TODAY DAY IN HISTORY

## 1915

President of the Republic of China, Yuan Shikai, announces his intention to reinstate the monarchy and proclaim himself Emperor of China.



1918

The Flag of Estonia is raised In Nebraska, Father Edward J. Flanagan founds Boys Town as a atop the Pikk Hermann for the farm village for wayward boys. first time.

Lebensborn Project, a Nazi reproduction program, is founded by Heinrich Himmler.

## t of truth



answered, "I have been elected for him last week. five years and I have no midterms."

ensorship?

The Yellow Vests have become Macron's midterms, only more brutal. He has been so busy that he forgot to create a new political force to support his agenda.

by the collapse of the old French leader prepared to win a snap His tax policy made him "the election, no strong political parnored his falling approval rates; he next few days, Macron will not be 10 whether he would have to slow the people," his political ally down his reforms, he defiantly François Bayrou sternly warned

as he is

is not an easy question. In the is gone. Trump and Italy's Matteo uncharted environment created Salvini may have the last laugh. Zakaria of CNN asked him on Nov year. "One cannot govern against is about.

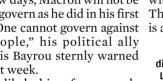
Most likely, his reform agenda

will need a pause. The hard work still to be done – the reforms of the pension system, of the civil service, of local taxes, of political institutions - will have to wait or be watered down. Curbing public spending will be an even bigger challenge. The Yellow Vests are demanding fewer taxes and more public services. And the crucial equation between ecological transition and social justice will be even harder to solve.

Such a scenario of France reverting to its old woes will do the European Union no good. With Germany absorbed for another year by its domestic political up-The Yellow Vests have become heavals, the European agenda will Macron's midterms, only more be left unattended. This is a cruel brutal. He has been so busy that dimension of Macron's travails: he forgot to create a new political The only leader bold enough to force to support his agenda. That articulate an attractive vision of has left him vulnerable, because a renewed European project, he his party's Parliament members, was hung out to dry by those very elected a few weeks after him, leaders who had celebrated him. It are as inexperienced in politics is difficult to imagine how the pendulum can now swing back: The So what if Macron fails? This last bulwark against nationalism

Yet, if Macron survives this cripolitical balances, there is no ob- sis, something good may come out vious alternative, no opposition of it. He, along with French and European elites, could draw the lesson from the revolt of the Yelpresident of the wealthy." He ig- ties. Whatever happens in the low Vests and find a way to govern with the people, not against them. had set his course. When Fareed able to govern as he did in his first That is, after all, what democracy

> (Sylvie Kauffmann is the editorial director and a former editor in chief of Le Monde, and a contributing opinion







Wonderful news pouring in from #Elections2018. In the memorable words of @ arunjaitley, "Great Day for India. No one who cheats India will go scot free." #EndToJumlas #TimesUpBJP

**②**ShashiTharoor



 $G^{\mathrm{OP}\ \mathrm{member\ Lamar}}_{\mathrm{Smith\ goes\ on\ with}}$ a lunatic conspiracy theory about Google having an anti-conservative bias. It's clown show time. YouTube is far more favorable to right-wing content and its programmatic ad service is, well... #Google-Hearing

@matthewstoller



**S**salivating over the possibility that the President could be charged with campaign finance illegalities for paying the women off. So the Trump people are pointing out much more serious allegations such as lying to federal judges to get surveillance warrants. **@BillOReilly** 

## Wide Angle

Voyager Interstellar Mission: A feat of human ingenuity



## **JOEL INDRUPATI**

Today, thanks

to this great

ingenuity, we

can see that a

over 41 years.

But then, the

is making a

months.

*mobile phone* 

outdated in six

same ingenuity

spacecraft keeps

going strong for

human

**7**our smartphone has 200,000 times more memory than what the Voyager spacecraft had."

This line should be enough to convince us, on why the news of Voyager 2, leaving the heliosphere of the Solar System, is really a big deal for science; and for man's exploration of outer space.

Launched in 1977, some sixteen days apart, both spacecraft Voyager 1 and Voyager 2 have now become the only two man-made objects to have gone the farthest from earth.

They have, effectively left the confines of the solar system, in August 2012 and November 2018 respectively, and are now journeying in interstellar space.

And, in their total journey of 41 years, they have sent back enormous amounts of data, including magnificent pictures of Jupiter, Saturn, Uranus and Neptune from close quarters. And are still sending data!

