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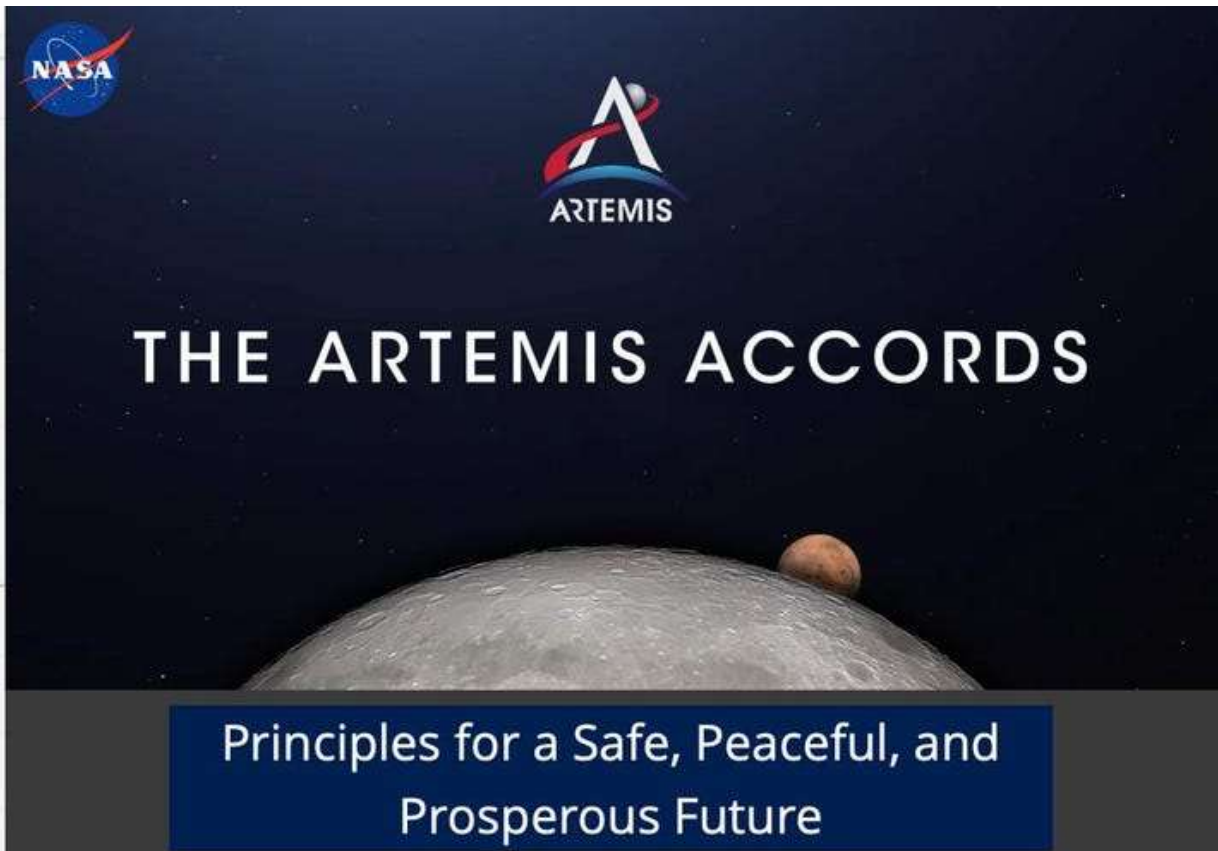
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India and the geopolitics of the moon

Delhi should take a hard look at the emerging challenges to the current space order and its interests on the moon, and develop strategies to pursue them through a national lunar mission.



The Artemis Accords are an international agreement between governments participating in the Artemis Program, an American-led effort to return humans to the Moon by 2024, with the ultimate goal of expanding space exploration.

Drafted by NASA and the U.S. Department of State, the Accords establish a framework for cooperation in the civil exploration and peaceful use of the Moon, Mars, and other astronomical objects. They are explicitly grounded in the United Nations Outer Space Treaty of 1967, which signatories are obliged to uphold, and cite most major U.N.-brokered conventions constituting space law.

