay in the country, wholly subordinated to the Hindu nation, claiming nothing, deserving nothing, no privilege... not even a citizen's right." H was inspired by Hitler. Golwalkar says, "Germany has shown how impossible it is for races, having differences going to the roots, to be assimilated into one united whole..."

V.D. Savarkar's entire idea of the Hindu rashtra is political; he obliged its proponents not with the idea of "common love", but "common blood". His concept of territorial nationalism is imbued with an "exclusive-ness" that refused to accept Muslims and Christians in one nation; he invented the concept of a "holy land" in Indian nationhood. In a way, he supported Jinnah's two-nation theory. Like Golwalkar, he was also of the opinion that minorities should not be

granted equal rights as that would work as a veto to majority rights. An ideology born out of an inferiority complex was not only seeking revenge from history, but also preparing the ground for carving out a new civilisational logic, different from a culture based on the synthesis of divergent religions.

Interestingly, Swami Vivekanand was the best icon of this civilisational thesis. He is also revered by the RSS, but quoted rather selectively. Vivekanand says, "For our own motherland a junction of the two great systems, Hinduism and Islam — Vedanta brain and Islam body — is the only hope... I am firmly persuaded that without the help of practical Islam, theories of Vedantism, however fine they may be, are entirely valueless..." His words must sound blasphemous to the modern icons of Hindutva.

Therefore, "cultural nationalism" is a big hoax. It is neither Indian, nor Hindu. Rakesh Sinha quotes K.B. Hedgewar on the Hindu rashtra, discussing this as a continuation of the past, but the RSS is not prepared to accept medieval history; it treats it as an affront. Religion gives the RSS a mobilisational tool, politics offers it authority. The combination is a deadly cocktail; the crisis is grave but the answer does not lie in the RSS's "cultural nationalism" because that is the crisis.

The writer, a former journalist, was an Aam Aadmi Party candidate from Delhi in the Lok Sabha elections

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