

What Puranic historians won't accept

The oldest horse-drawn spoked-wheel war chariot in the world is younger than the Harappan civilisation



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A study has shown that there is no evidence of Steppe genes in Harappa according to analysis of DNA found in Rakhigarhi. This has led to the claim that Harappan civilisation was indigenous, 100% Indian, not shaped by any foreign influence whatsoever. Since many Puranic historians are convinced Rakhigarhi was Vedic, it could follow that the Vedas had no foreign influence either. Puranic historians have dated the Vedas, based on internal astronomical evidence, to 7,000 BCE (9,000 years ago), the events of the Ramayana to 5,000 BCE (7,000 years ago) and the Mahabharata war at Kurukshetra to 3,000 BCE (5,000 years ago). They are convinced the Vedas shaped the Sindhu-Saraswati civilisation which, according to archaeologists, waxed from 2,500 BCE (4,500 years ago) and waned by 1,900 BCE (3,900 years ago).

Horse, chariot and a civilisation But there is only one problem. According to archaeologists, the horse was only domesticated 5,000 years ago, in Eurasia. The spoked-wheel chariot was invented in the same region 4,000 years ago. It was used by Hyksos to conquer Egypt 3,600 years ago, long after the Harappan civilisation had waned. The earliest visual evidence of archers on chariots riding into battle involves the Hittites and the Egyptians who fought in Khadesh, in what is now Syria, about 3,300 years ago. In other words, the oldest horse-drawn spoked-wheel war chariot in the world is younger than the Harappan civilisation. How then can the Vedas, the Ramayana and the Mahabharata which, according to Puranic historians, pre-date the Harappan civilisation already have knowledge of horse-drawn spoked-wheel war chariots? The Vedas adore horses and speak of Indra riding spoked-wheel chariots. Rama rode one out of Ayodhya and Krishna served as charioteer in another. How is that possible? Is there a global conspiracy to deny that horses and



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spoked-wheel chariots were part of Indian civilisation over 9,000 years ago? Puranic historians insist Indians are victims of a complex Western 200-year-old conspiracy involving hundreds of scientists, historians, linguists and archaeologists. Anyone who argues otherwise becomes anti-national. Thus, a gag order is passed. As the Puranas inform us, there were several kings even before Rama. His ancestor, Ikshavaku, was the son of Manu, who established a civilisation after the Great Flood, probably referring to the Last Ice Age, which occurred 12,000 years ago. This aligns well with information found in the *Manusmriti* that the four ages of man lasted 4,800, 3,600, 2,400 and 1,200 years, making the total age 12,000 years, which is half the time taken by the sun to travel across the 12 houses of the zodiac (27 *nakshatras*), known as The Great Year. Of course, none of this has any archaeological evidence. But it is in the memory of a people, a popular truth, favoured by politicians who can destroy the careers of journalists, historians and scientists who argue otherwise.

Agriculture in India is dated only to 7,000 BCE (the age of Rama, according to Puranic historians) and oldest pottery in the Gangetic plains is dated to 1,000 BCE. But Puranic historians are convinced that there is more evidence out there – the archaeologists have not yet found it, or maybe don't want to find it, or

worse, are hiding it. In America, there are 'White Hippie Brahmins' who have made a lucrative career of selling the idea to nostalgic Indians, who have given up Indian citizenship, that all of human civilisation has its roots in India. Cultural wisdom spread via the Vedas, from India, since the last Ice Age.

Puranic and Jain history But while Puranic history may be true, it conflicts with Jain history. The Jains say that Nemi-natha was a contemporary of Krishna, but he lived 84,000 years ago at least. He was the 22nd Tirthankara, while Munisuvrat-natha (contemporary of Ram) was the 20th Tirthankara who probably lived in 1,184,980 BCE. The first Tirthankara was Rishabha-nath. He lived over 84,000 years ago, as per conservative estimates. Rishabha and Nemi names are found in the Yajur Veda, revealing that the Vedas have memory of these ancient sages. Rishabha's symbol, the bull, has been identified in Harappan seals (dated to 2,500 BCE by archaeologists). His son was Bharat, after whom India is called Bharat-varsha. His daughters introduced the Brahmi script (dated by historians to only 300 BCE) and decimal system (dated by historians to 200 CE). It is not clear if Manu came before Rishabha, or after. Neither Puranic nor Jain historians seem to agree. Some argue that Rishabha was Shiva, or that Shiva was Rishabha. But Hindu Puranas

speak of Shiva's marriage and entry into worldly life, while Jain Puranas speak of Rishabha's renunciation of marriage and worldly life.