The accords are an agreement to abide by a broad set of principles to guide the expanding human activity on the moon – ranging from mining resources to setting up lunar colonies. The eight signatories were from Australia, Canada,

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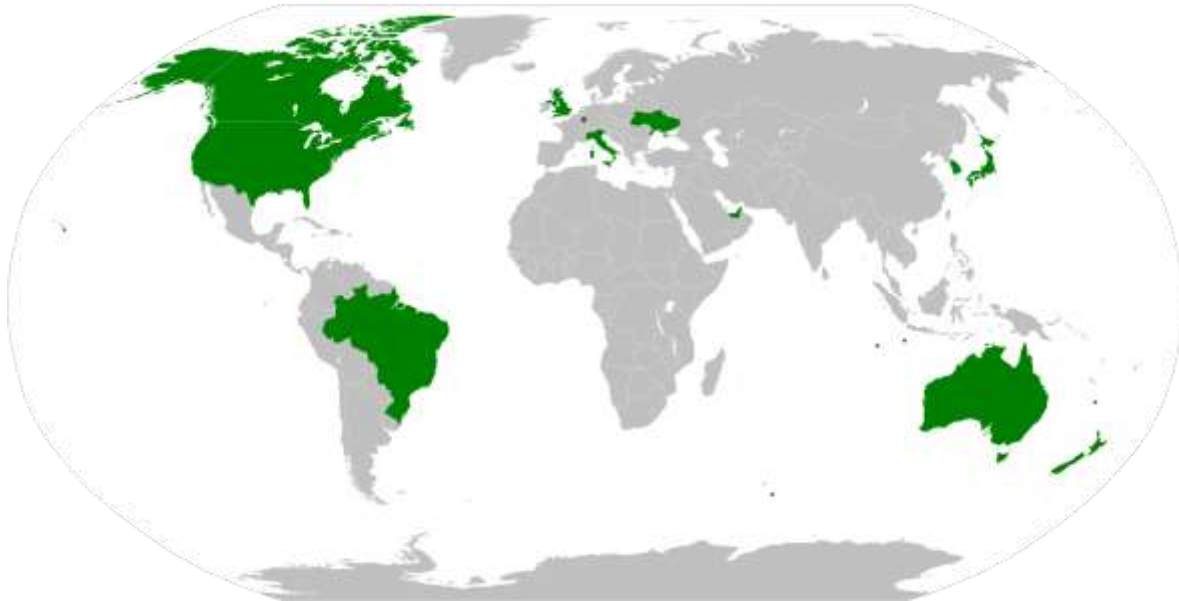
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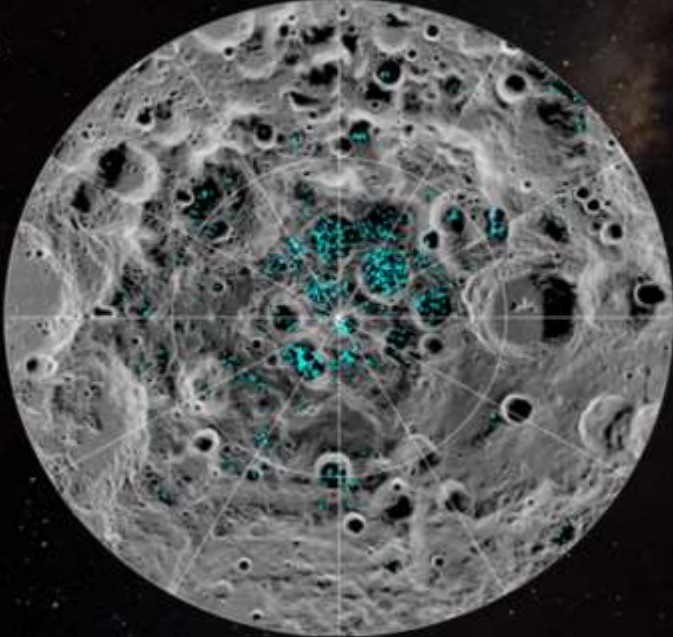
Italy, Japan, Luxembourg, United Arab Emirates, United Kingdom, and the United States. Since then, many others have joined — Brazil, South Korea, New Zealand, and Ukraine.



Artemis accords and India

1. The US has invited India to join the accords. Separately, the Quadrilateral Forum agreed to set up a new Quad working group on outer space. The growing commercialisation and militarization of outer space have triggered the interest of the Quad leaders.
2. As technological capabilities grow, nations are looking beyond near-earth space to interplanetary probes and deep space research.
3. The Artemis Accords would hopefully nudge Delhi to initiate a comprehensive review of India's interests on the moon and develop strategies to pursue them through a stronger national lunar mission and deeper partnerships with like-minded countries.
4. Delhi must also legislate a strong regulatory framework to promote India's space activity and protect its international interests.
5. India should take a hard look at the emerging challenges to the current space order, review some of its past political assumptions about the nature of outer space and contribute to the development of new global norms that will strengthen the essence of the Outer Space Treaty.

