

Cleansing young minds

Raise future generations to be zero-waste individuals by inserting waste management into school curriculum countrywide



OUT OF THE BLUE

ANJALI BHARGAVA

A recent news report in *The Times of India* caught my attention the other day: "Mountains of waste: Hill states treat just 31 per cent of the trash". To be quite honest, I was rather taken aback at the

number being as high as this. Do the mountainous regions actually treat 31 per cent of their garbage? Walk around in any Himalayan town and you would be forgiven for thinking this number (put out by the Ministry of Environment, Forest and Climate Change) is much lower, if not zero.

But this column is not here to dwell on the problem. So visible has become the size of India's garbage crisis that almost everyone — even Lutyens' Delhi — is now seized of it. I will put forward a few suggestions that, in my view, can make some dent if we take the bull by its horns today.

At the cost of being repetitive, I'll say this: Building toilets is one part of it, tackling the garbage landfills and heaps is

undeniably the other. Although my expectations from all governments are rather low, I do think this one has done the country one favour by driving home the need to clean up. Let's take it a step further. Open defecation must be eliminated but so must the strewn garbage and the use of plastic. Expand the scope of Swachh Bharat Mission (SBM). Focus on segregating trash and treating it countrywide. In fact, set one's goals high like with solar and wind power generation targets.

To do this, the country must embark on a gargantuan awareness drive. Can funds from SBM be used to finance such a campaign? Unless a clean-up drive is accompanied by behavioural change from a majority of the population, it won't go far in a

country of our size. This is not Singapore where you can impose heavy penalties and arm-twist citizens to obey. Neither is it a small and homogenous Rwanda where the authorities in capital city of Kigali have managed to achieve wonders by instilling a sense of pride in poorly paid municipal workers. Leaving matters in the Indian state municipal bodies' hands — as has been the case all these years — has yielded very little. The authorities seem neither concerned nor seized of the dangers of landfills, leachate and the outbreak of disease unchecked garbage can lead to.

Above all, we need to bring solid waste management (SWM) into all school curricula in an organised and cohesive manner.

Explain how, what, where, when and why it is critical for everyone to be zero-waste individuals to children across India's government and private school system. Just like the impending dangers of climate change and ways of mitigating it have slowly crept into syllabuses, India can try and spawn a future generation of waste warriors by starting from the word go. Make it part of national curriculum, across state and central boards. As they have shunned crackers, children will lead the way and induce parents to do the same.

The good news here is we don't have to start from scratch. In Bengaluru, an organisation has developed a text "Trashonomics", a simply written and illustrated booklet that makes children aware of the basics of SWM. The what, the how and the why of reducing waste footprint. The book uses a crow — an intelligent bird that wastes nothing — to explain simple concepts, guide and prod children to adopt these practices as a way of life

as they step into adulthood. In five chapters, it explains what happens when one mixes waste, burns it or just dumps it, or what one can do to reduce the total quantity generated and how to segregate it. A chapter contains at-home solutions and illustrates how to handle organic waste at home including composting and dealing with recyclable waste. The book also touches upon being a responsible consumer and minimising use of plastic.

At the Corbett Tiger Reserve, the Waste Warriors (an organisation headquartered in Uttarakhand) chapter has taken things head on and is now working with a host of schools and villages to tackle this growing menace. Films, videos and print material have been developed and is being used to explain why tackling trash is critical for our future survival.

I'm heading there later this week to see its impact. If I don't drown or disappear in one of the garbage heaps along the way, I'll report back to you on this soon.

Changing the shape of plastic

To fight the menace, India would do well to encourage the use of biodegradable raw material instead of petroleum products for packaging

KUNAL BOSE

The growing use of plastics, a small percentage of which is recycled, is causing a spasm of popular disgust across the world. Not only are there emissions of enormous quantities of greenhouse gases in the course of production of around 350 million tonnes (mt) of plastics every year, the environment suffers further serious damage as most of used plastics go into landfill sites or is burnt or is just littered everywhere from city streets to sea shores.

The versatility of the light but strong synthetic material made from fossil feedstock oil has created many application opportunities at low cost. In fact, plastic has replaced aluminium, steel and natural fibres such as jute and hemp in many applications, including particularly packaging. What, however, has raised public ire is the growing application of plastics in packaging, particularly in the quintessential single-use products. Consulting firm McKinsey estimates that packaging claims a quarter of the total plastics use.