Voyager 2's position and data can actually be tracked live, at this web link: theskylive.com/voyager2-tracker.

And as I write this, I see that its distance from earth is 17.9 billion kilometres now. Can we even compare that with the distance of sun from earth, which is a miniscule 150 million kilometres?

Voyager 2 is 119 times farther from earth than the sun is from the earth. Which is why data from it reaches earth in 16 to 19 hours.

When I heard Suzanne Dodd, the Voyager Project Manager of NASA, on a YouTube video, say those words, comparing the memory of our 2018 smartphones to that of the memory of the 1977 spacecraft, I really could not help wondering about the greatness of man, in thinking ahead.

While paying tribute to all those amazing scientists and engineers, who are making these mind-bending things possible, I felt it would be useful to share some amazing things I had learnt about these spacecrafts.

These two space probes obviously do not just need memory chips. Among other things, they need power to let the craft run, they need appropriate software to keep transmitting data, and they need alignment with receiving stations, on an always rotat-

ing earth, to keep receiving data without interruption. My investigations revealed some incredible facts



Today, the risks exist regardless of who you are, what platform you write or speak for, what language you choose to use.

a catchall. The crusade to silence words, images and thoughts is both opaque and arbitrary. What may well escape the state censor might still offend a neighbour - partly because the government has encouraged citizens

waters. This week, an actress was and resistance must emerge. handed a trial date for wearing her legs.

yond journalists, to anyone with a voice: actresses, comedians, satirists, bloggers, poets, singers, photographers and researchers. morals," "inciting debauchery" was also sentenced to a three- reported to the prosecutor's year term, for the title of his an- office by fellow citizens who thology of poems, which plays questioned their morality. The on a phrase critical of the mili- laws are vague enough to act as

This summer, Galal el-Beheiry or "contempt of religion," were

to report fake news and "forces of evil."

For decades under past presidents, the conservative current in Egyptian society had been kept in check acceptability.

Today, the risks exist regardless of who you are, what platform you write or speak for, what language you choose to use. The bounds of right and wrong now tary. The Egyptian singer Shyma extend beyond the parameters was imprisoned in January for of a political system, to what is making a suggestive music vid- deemed to be moral for the culeo involving a banana; another ture and conscientious for the singer was also jailed - for joking nation. This is a moment of crisis, about the cleanliness of the Nile's when new forms of expression

A question occupies me today: to the Cairo International Film How to silence the censor inside Festival a fishnet dress revealing me when faced with a growing sense of foreboding, even at times Many of these works, which fear? How to invent, from this earned their creators charges of moment and this pressure, some-"blasphemy," "offending public thing radical, bound-breaking, new?

> (Yasmine El Rashidi is the author of The Battle for Egypt: Dispatches from the Revolution" and "Chronicle of a Last Summer: A Novel of Egypt," and a contributing opinion writer.)





male, 19, arrested Aafter a video circulated on social media of him physically assaulting a shopkeeper in Jidhafs and intentionally damaging the shop. Legal procedures are being taken to refer the case to the Public Prosecution. @moi\_bahrain

Disclaimer: (Views expressed by columnists are personal and need not necessarily reflect our editorial stances)

about these in the 'Voyager Mission' - which, by the way, NASA has now changed to 'Voyager Interstellar Mission'.

Power to the spacecraft is supplied by a mini nuclear reactor that uses heat from Plutonium decay, as an energy generating method; and it is likely to last till 2025.

Software programmers of 1970s, or with that knowledge, are often needed to re-program or revise the programs on the onboard minicomputer that transmits data to earth.

Thrusters onboard are always ensuring that the aircraft is aligned in such a way that one of the main antennas is always pointing to earth, so that the receiving and transmission earth-stations can receive the data.

Three earth stations, located at different points on earth, with high power receivers to capture weak signals, in a continuous uninterrupted seamless stream, with at least one station in a line of sight with the space probe, billions of kilometres away.

Like 'a game of cosmic billiards' – as Carl Sagan has put it in his book 'Cosmos' - the planets' gravitational pulls were used to sling shot the space craft through immense distances, conserving energy, and increasing speed.

So, when we think of this scientific thinking and visionary resourcefulness, does it not boggle our minds? When we think of our curious human minds, and passionate collective endeavour, does it not stun us into a reverent awe?

Today, thanks to this great human ingenuity, we can see that a spacecraft keeps going strong for over 41 years. But then, the same ingenuity is making a mobile phone outdated in six months.

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