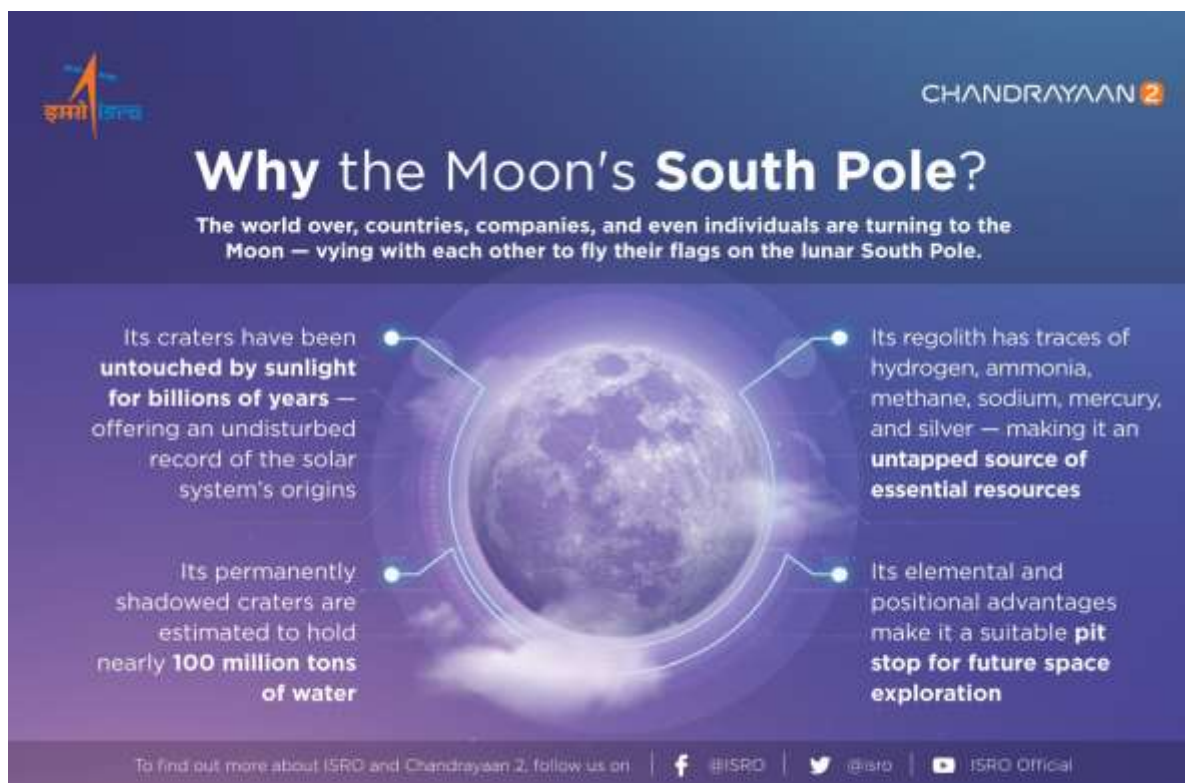
ICE CONFIRMED AT THE MOON'S POLES



- Scientists have observed evidence of lots of ice in craters on the South Pole of the moon.
- Nasa is aiming to send astronauts here by 2024 with a reusable lunar landing system.
- The presence of ice means that moon water could potentially be used as a resource for future missions.
- Moon water could help astronauts explore the moon for longer or even stay there.

Cislunar space and Chinese ambitions:

1. These trends have brought the moon into sharp focus. As space-faring powers seek routine access to the moon — as opposed to the lunar landings of the 20th century driven by political prestige — their attention has turned to what is called the cis-lunar space, or the volume between the orbits around the earth and moon.
2. No national activity in the cislunar space in recent years has been more ambitious than that of China. Beijing's lunar mission, named after the Chinese moon goddess Chang'e, was unveiled in 2007.
3. Since then, China has put two spacecraft in lunar orbit (Chang'e 1 and 2) and landed two rovers on the moon (Chang'e 3 and 4). Chang'e 4 had the distinction of being the first to land on the far side of the moon that can't be seen from the earth.
4. The Chang'e 5 launched last year brought lunar material back to the earth. The last time a mission returned with lunar rock was the Soviet Luna 24 in 1976.