Environmentalists' concern relates primarily to the fact that the intended life of single-use plastic products is less than a year. Because of their mostly remaining beyond the pale of established waste collection system for recycling purposes, they float on the earth for centuries.

In view of the damage that is being done to our marine life, fisheries and farming, Prime Minister Narendra Modi gave a call on Independence Day that "the time has come for freeing

India from single-use plastic." In fact, in this regard, India goes well beyond the tokenism practised in many countries. In Grand Slam and other major tournaments, tennis players will be seen removing plastic racket wrappers on court. Wimbledon banned the practice this time. Instead of banning their use, a large number of countries have obliged retailers to charge customers a token amount for disposable plastic bags. Check with big retailers in India, such as Reliance Retail, Big Bazaar and Spencer's, they all have surrendered to consumer preference and functional benefits of plastic bags rather than being environmentally correct.

A joint report by McKinsey, Ellen MacArthur and the World Economic Forum has estimated the negative externalities of plastics at \$40 billion and that exceeds the manufacturers' profits. Among plastic-packaging leaks into natural systems, oceans figure most prominently with a share of nearly one-third. At regular frequency, newspapers will have reports of marine species such as whales, turtles and fishes dying because of their ingesting plastic waste mistaking that for food. Our beaches are an example of the damage that the "throw it away society" could wrought. Go to any beach in India or elsewhere, you will see plastic debris littering the shore. No wonder, then, birds unwittingly feeding on floating plastic garbage are perishing in growing numbers. Necropsies of dead birds' stomachs are found filled with plastics.

Used plastics thrown in the open take wing and travel long distances to invade every part of the planet, including the most remote reaches of the Arctic. But how do plastics discarded in urban centres find their way into the Arctic? A study published in the current issue of the American Association for the Advancement of Science journal *Science Advances* says propelled by atmospheric winds micro-plastics fall on the Arctic. Since micro-plastics remain airborne, human beings and animals breathe them in posing health risk. The study of rising plastic debris on the Arctic sea floor found the decadal growth scary, including a tenfold rise at one observation point.

At this point plastics recycle at the rate of less than 40 per cent compared with 80 per cent for steel and around 77 per cent for aluminium cans. Collection of end-of-life vehicles and plant and machinery for conversion into steel scrap and aluminium cans for smelting is getting better and better globally, including in India. Both World Steel Association and International Aluminium Association are aggressively promoting the environment friendliness of their respective metals based on their infinite recyclability. The environment and health concern about single-use plastics is seen as an opportunity by the aluminium industry to muscle into canning still water. Plastics are also facing competition from glass in still water bottling. Modi's dislike for plastics and the worldwide adverse publicity for the material bode well for jute, which over the years has seen plastic bags making inroads into sugar and foodgrain packaging.

In a report, McKinsey says the plastics-related environmental problem

will reach "a whole new level" by 2030 when waste volumes would grow to 460 mt from 260 mt in 2016 on the assumption of current demand growth sustaining. The petrochemical industry must be confident about the market for its products expanding. Otherwise, why should it be thinking of achieving a capacity of 600 mt by 2034? At the same time, public outcry against plastics has made the industry realise that it must move beyond the use-once-and-discard approach and by way of intensive R&D make plastic waste an "important driver of profitability for chemical companies."

McKinsey suggests plastics could live down their negative image and reshape the industry economy by applying "circular economy principles to global plastic packaging flows". The suggested practice could "drastically reduce negative externalities" of plastics. Pressure is mounting on chemical companies to embrace a "new plastics economy" that will promote effective collection systems for recycling.

Hopefully, industry research into splitting plastics into their components for making new materials will be a success leading to commercialisation. The circular economy advocated for plastics has already been embraced by steel, aluminium and copper giving relief to environmentalists.

Take the most commonly produced plastic in the form of polyethylene where the rate of recycling is only 10 per cent. Scientists, however, see wealth in waste polyethylene. The material consists of a long chain of carbon, which could be turned into value-added polymers. At the laboratory, much progress has been made to convert some varieties of used plastic into high value "pliable wax like biodegradable plastic." The new material could find application in mulch farming and for making bag and writing instrument. McKinsey advocates "decoupling plastics from fossil feedstock" by adopting renewably sourced feed materials. But that will be a long and politically tortuous journey.