Questions about the Vedas That the Harappan civilisation was totally indigenous is indisputable according to current genetic studies. But the Vedas? Could they have been composed after arrival of Steppe Pastoralists around 1,500 BCE (3,500 years ago) which aligns with global historical timelines? Puranic historians dismiss the horse-drawn spoked-wheel chariot argument, the linguistic papers, the archaeological readings and genetic research by insisting that Western scholars are interpreting data to suit pre-existing hypothesis. After all, the Rig Veda does not have any memory of a homeland beyond the Himalayas. But the Vedas do not refer to any south Indian geography. Does that make the Vedas a pan-Indian scripture, or a north Indian scripture? Early Dharma-sutras refer only to the Gangetic plains as Arya-varta. Agastya, a Vedic rishi, migrated to the south as per Puranic as well as Tamil tales. Kaveri is called Dakshina Ganga, or Ganga of the south. Does that mean only north India, and not all of India, is the homeland of Vedas? Who decides? Historians or Puranic historians? Politicians or scientists?

Devdutt Pattanaik writes and lectures on mythology in modern times

Pipe dreams, ground reality

Floodplains and forest aquifers can provide natural mineral water and unpolluted bulk water for our cities



VIKRAM SONI

Finance Minister Nirmala Sitharaman announced in July that the government will provide piped water to all rural households by 2024 under the Jal Jeevan Mission. This will be a costly and futile exercise since over 70% of India's surface water (rivers and lakes) and groundwater is polluted. The plan will require digging up the whole country and squandering lakhs of crores away for little gain. Since surface and groundwater is unfit for domestic use, Indians will soon need reverse osmosis (RO) for home, which will only burden the country's already expensive water programme.

It is then of utmost importance that we protect the few unpolluted sources of water that remain. Otherwise India will be consigned as a nation to drink unhealthy and expensive RO water. The only unpolluted sources of water that remain are the waters underlying the floodplains of rivers (for bulk water) and the subterranean natural mineral water underlying forest tracts (for drinking). These must be protected and conserved.

A local and sustainable scheme There are two non-invasive schemes which can perennially provide natural mineral water and unpolluted bulk water for our cities. These are strongly supported by Nobel Laureate A.J. Leggett and renowned scientist M.S. Swaminathan. We initiated the Yamuna Palla floodplain scheme for Delhi in 2009. It has been actively pursued by the Delhi Jal Board and provides quality water to more than a million people in Delhi. This local and sustainable river floodplain scheme can provide water supply for hundreds of river cities in India. It will be pathbreaking not only for India, but also the world. It will also yield great economic returns. Examples of self-sustaining floodplain water cities include Varanasi, Prayagraj, Agra, Mathura, most towns in Bihar and West Bengal, Cuttack, Bhubaneswar, Amravati, Vijayawada, Rajahmundry, and many cities in Tamil Nadu. In the fitness of things it would be wonderful if this scheme could be flagged off in the Prime Minister's constituency of Varanasi where the floodplain on the eastern flank of the river Ganga can locally and perennially provide the entire water needs of the city. Floodplains can be secured by planting organic food forests or fruit forests which

don't demand or consume much water. Carving out lakes, as has been lately suggested, would require digging out vast quantities of sand. This will affect the wetland ecology of the floodplains. It will also cause loss of water due to evaporation.

For unpolluted water The other source of unpolluted water is natural mineral water that underlies forests. This water is of the highest international quality. Unpolluted rain falls on the forest, percolates through the humus or leaf cover on the forest floor while picking up nutrients, and then through the underlying rock while picking up minerals. It finally settles in underground aquifers. This is natural mineral water. Since this is high-quality natural mineral water purely for drinking, we need only 2-3 litres a day. Most of the country can still source this water.

All our cities in the sweep of the Western and Eastern Ghats have such forest aquifers. The hills around Visakhapatnam can provide enough water for millions of people. Shimla has a forest mineral water sanctuary spread over nearby hill ranges. This was set up before Independence to provide the city with water. Bengaluru's Bannerghatta forest sanctuary and Mumbai's Sanjay Gandhi National Park have underground forest aquifers that can supply natural mineral water for the entire population of Bengaluru and Mumbai. So can the Delhi Ridge, for Delhi. Even the Aravalis can provide the best quality natural mineral water to all the cities in Rajasthan. However, taking more water than nature can recharge every year will be damaging. We need healthy and perennial 'conserve and use' solutions for the future.

As of now Himalayan mineral water sells at ₹45 a litre. The forest aquifer scheme can provide mineral water countrywide for a billion people. It can be distributed at nominal charge, ₹2-3 a litre, through Mother Dairy kiosks and other outlets as its total cost would be economical compared to bottled RO water.