International Lunar Research Station (ILRS)

1. China's ambitions are much larger. The next moon missions — Chang'e 6,7, and 8 — could contribute to the construction of an International Lunar Research Station (ILRS) in the south pole of the moon.
2. The ILRS will have a space station orbiting the Moon, a base on the surface that will have several intelligent robots performing a variety of jobs.
3. China has also added an international dimension to its moon plans by inviting other countries to participate in the ILRS project. Russia, once a leading space actor, has now joined hands with China on the ILRS. Russia is reviving its Luna series of probes to the moon to complement the Chinese efforts.

Geopolitics of Space:

1. As geopolitical considerations drive Russia towards China, space cooperation has become an extension of their strategic partnership against America. Russia is also threatening to cut off space cooperation with the US. It is a cooperation that emerged during the Cold War and has expanded since then.

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- The US, which raced to the moon in the 1960s, shut down the Apollo programme in the early 1970s. The broad advance of Beijing's space programme, across the civilian and military domains, and its deepening collaboration with Moscow has shaken America out of its prolonged neglect of the moon.
- The Trump administration announced plans to put astronauts back on the moon by 2024. The new project was named Artemis, after the Greek goddess and twin sister of Apollo.
- The structure of the Artemis programme is similar to China's ILRS. It involves the construction of a permanent space station orbiting the moon, called Lunar Gateway, and a surface presence at the south pole of the moon that is supposed to have ice and could sustain future human activity.

- There is no doubt about the urgency in Washington about restoring America's leadership in lunar exploration in the face of the Chinese challenge.



The **Outer Space Treaty** was adopted in 1967 and stated that **space shall be the province of all humankind.**

Like China, the US too decided that it cannot go alone and is looking for partners for its Artemis programme.

The 1967 Outer Space Treaty (OST)

- One of the consequences of the growing lunar activity is the pressure on the current international legal regime — centred around the 1967 Outer Space Treaty.

Outer Space Treaty 1967 (6) Summary of Principles

- The OST says outer space, including the moon and other celestial bodies, "is not subject to "national appropriation by claim of sovereignty, by means of use or occupation, or by any other means". It declares that outer space

- The exploration and use of outer space shall be carried out for the benefit and in the interests of all countries and shall be the province of all mankind;
- Outer space shall be free for exploration and use by all States;
- Outer space is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means;
- States shall not place nuclear weapons or other weapons of mass destruction in orbit or on celestial bodies or station them in outer space;
- The Moon and other celestial bodies shall be used exclusively for peaceful purposes;
- Astronauts shall be regarded as envoys of mankind;
- States shall be responsible for national space activities whether carried out by governmental or non-governmental activities;
- States shall be liable for damage caused by their space objects;
- States shall avoid harmful contamination of space and celestial bodies;

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shall be the “province of all mankind” and its use “be carried out for the benefit and in the interests of all countries”.

OST under Challenge:

1. The sweeping universalism of the OST remains very inspiring, but it was easy to celebrate it when there were no capabilities on the earth to exploit outer space for commercial and military gain.
2. That situation is changing, thanks to the advances in space technologies and the expansive investment of resources by major powers.
3. Many provisions of the OST are increasingly subject to competing interpretations and vulnerable to new facts on the moon created by the first movers.
4. The breakdown of the post-Cold War harmony among the major powers has added fuel to the fire on the moon and set the stage for a prolonged geopolitical contestation for the moon.
5. That is the context in which the US is promoting the Artemis Accords to preserve the OST regime in relation to the moon and promote transparency, interoperability, emergency assistance, and peaceful international cooperation.
6. But Russia and China don't look enthusiastic about working with the US. That leaves other space-faring nations like India to make choices.

The Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, better known as the Moon Treaty or Moon Agreement, is a multilateral treaty that turns jurisdiction of all celestial bodies (including the orbits around such bodies) over to the participant countries. Thus, all activities would conform to international law, including the United Nations Charter.

As of September 2021, it has not been ratified by any state that engages in self-launched human spaceflight (e.g. the United States, Russia (former the Soviet Union), People's Republic of China) since its creation on December 18, 1979, and thus it has little to no relevancy in international law. As of January 2019, 18 states are parties to the treaty. India is a signatory of the treaty.





An ethical upgrade

Facebook whistleblower's revelations point to a contradiction between social media's business model and the public good.