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CHINESE WHISPERS

Back in business



A noticeable change since Sonia Gandhi took over as Congress president is that General Secretary Priyanka Gandhi Vadra (pictured) now has a greater

say in how things are run, besides the general sense of activity in the party headquarters. Since 2014, the Congress headquarters at 24, Akbar Road, had worn a deserted look, with key meetings held at the party's "war room" in a bungalow on Gurudwara Rakab Ganj Road. Now Sonia and Priyanka have asked the party leadership to hold their meetings at Akbar Road. The distribution of invites to the 75th birth anniversary celebration of Rajiv Gandhi, held last Thursday, was done there, which kept the office buzzing for a few days. The ticket distribution for the forthcoming assembly polls might also take place there. But the Congress national headquarters will soon have competition with the new Gujarat Bhavan slated to be inaugurated by Prime Minister Narendra Modi right opposite the bungalow.

Stationery problem

Someone joked even the Central Bureau of Investigation (CBI) has been hit by the slowdown in the economy. On Monday, during the hearing seeking an extension of the police custody of former finance minister P Chidambaram in the INX Media case, the CBI submitted a computer printout of the case diary. Chidambaram's counsel, senior advocate Kapil Sibal, objected to it, to which CBI counsel said that it had run out of printed booklets of the case diary, and hence could not submit one. The court then accepted the printout of the case diary while extending to the probe agency's plea to attend Chidambaram's remand till August 30.

Bhogle's Twitter silence

It was rather uncharacteristic of noted cricket commentator Harsha Bhogle to not tweet about India's first World Test Championship match against the West Indies, which ended on Sunday. It did not take long for many among his 8.36 million followers on the platform to wonder why Bhogle, who was posting tweets on other non-India Test matches, was silent on the India match in Antigua. Bhogle's replies such as "Didn't feel like it. Won't feel like it today either" on Day Two didn't help clear the air. However, in a tweet posted after the match, he wrote: "I didn't tweet on this game because I was unhappy at the time and I didn't want that to influence anything I might say." One wonders what could have angered the usually mild-mannered and politically correct commentator: Team selection, changes (or continuity) after the unsuccessful World Cup campaign, or not being among the chosen commentators for the India-West Indies series?

ON THE JOB

Unemployment now in the 8-9% range



MAHESH VYAS

The unemployment rate breached the 9 per cent mark during the week ended August 25. It touched 9.07 per cent. This is the highest weekly unemployment rate recorded in about three years. To be precise, it is the highest unemployment rate since the first week of September 2016.

The weekly unemployment rate has hopped over values between 7.9 per cent and 9.1 per cent during the last four weeks. It seems to be finding a new level between 8 and 9 per cent. This would be a 100 basis points higher than the 7.2-7.9 per cent range it scaled during the preceding three months.

While the weekly unemployment rate was over 9 per cent during the week ended August 25, the 30-day moving average on the same day was 8.25 per cent. There is some volatility in the weekly estimates of unemployment and the 30-day moving average is a much better indicator of the true unemployment rate. This measure suggests that the unemployment rate has jumped up from around 7.5 per cent till recently to over 8 per cent in August.

Unless there is a sharp fall in the unemployment rate during the last week of August, it is likely that August 2019 would end with an unemployment rate of close to 8.5 per cent. This is not as alarming as the 9 per cent recorded in the latest week but, it would still be the high-

est unemployment rate recorded by India, in the past three years.

The unemployment rate has been rising steadily since July 2017. This is an outcome of the relative stabilisation of the labour participation rate since early 2018 and a fall in the employment rate. A stable labour participation rate implies that as the working-age population rises naturally steadily, a constant proportion of this keeps coming into the labour markets seeking for jobs. Thus, with a stable labour participation rate, as the working-age population rises, the labour force also keeps rising steadily.

However, this steady increase in the labour force is not met with sufficient job



opportunities. As a result, the unemployment rate has been rising. The lack of sufficient job opportunities is seen in the fall in the employment rate.

The week ended August 25 saw a sudden and sharp increase in the unemployment rate in rural India. At 9.1 per cent, the rural unemployment rate was higher than the 8.9 per cent urban unemployment rate. It is not very often that the rural unemployment rate exceeds the urban rate. So, the rise in rural unemployment rate we observe in the most recent week is somewhat unusual.

This is the kharif agricultural season and labour participation in rural India has increased. The 30-day moving average labour participation rate in rural India as of August 25 was 44.4 per cent. This is just a tad higher than the rate recorded in July. At this level, rural India is wit-

nessing the highest labour participation rate in over a year. Working-age population has been thronging into the rural labour markets in search of work in greater numbers than in the recent past.