Most importantly, the water levels of the floodplain aquifers need to be monitored scrupulously to be well above the river water level to avoid contamination by river water. We must maintain stable water levels for the subterranean forest aquifers to ensure sustainability. We need to declare the floodplains and forest aquifers as water sanctuaries similar to national parks and tiger reserves. If not, we will lose this amazing gift of natural infrastructure, as has already happened in some cases.

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The future of food is animal-friendly

India's population can benefit from making available plant-based and clean meat

AMBIKA HIRANANDANI

Food occupies an important place in our lives. It nourishes us, gives us comfort, heals us, reminds us of home, invokes feelings of love, is an outlet for our creativity and brings us together. Unfortunately, our food system is facing monumental challenges. Feeding about 10 billion people by 2050 with our current agricultural practices is almost impossible. Our current food system puts undue pressure on our resources. This point hit home when we watched the Amazon rainforest burn mainly as a result of action by cattle ranchers and loggers. Ranchers set fire to the forests so that they can be used for cattle grazing. Cattle ranching is responsible for 80% of the destruction of the Amazon. In India too, our forests are being overgrazed by buffaloes and goats which are used for dairy or meat. Furthermore, greenhouse gas emissions from the meat industry are high.

Problems of the meat industry Our food system is extremely inefficient as we feed grains to cows, goats and chickens and then eat the animals. So, in essence, for every 9 calories of food fed to a chicken we get 1 calorie back. Despite the efforts, 34.7% of Indian children suffer malnutrition. The inefficiency doesn't end there. The meat industry wastes a tremendous amount of water too – about one-third of the world's water consumption is for producing animal products. Niti Aayog has predicted that 21 major cities including Delhi, Bengaluru, Chennai and Hyderabad are going to hit zero groundwater levels by 2020. Antibiotics are used in livestock and poultry feed. The World Health Organization has said that antibiotic resistance is one of the biggest threats to global health, food security, and development today. Perhaps the greatest casualty of the meat industry are the animals which are crammed into farms, face extreme cruelty during their lives and are inhumanely slaughtered.

As our incomes rise, meat consumption will increase and the pres-

sure on our resources will augment. Despite the increased meat production, we will continue to be a food-insecure nation.

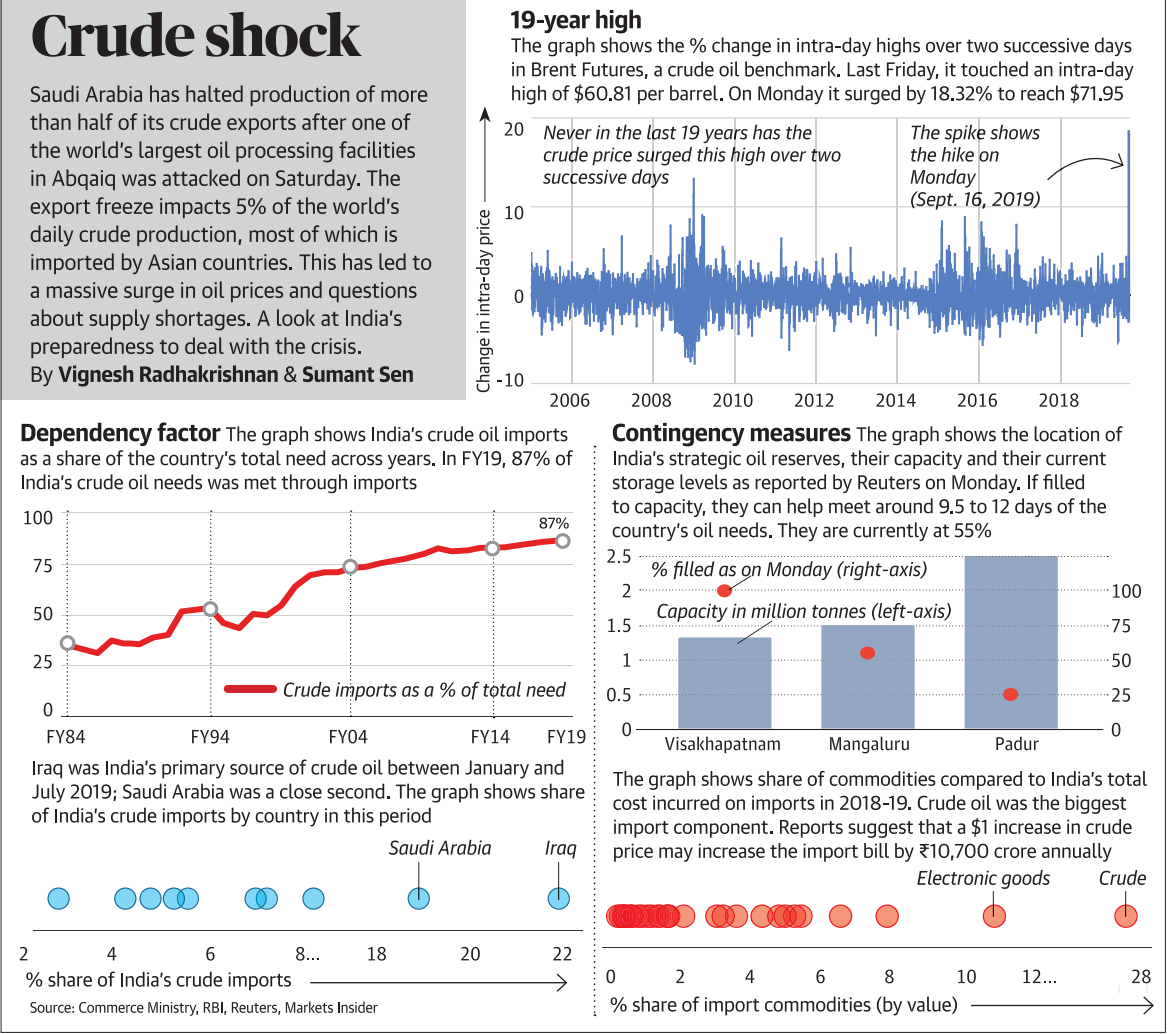
However, like with all quagmires, the human mind has found a solution, which is to increase the production of healthy and nutritious plant-based meat and innovate the technology to manufacture "cultivated meat", also called clean meat. Clean meat is grown in a lab from a small sample of cells taken from an animal. Both plant-based meat and clean meat are free of the negative externalities that animal meat production is responsible for, such as climate change. It is also healthier as it is free of antibiotics. Impossible Foods and Beyond Meat are the biggest companies in this sector. Beyond Meat makes burgers from pea protein and had an extremely successful IPO this year when it listed on the NASDAQ. The Indian company Good Dot has just opened six eateries in Mumbai and makes everything from a burger to plant-based kheema pav. The world's first cell-based meat company, Memphis Meats, has been co-founded by Uma Valeti, a Mayo Clinic-trained cardiologist from Vijayawada. Visionaries such as Bill Gates and Richard Branson have invested in Memphis Meats. Globally, the Netherlands, the U.S., Israel, Japan and Singapore are developing both plant-based and clean meat.