Public good and Social Media:

- No one at Facebook is malevolent, but the incentives are misaligned. There appears to be a fundamental contradiction between how social media is designed and the public good.
- The documents leaked by Haugen, and her recent interview, indicate that Facebook's much-touted "safeguards" against hate speech, incitement to violence as well as content harmful to the mental well-being of young people are, at best, window dressing.
- For example, under political pressure, the company tweaked its algorithm and gave lower priority to polarising political content ahead of the 2020 US presidential election. But, as soon as the polls were over, it removed these safeguards, an action Haugen believes was at least partially responsible for the riots at the Capitol in Washington on January 6.
- The company also seems aware of the role it has played in inciting ethnic violence in certain parts of the world.
- There are documents detailing how Instagram, one of its most prolific products, increases notions of shame around the body and depression among teenage girls. But, according to Haugen, since teenagers suffering from these issues tend to fall deeper into social media, little is done to address them.

Facebook whistleblower allegations

A former Facebook employee behind a series of bombshell allegations has revealed her identity in a U.S. primetime TV interview



Oct 3, 2021: Frances Haugen, data scientist from Iowa and former product manager at Facebook's Civic Integrity unit, appears on CBS 60 Minutes news show

Haugen claims she is whistleblower who leaked thousands of pages of private Facebook research to *The Wall Street Journal*, which has serialised her exposés in past weeks

"We have evidence from a variety of sources that hate speech, divisive political speech, and misinformation on Facebook and the family of apps are affecting societies around the world"

Quote from alleged internal Facebook document, aired on 60 Minutes "

KEY TAKEAWAYS FROM HAUGEN'S ALLEGATIONS

 <p>Algorithm intentionally shows users content to make them angry</p> <p>Haugen claims angry users generate greatest engagement – which Facebook turns into advertising revenue</p>	 <p>Instagram (which is owned by Facebook) makes children unhappy</p> <p>13.5% of teenage girls say Instagram increases thoughts of suicide, 17% say it worsens eating disorders</p>
 <p>Political parties in Europe had to run negative ads to reach people</p> <p>Parties found they had to take stances they did not like, and that were bad for society, to gain any engagement on Facebook</p>	 <p>Civic Integrity unit dissolved before Jan 6 Capitol riots</p> <p>Haugen's team, responsible for combatting political misinformation, was shut down immediately after Nov 2020 election</p>

Haugen believes she is protected from prosecution by **Dodd-Frank Act** – created to allow whistleblowers to talk to **Securities and Exchange Commission**

Nick Clegg, Facebook's Vice President of Global Affairs, says it is ludicrous to suggest social media is responsible for Jan 6 insurrection



Sources: CBS, BBC, CNN, Gizmodo, The Verge Pictures: CBS, CNN © GRAPHIC NEWS



Business model and the public good:

1. As the whistleblower has pointed out, the issue is not one of malice on the part of Facebook's leadership. AI-based algorithms are designed, in essence, to keep people on the site/app as long as possible, and it is this time and the data so collected that is eventually monetised.
2. The fact is that content that elicits an emotional response — outrage and anger is usually the path of least resistance in this regard — “engages” people more.
3. For all its talk of connecting people and building communities, the company appears to be agnostic when it comes to content and social impact.

According to Haugen, in every conflict between profit and the public good, her erstwhile employers chose the former. The contradiction between the technology and profitability of social media and public good can be addressed, to some degree, by robust regulatory mechanisms. In the longer run, however, the technology behind the apps will need an ethical upgrade.

Practice Essay

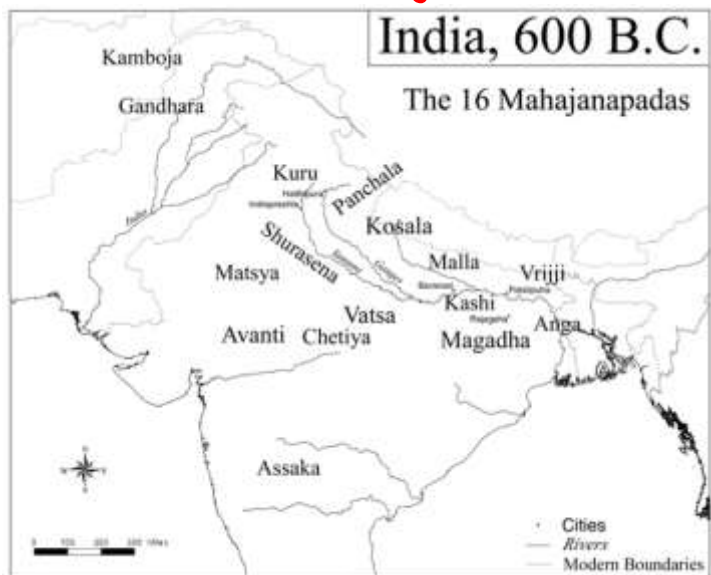
Social media is inherently a selfish medium. (CSE-2017)