It is this rural labour that seems to be facing greater challenges in finding jobs currently. Rains have been erratic spatially and temporally. Sowing was initially deferred because of the delayed progress of monsoon clouds over the Indian subcontinent. Sowing is still lower than it was last year but now, there is a double whammy as large tracts of sown areas are flooded because of excessive local rains. Demand dynamics for rural labour have been complicated. This is not a normal kharif season demand for labour.

Wage rates for ploughing and sowing had increased by about 7 per cent, y-o-y in June 2019. It would be interesting to see what happens to them by August. The increase in the labour participation rate could have led to a weakening of these rates by August. But, it would be instructive to juxtapose these data when the wage rates are released.

The CPHS labour statistics tell us that the increased influx of labour into the rural labour markets did not find adequate jobs. As a result, the employment rate in rural India dipped below 41 per cent in the first few weeks of August. In the past 12 months, the ratio has been below 41 per cent in 8 months. Earlier, the ratio was never below 41 per cent. Rural India, it seems, cannot absorb the labour descending upon it. If the growth in rural wage rates fall, we could be witnessing a new stress point in labour markets in India.

Urban India has not been a great absorber of labour. Its employment rate has been falling steadily. In July 2019 it reached a new low of 36.8 per cent. Therefore, any weakening of the rural labour markets could be ominous.

The author is the MD & CEO of CMIE

LETTERS

Timely assurance



This refers to the editorial "A first step to revival" (August 26). The measures by the FM are not merely welcome but are sweet music to the ears of all businesses and industry — big and small. The government has done an admirable job; the ball is now squarely in the industry's court and it is for them to kick it right and hard. We always need it — and ask for — more but the announcements made on Friday offer huge opportunities to all commercial activity in the country.

That the government is becoming responsive to the needs and demands of the industry is a great change. The presentation by the Minister of Finance, Nirmala Sitharaman (pictured), was very lucid as it talked of some concrete measures to provide an impetus to the ease of doing business. The government's readiness to respond and react is indeed a huge assurance that they are willing to go even further to understand the genuine problems of the industry and endeavour to make all reasonable changes to solve these. You have beautifully summed that up, when you write "the government has emerged from a state of denial and recognised that the Indian economy faces serious problems".

There is no doubt that deeper structural questions still remain unaddressed. Let the industry first respond to a lot that is already on

offer and I am sure the government will also attend to the issues of raising productivity and investment to a higher level. Having shown its commitment to addressing the economic slowdown — as you have rightly summed up — it is more than likely that the government will follow through on structural reform.

Krishan Kalra Gurugram

Much-needed fillip

The government deserves compliments for announcing the stimulus package in time to arrest the economic slowdown. The measures announced encompass many sectors. But the most important and far reaching decision the government announced was regarding the angel tax. Start-ups registered with the government will no longer be subject to angel tax. This would provide a big boost to the funding plans of start-ups, thereby boosting growth in some ways.

Further, the government has responded quickly to withdraw the enhanced surcharge levied on income of foreign portfolio investors on short- and long-term gains on equity. The enhanced surcharge announced in the Budget 2019 was largely believed to be dampening the investors' sentiment and needed to be done away with early. Also, by deciding a timeline for GST refund as two months for the micro, small and medium enterprises (MSMEs), the government has shown its concern for the

MSMEs that need faster access to working capital to sustain their operations.

Hopefully, the measures announced by the government will give the much-needed fillip to growth and will be able to insulate India to some extent from the worldwide slowdown.

Sanjeev Kumar Singh Jabalpur

No sunset for Arun

This refers to the editorial "The Jaitley era" (August 26). Arun Jaitley, the former finance minister, was a man of many parts — an astute politician, a legal luminary, a much-respected parliamentarian and a multi-tasker who handled diverse portfolios in the Narendra Modi cabinet. Given his genius, it is improbable that he would have favoured the introduction of demonetisation without proper planning or the implementation of GST so soon after demonetisation. But his commitment to Narendra Modi was total and he did his best to justify them. The execution of GST and navigation of the deliberations of the GST Council are a tribute to his superlative negotiation skills, strong relationships he built with Opposition leaders and his power of persuasion.

