

ANTHRO-NEWS

Denisova 11- first direct generational offspring of interbreeding between two hominin

DNA reveals first inter-species child

Denny's mother was a *Neanderthal*, but her father a *Denisovan*, a distinct species of primitive human

AGENCE FRANCE-PRESSE
PARIS

Denny was an inter-species love child.

Her mother was a *Neanderthal*, but her father was *Denisovan*, a distinct species of primitive human that also roamed the Eurasian continent 50,000 years ago, scientists reported on Wednesday in the journal *Nature*.

Nicknamed by Oxford University scientists, Denisova 11 – her official name – was at least 13 when she died, for reasons unknown.

First direct link

"There was earlier evidence of interbreeding between different *hominin*, or early human, groups," said lead author Viviane Slon, a researcher at the Max Planck Institute for Evolutionary Anthropology. "But this is the first time that we have found a direct, first-generation offspring," she said.

Denny's surprising pedigree was unlocked from a



bone fragment unearthed in 2012 by Russian archeologists at the Denisova Cave in the Altai Mountains of Siberia.

Analysis of the bone's DNA left no doubt: the chromosomes were a 50-50 mix of *Neanderthal* and *Denisovan*, two distinct species of early humans that split apart between 400,000 to 500,000 years ago.

"I initially thought that they must have screwed up in the lab," said senior auth-

or and Max Planck Institute professor Svante Paabo, who identified the first *Denisovan* a decade ago at the same site.

Early humans

Worldwide, fewer than two dozen early human genomes from before 40,000 years ago – *Neanderthal*, *Denisovan*, *Homo sapiens* – have been sequenced, and the chances of stumbling on a half-and-half hybrid seemed vanishingly small.

Or not. "The very fact that we found this individual of mixed *Neanderthal* and *Denisovan* origins suggests that they interbred much more often than we thought," said Ms. Slon.

Mr. Paabo agreed: "They must have quite commonly had kids together, otherwise we wouldn't have been this lucky."

A 40,000 year-old *Homo sapiens* with a *Neanderthal* ancestor a few generations back, recently found in Ro-

mania, also bolsters this notion. But the most compelling evidence that inter-species hanky-panky in Late Pleistocene Eurasia may not have been that rare lies in the genes of contemporary humans.

About 2% of DNA in non-Africans across the globe today originate with *Neanderthals*, earlier studies have shown.

Denisovan remnants are also widespread, though less evenly.

"We find traces of *Denisovan* DNA – less than 1% – everywhere in Asia and among native Americans," said Mr. Paabo.

"Aboriginal Australians and people in Papua New Guinea have about 5%."

Taken together, these facts support a novel answer to the hotly debated question of why *Neanderthals* – which had successfully spread across parts of western and central Europe – disappeared some 40,000 years ago.

Tribals celebrating muharrom

- Tribes- Raj Gind, Pardhan, Anfh tribe
- Telangana
- Shows effect of non tribal culture on tribes

Directed evolution - Nobel Prize

Chemical (r)evolution

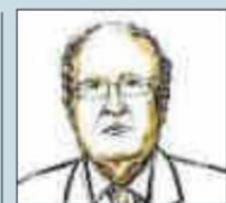
The Nobel Prize in Chemistry has been awarded for using the concept of evolution to develop proteins and solve chemical problems



Frances H. Arnold
California Institute of Technology, U.S.

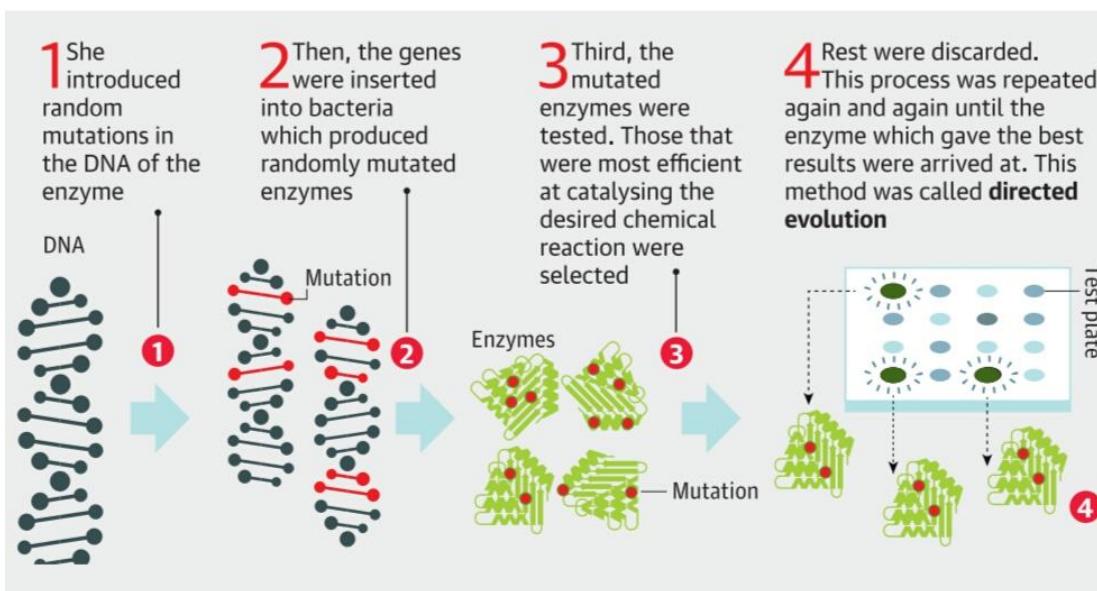


George P. Smith
University of Missouri, U.S.