Why India's ancient republics need to be recognised for their place in world history

An India that sees its own democracy as a pale imitation of an Anglo-American system is neither good for itself nor the world. The evidence for republics in ancient India has always been available in plain sight.

Mother of democracy

1. While addressing the UN General Assembly recently, PM Narendra Modi made an important historical point: India is not just the world's largest democracy, but also the “mother of democracy”.



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2. This assertion would unsettle several long-held Western notions about our world, and it should. The existence of protoforms of democracy and republicanism in ancient India is part of humanity's common heritage and deserves an important place in our shared view of the past.
3. There are two pillars of the modern world. The first is science-based rational thinking, and the second is democracy. It is also telling that both are often believed to be Western inventions, reflecting Western ascendancy over our world.

Asserting the legacy:

1. In recent years, there has been a move to recognise advances in science made in the past by non-Western societies. The Pythagorean theorem, for instance, was well known in ancient India.
2. It would be more historically accurate to refer to the Fibonacci numbers perhaps as Pingala's numbers or Hemachandra's numbers. But old beliefs and the assumptions that go with them are still strong. In a similar vein, it is time to fix the historical record on the origins of democracy.

Republics in ancient India:

1. The form described in the Vedas is that of rule without a monarch, with power vested in a council or sabha. The membership of such sabhas was not always determined by birth, but they were often comprised of people who had distinguished themselves by their actions. There is even a hint of the modern bicameral system of legislatures, with the sabha often sharing power with the Samiti, which was made up of common people.
2. The "vidhaata", or the assembly of people for debating policy, military matters and important issues impacting all, has been mentioned more than a hundred times in the Rig Veda. Both women and men took part in these deliberations, a far cry from the Greeks who did not admit women (or slaves) as full citizens of their "democracies".
3. Other sources appear in the Ashtadhyayi of Panini, the Arthashastra of Kautilya, as well as a variety of ancient Buddhist and Jain writings. Buddhist and Jain texts list 16 powerful states or mahajanapadas of the time.
4. After Alexander's invasion in 327 BCE, Greek historians also record Indian states that did not have kings. The Lichchavi state of Vaishali, in particular, deserves special mention. Buddhist writings describe in detail Vaishali's rivalry with neighbouring Magadha, which was a monarchy.
5. The long battle of attrition between Magadha and Vaishali, which the former won, was a fight also between two systems of governance,



ganatantra and rajatantra. Had the Lichchavis won, the trajectory of governance may well have been non-monarchical in the Subcontinent.

Kautilya's State:

1. Any state is thought of as composed of seven elements. The first three, according to Kautilya, are swami or the king, amatya or the ministers (administration) and janapada or the people. The king must function on the advice of the amatyas for the good of the people.

Saptanga Theory

- In his Saptanga Theory, Kautilya enumerates seven prakritis or essential organs of the state.

1. Swamin (King),
2. Amatya (Ministers),
3. Janapad (The people and territory),
4. Durga (The Fort),
5. Kosha, (strong treasury)
6. Danda (Strong army)
7. Mitra (The ally).

The ministers are appointed from amongst the people (the Arthashastra also mentions entrance tests). As per the Arthashastra, in the happiness and benefit of his people lies the happiness and benefit of the King. Isn't this the lodestone of democracy?

Why is it so important in the 21st century for us to recognise the origins of democracy in ancient India?

1. There are at least two reasons. First, as a growing power on the world stage, India has to offer its own narrative on world history, as well as provide the world with a vision.
2. We as a nation are not aspiring upstarts. We are the nation that inspired great journeys, from those of Alexander to the voyage of Columbus.
3. The other reason relates to the general loss of confidence in the US. The power struggles of the near future are becoming clear. It is also a struggle to define history and take it forward.
4. At this time, an India that sees its own democracy as a pale imitation of an Anglo-American system is neither good for itself nor the world.