YG Chouksey Pune

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HAMBONE



Protect TV's diversity

Trai should minimise intervention in channel pricing

A new consultation paper from the Telecom Regulatory Authority of India (Trai) on the subject of cable television channel pricing has set alarm bells ringing in the sector. The paper views the increasing number of channel bundles on offer as a problem; such bundles usually come with discounting of channel prices, which permits cross-subsidisation. However, it also means that the choice before consumers can become confusing, even if they are saving money on their bills overall. The paper proposed additional regulations on pricing, including a cap on the amount that bouquets could discount their prices, and a possible change to the ceiling price of ₹19 per channel. This has caused concern in particular to smaller channels, with a niche viewership. These channels can manage to continue only if they are essentially cross-subsidised by more popular channels as part of a bouquet, or if they are priced higher than ₹19 in such a way that their costs are covered.

There is little doubt that Trai is attempting to solve a problem that it has itself created. Its regulations on tariffs that were implemented in end February were meant to ensure that customers paid only for what they wanted to view. However, it has in practice led to chaos, because consumers have found themselves without their favourite channels or have felt their average bills would increase. There has been a consequent ratings jump for free-to-air channels — which broadcasters attempted to get around by using bundling to make their package of channels look attractive. Some broadcasters were offering discounts of as much as 70 per cent on the total a la carte prices of their channels, according to Trai. This, the regulator feels, is the cause of the confusion, and not its own intervention in pricing. Indian regulation has a habit of viewing greater choice for customers as “confusion” and discounts as exploitation — neither of which is particularly justifiable on economic principle.

The economic principle that could apply here, however, is protection of competition: If large broadcasters are using bundling — in this case, channel bouquets — to edge out smaller competitors, then there is considerable logic to intervention. This was the argument, for example, against Microsoft bundling Internet Explorer for free with its Windows operating system. However, Trai has not made an evidence-based case that this is what is happening with bouquets in the cable TV space. In fact, according to the broadcasters' association, it is smaller channels that are most at risk from Trai's new proposal. A further reduction in the diversity of channels available to consumers in India is surely not the regulators' aim. The broadcasters have noted that popular channels are charged more; and that if those channels are bundled with less popular channels, the bundle does not cost as much as the individual channels would. These are not surprising results — this is exactly how the markets could and should work. It seems odd in this context, therefore, to reduce the discounts on offer, or to reduce the price cap on individual channels. Indeed, the price cap should be increased well above ₹19, so more premium content is made available to niche subscribers.

Integrating J&K

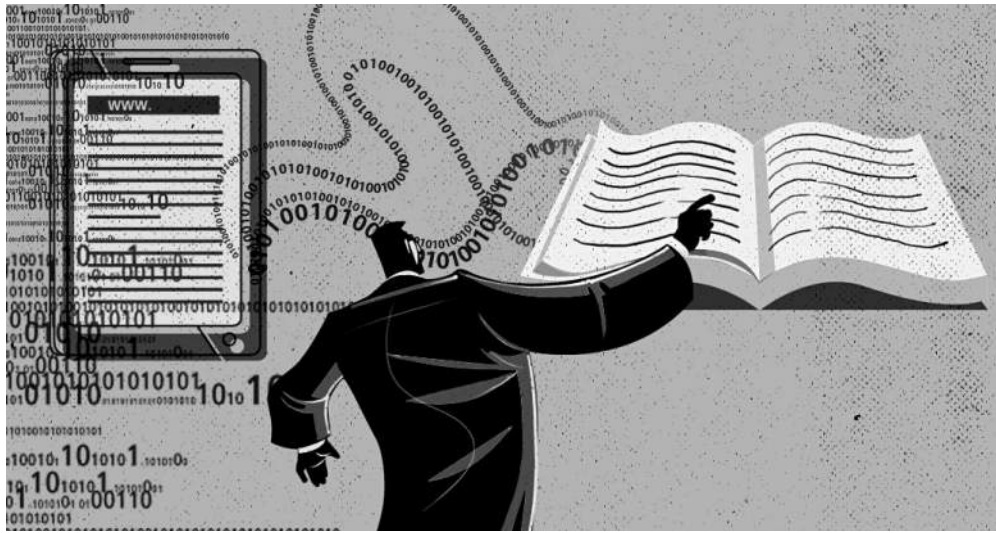
To gain credibility, the clampdown needs to be relaxed

It has been three weeks since the Narendra Modi government read down the provisions of Article 370 for Jammu & Kashmir (J&K) but the promised return to normalcy remains elusive. The fact that an opposition delegation was prevented from visiting Srinagar over the weekend, and a person died in stone-throwing on Sunday — a familiar pattern these past three decades — underlines this ground reality. To be sure, the lockdown was an open-ended exercise: Home Minister Amit Shah had told the Rajya Sabha that full status would be restored to J&K at “the appropriate time”. The definition of “appropriate” is unclear. But if it is to add credibility to its claim that abrogating Article 370 and splitting the state into two Union Territories were in the best interests of the people of J&K, New Delhi's confidence-building exercise needs to start now. A prolonged lockdown on mobile connectivity, limited access to the internet, the heavy presence of security forces, and continuing curfew cannot continue beyond a reasonable period.