India's population can benefit from making plant-based and clean meat available. India is uniquely poised to be a leader in this sector as crops such as millets, ragi, pulses and chickpeas which grow here are ideal raw ingredients for plant-based meats. Furthermore, it has envisioned the world's first centre of excellence for clean meat. This sector can alleviate the climate impact of the meat industry, augment farmers' incomes, combat malnutrition and spare the lives of billions of animals. It is time we as a people support it and encourage it to flourish.

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DATA POINT



The Hindu

FROM THE ARCHIVES

FIFTY YEARS AGO SEPTEMBER 18, 1969

Safety on roads
(From an Editorial)

Even though the number of vehicles plying in Madras is piffle compared to what obtains in other metropolises like New York, Tokyo, London, Paris and Rome the death rate on Madras roads is among the highest in the world. This is mainly because of lack of discipline on the part of all classes of road-users. Traffic regulations are more honoured in the breach than the observance. With bus operators, taxi-drivers, "private" motorists, cyclists and pedestrians all trying to monopolise the road as if it belonged to them alone, it is a wonder that the death rate is not higher than the 0.4 or so for 100 vehicles that it now is. Every year, the Madras Police Department organises a Road Safety Week to arouse the traffic conscience of the citizenry but that does not seem to be making any tangible impact, judging by the steadily increasing toll of the roads. Traffic accidents have doubled in the last decade and road deaths trebled. There are twice the number of vehicles on the roads to day compared to ten years ago but road discipline has not kept pace with the increase in traffic. It is to bringing about this discipline to which the Police authorities should address themselves on a priority basis.

A HUNDRED YEARS AGO SEPT. 18, 1919.

Adolescent Criminals.
(From an Editorial)

The career of a criminal, whether he is a hardened offender or whether he is a first offender, after his release from prison, is of more importance to himself and society at large, than any number of police to watch his movement. But even more important than the corrective are the preventive methods of dealing with persons hesitating on the border line between becoming offenders, or continuing as adherents to the law. The loss of temper, a sudden and uncontrollable impulse, a latent hereditary instinct, a pang of hunger, a gust of passion are trifling things, and yet account annually for the first steps into breaking the law. This tendency to impulsive and thoughtless action is particularly characteristic of youth. But even the man whose character is formed and who is considered unlikely to commit himself is often guilty of grave crime; "For none can tell, to what red bell, His soul may one day stray." The local Government are right, therefore, in concerning themselves about adolescent convicts, their past, their present and their future.