That Kashmiris are yet to be convinced of the virtues of the constitutional exercise conducted on their behalf by Parliament is evident. Schools are open but few children are attending and government offices are still assailed by widespread absenteeism and the bazaars are deserted. This dormant sense of angst is more difficult to confront because there is no knowing in what form, where, and when such emotions will erupt. It is equally true that Kashmiris may not be able to sustain this state of affairs indefinitely. But with Pakistan and China in the equation, externally sponsored militancy remains a threat. This implies the continuing heavy presence of security forces, complete with the legal impunity that has been the cause of deep-seated resentment among ordinary Kashmiris. Now that the state is under central rule, New Delhi's outreach programme demands sensitivity and imagination. There is no point in the governor claiming it is all peace and quiet in the Valley, while the military and the administration say the lockdown will have to continue. It's high time the Centre kick-started the process of investment, skill building, and expanding job opportunities for the Kashmiri youth.

External compulsions as much as domestic optics also dictate why J&K needs to be seen as functioning as normally as possible. Despite Pakistan's fulminations, the international community's response has been muted. Even US President Donald Trump has retracted his offer of “mediation”, recognising J&K's borders as India's bilateral issue with Pakistan. If the state descends into chaos again, the Western powers may seek ways to intervene — the very contingency Mr Modi sought to avoid by abrogating Article 370. At the very least, his address to the UN General Assembly on September 28 should be able to report the start of J&K's peaceful integration into the Indian state. A draconian clampdown on its leaders and people is unlikely to convince anyone of the wisdom of an essentially unilateral constitutional change. Prosperity in the state needs to be preceded by peace, and the first step should be to take measures that would raise hopes among the people of the state that their lives would improve within a reasonable time frame.

ILLUSTRATION: AJAY MOHANTY



The impending return of the book

Why an anti-digital wave like the anti-carbon one is around the corner

I can't help but introspect when I find myself buying the books I feast on more and more in printed format rather than doing what I have been doing for the past two decades, buying them in electronic form, for example on the Kindle. Add one further reason to introspect — these books I buy have titles like *Doing Data Science*, *Neural Networks with R*, and come filled with algebraic equations and computer code.

Initially, I explained this behaviour by telling myself that I was just being practical: Dense computer codes do not read well on Kindle, a fact that is ironic. After all, if there is one business that stands for the internet, it is Jeff Bezos's Amazon, which was started in 1995 as a bookstore on the internet.

Why did the world's first online store start by selling books? Wikipedia's page on Amazon does not say this, but having lived through those times, my understanding is that one major reason must have been that the book industry in the United States in the mid-1990s had a margin of 40 per cent-plus at the bookstore level, which made it possible to offer discounts big enough to lure prospective buyers to adopt online shopping. We had to wait till 2004 for Chris Anderson, the editor of *Wired*, to explain to us another angle to this with his book, *The Long Tail: Why the Future of Business Is Selling Less of More*. Chris explained to all of us

that in industries like the book industry, a large number of book titles are read by a few people. These passionate readers constitute the “long tail” and are more likely to pay a good price for a book than readers of best sellers who need a heavy discount to lure them to buy/read a book. This “long tail” model has since then been adopted by many other industries and one could today easily say that it forms the cornerstone of online shopping. And, just imagine, it all started with the printed book industry.



AJIT BALAKRISHNAN

Come to think of it, Tim Berners-Lee, who came up with the idea of the World Wide Web in 1989, was motivated by a desire to make the sharing of knowledge easier. And the Web did live up to that goal, at least for the first 15 years of its life. We all rejoiced in the enormous amount of written material we could read for free on the Web, not to mention the enormous amount of free music and free video/films that we could watch.

What then explains why I am wandering back to reading programming and other tech books in the printed form? The first reason is the hurdle that I encounter increasingly when I search the Web for answers to a tech puzzle and hit on a website that promises to provide an answer to my question. After I read about a hundred words and start marvelling at my luck in stumbling on such a great and well-

Why Trump isn't energy's friend

You really can have too much of a good thing. Or a bad thing. Or just a thing. By “thing,” I am referring in this case to President Donald Trump's support for the energy industry. Trump is all in on developing America's bountiful supplies of oil, natural gas and coal. This is what miners and drillers (and pipeline operators and refiners) want. At this juncture, though, it's not necessarily quite what they need.

Meanwhile, Friday morning delivered what has become a rather familiar set-piece: A tariff tantrum in oil prices. China's announcement of new tariffs on another \$75 billion of US goods, including oil, took what had been a tentative rally in Brent crude above the \$60 level and dunked it back down below.

This is the problem with Trump's support: He is all about boosting supply. When it comes to demand, however, his broader agenda rather gets in the way.

Trump's “energy dominance” plans are informed by his trade policy in so far as higher fuel exports cut into those trade deficits that bother him so much. In addition, red states (those where Trump won the popular vote in 2016) account for more than 80 per cent of the country's oil, gas and coal production, as well as almost three-quarters of its refining capacity, according to data compiled by ClearView Energy Partners, a DC-based analysis firm.

So Trump has compelling reasons linked to his signature issue and his political survival to try to boost energy supply, and this informs many of his administration's policies and proposals. He wants to open up more federal waters as well as the Arctic National Wildlife Refuge to drilling. Under Trump, the Environmental Protection Agency is pushing for changes to a provision of the Clean Water Act to make it harder for states to block the construction of new pipelines. Similarly, he has signed executive orders aimed at streamlining approval of cross-border

pipelines (maybe with this one in mind) as well as seeking ways to further curb the states' say over permitting. On the other hand, Trump is all for state regulation of methane leaks at oil and gas facilities, planning to end direct federal regulation of this potent greenhouse gas.

The common theme here is one that resonates with many Republicans in general and the fossil-fuel industry in particular: Dismantling regulation. Its practical effect is to make it easier, and thereby cheaper, to produce more of these fuels. Yet you may have noticed there isn't exactly a shortage. One of the reasons oil, gas, and coal producers are so utterly friendless in the stock market is because of a pathological desire to continuously boost output and invest in new deposits to the point where they trash returns for shareholders.



LIAM DENNING

Trump proves less of a reliable friend when it comes to the other side of the equation: Demand. His attempt to overturn vehicle fuel-efficiency standards — and put California in its place — has resulted in several prominent vehicle manufacturers deserting him for a deal with Sacramento (much to his tweeted chagrin, of course). Meanwhile, Energy Secretary Rick Perry's various efforts to engineer a bailout of struggling coal-fired power plants, as well as nuclear ones, have run into the thorny issue of being deemed utterly unnecessary.

Above all, Trump's trade policy ensures that, even as he encourages more freedom molecules and other flag-toting fossil fuels, he is undermining the markets best placed to take them. China alone is forecast to account for 42 per cent of the growth in global oil consumption between 2018 and the end of 2020, according to the Energy Information Administration. The prospect of exports of liquefied natural gas is the main thing keeping gas futures above \$2 per million BTU. Similarly, coal miners would be in even more pain were it not for the recent increase in exports. America's

written explanation, the website halts: “Subscribe to read more!” screams a banner spread across the page that I am reading. I hesitate, because, most often when I do pay money and subscribe, and start reading a longer version of what I have read so far, another loud banner pops up: “Download our eBook!” I hesitate, again, because the many times I have done this, it results in a version which has just a wee bit more than the version on the Web, but not all the details that I eventually find in the printed version of that book.

The question that springs to my mind is this: Has the World Wide Web then degenerated in the last two decades of its existence to become a mere promotional medium? A tool that merchants use to lure you, in stages, to buy the real thing, a printed book?

Scholars and management theorists say that the World Wide Web has impacted our lives in three fundamental ways: The first way is it “disintermediates”, i.e., the manufacturer of, say a mobile phone, in Shenzhen, China, can reach me, an Indian consumer in Mumbai directly through the Web and avoid the cost of paying commission to the chain of distributors. Thus, it is theorised, this “dis-intermediation” is how the Web makes economies more efficient just as “mass production” did in the Industrial Revolution. The second way is “dematerialisation”, the classic example being music that no longer exists in material forms like gramophone records and cassette tapes, but only in its “de-materialised”, streaming form. The third way that the Web is impacting our lives is “disaggregation”, an example of which is when what we know of as “a bank” gets disaggregated into “payment” companies, “lending companies” and so on. Vast private equity and venture fortunes are being poured into making profits out of these three big movements and contemporary entrepreneurship means starting a business that capitalises on one of these three waves.

In the light of all this, how do I view my own switch to printed tech books? Have there been any cases where we have seen a reversal of an industrial revolution? What comes immediately to mind is the current reversal in worldwide views about the by-products of the Chemical Industrial Revolution: the Chemical Industrial Revolution started with the synthesis of indigo, and led to an era of affordable synthetic drugs, synthetic textiles, petrochemicals and so on but today is reversing itself as a revolution against plastics, petrol and synthetic chemicals of every kind gathers momentum.

Is such a pro-printed book wave around the corner?

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Facts about India's PMs



BOOK REVIEW

TCA SRINIVASA RAGHAVAN

The author is a good friend so whatever really rude things I have to say about this book I will tell him in private. Here, it is enough to say that this is a very comprehensive effort at capturing the main points of modern Indian history.

What's more, the facts have been thoroughly checked. That, in itself, is a major positive in recent books on contemporary history. It is, thus, an excellent and very valuable reference volume. Incoming diplomats will find it

especially useful.

In writing it prime minister-wise Mr Bhagwati has gone back to a time-honoured tradition in history writing because that is how old history used to be written — king-wise or emperor-wise. In the 20th century this sort of periodisation largely gave way to party-wise or government-wise histories. The exception is the US where the president is, to all intents and purposes, a king on probation for four years, extendable by four more years.

In India we have tended to fall between the two stools where the Nehru-Gandhi dynasty has been treated as royalty and the rest as hired help while the royals are taking a break. This general approach can be discerned in the overall tone of Mr Bhagwati's writing which suffers from a natural human tendency to be more sympathetic to some leaders, or what are called confir-

mation bias in statistics and anchoring beliefs in psychology.

While this is not a serious flaw in a book that comprises facts, it does tend to wobble the narrative a little bit.

For example, Mr Bhagwati says that as home minister in 1984, P V Narasimha Rao allowed the anti-Sikh riots to get out of hand. Three thousand Sikhs were killed in those riots. But why blame him alone or him at all?

The Prime Minister was Rajiv Gandhi, a member of India's political royal family. Mr Bhagwati asks if Rajiv had been too distracted by grief after his mother — the Queen Mother if you will — had been assassinated by her own Sikh bodyguards. He also suggests that perhaps he should have taken office after a couple of weeks when he was less in shock.

But the fact remains: When the riots happened, he was the prime minister.

It is disingenuous to blame the home minister.

Also, as it happens, the notion that it was not Rajiv's fault became the received wisdom only after his wife Sonia Gandhi became Congress president in 1998. Before that the prime minister was held responsible if not accountable.

Similarly, where Nehru and Sheikh Abdullah are concerned, Mr Bhagwati is very charitable towards the former's kindness to the latter. Like many others, he attributes it to Nehru's sagacity and his helplessness in the face of British intransigence.

But a little more questioning of Nehru's reasons would have worked better. After all, he did write to Edwina Mountbatten about his emotional ties to Kashmir.

And about the internal Emergency that Indira Gandhi imposed in 1975 suspending fundamental rights, Mr Bhagwati appears to blame the wrong

judge — Jagmohan Sinha of the Allahabad High Court who set aside her election rather than V Krishna Iyer of the Supreme Court who went along with the specious plea that there could not be a vacuum. He ruled that Mrs Gandhi could continue as prime minister but not vote in Parliament.

That this was nonsense became clear on October 31, 1984, when she was assassinated. In fact, that is exactly what had happened once before: On January 11, 1966, when Lal Bahadur Shastri suddenly died of a heart attack.

Lastly, Justice Sinha was only applying the existing law in setting aside her election and disqualifying her for six long years. That he had based his ruling on a very minor technicality is not relevant. A paragraph on this technicality would have been helpful as an illustration of a Black Swan event.

Mr Bhagwati is very careful when

describing the three Bharatiya Janata Party-led governments, two by Atal Bihari Vajpayee (1998-2004) and Narendra Modi (2014 to date). It is a deadpan recounting of the facts with which most well-informed Indians are familiar.

The way Mr Bhagwati tells it we don't get any real sense of the mind of these two prime ministers. Both represent discontinuities in Indian political approaches and attitudes. The difference is only of degree. Mr Bhagwati is content to say that Vajpayee and Mr Modi think very differently.

But that is like saying Nehru and Indira Gandhi thought differently.

THE PROMISE OF INDIA: How Prime Ministers Nehru to Modi Shaped the Nation

Jaimini Bhagwati

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