Sir Gregory P. Winter
MRC Lab of Molecular Biology, U.K.

Mimicking evolution: Evolution has solved complex chemical problems – for example, fish can swim in polar oceans as they have developed anti-freeze proteins. Arnold used this concept to build **better enzymes**. Enzymes are catalysts which **speed up chemical processes** such as digestion, clotting of blood. More effective the enzymes, quicker the process. Flow chart shows how she achieved it



Target and deliver: Smith and Winter applied this technique to create **better antibodies**. Antibodies are proteins that function like targeted missiles; they can precisely identify and **bind to the viruses or bacteria that infect us**. When an antibody attaches to them, it sends a signal to aggressive immune cells to destroy the invaders. This is how our body fights off infections. The stronger the antibodies that get attached to the target, the more effective the cure will be. Winter used Arnold's directed evolution technique **to develop better drugs** to treat autoimmune diseases and even to cure metastatic cancer

Uses: Tailored enzymes are now being internationally developed to promote a greener chemicals industry, produce new materials, manufacture sustainable biofuels, mitigate disease and save lives

Source: images: Nobel Media

Compiled by Vignesh Radhakrishnan

FRANCES H. ARNOLD- used 'directed evolution' to synthesis variants of naturally occurring enzymes that could be used to generate biofuels and pharmaceutical medicines

GEORGE SMITH & GREGORY WINTER- antibodies to combat autoimmune disease through the 'phage display' method

New antibody discovered



GETTY IMAGES/ISTOCKPHOTO

New antibody for cancer treatment

A team of researchers in Spain, Switzerland and the U.S. has homed in on a specific antibody, called the p95HER2-T cell bispecific antibody (TCB), that can successfully guide immune cells, known as lymphocytes,

directly to cancerous ones for their targeted killing. Among the key hurdles in cancer immunotherapy – an emerging approach to cancer medicine – is to ensure that these therapeutics only target cancerous cells and not healthy tissue. This direct delivery is achieved thanks to the p95HER2 protein, which is only located in tumour cells. The study represents a new therapeutic avenue and fresh hope for patients who have ceased to respond to current therapies. This novel immune-based approach, say the researchers involved, can be used to tackle certain HER2+ breast cancers through its exclusive targeting of cancerous cells. The findings have been published in *Science Translational Medicine*.

Indian Genome Project

Mission to sequence genes of a 'large group' of Indians

Prime Minister's STIAC takes decision at its first meeting

JACOB KOSHY

NEW DELHI

India is planning a major mission to sequence the genes of a "large" group of Indians – akin to projects in the U.K., China, Japan and Australia – and use this to improve the health of the population.

This was among the key decisions taken by the Prime Minister's Science, Technology and Innovation Advisory Council (STIAC) at its first meeting on Tuesday.

The Health and Family Welfare Ministry and the Biotechnology Department will be closely associated with the project.

Ever since the Council of Scientific and Industrial Research in 2009 announced that it had sequenced the genome of an Indian, then making India one of six countries to achieve such a feat, several research labs have analysed genes from Indians for disease susceptibility. However, no compendium of genes that differentiate Indian populations



use of healthy – and disease – samples to understand the impact on health," said a press statement from the STIAC.

K. Vijay Raghavan, Principal Scientific Adviser and Chair of the council, said the genome initiative would have to move at two different levels.

"Sequencing genomes and linking to human health and disease as a research initiative, and doing this on a much larger scale, so it has a direct impact on public health. As the first level starts, the second will be put in place, speedily."

The Council acts as a coordinator between several Ministries to work on projects and missions and is scheduled to meet once a month, he said. Key programmes, such as a deep ocean mission, to facilitate ocean science and technologies to help with India's strategic interests and an Artificial Intelligence and quantum computing mission were also discussed.

Ancient Rocks in India leads to Early Life

Ancient rocks in India give clues to early life

Biomarkers show steroid compound

PRESS TRUST OF INDIA
LOS ANGELES

Researchers have found the oldest clue yet to the mystery of animal life in ancient rocks and oils, including those from India, dating back at least 100 million years before the famous Cambrian explosion of animal fossils.

Researchers at the University of California, Riverside in the U.S. tracked molecular signs of animal life, called biomarkers, as far back as 660-635 million years ago during the Neoproterozoic era.

Made by sponges

In ancient rocks and oils from India, Oman, Siberia, they found a steroid compound produced only by sponges, which are among the earliest forms of animal life. The "Cambrian Explosion" refers to the sudden appearance in the fossil record of complex animals with mineralised skeletal re-



A modern demosponge species. • PACO CÁRDENAS

mains 541 million years ago.

"We have been looking for distinctive and stable biomarkers that indicate the existence of sponges and other early animals, rather than single-celled organisms that dominated the earth for billions of years before the dawn of complex, multicellular life," said Alex Zumberge, a doctoral student at UCR.

The biomarker they identified, a steroid compound named 26-methylstigmastane (26-mes), has a unique structure that is currently only known to be synthesised by certain species of modern sponges called demosponges.

- **Govt policy - "eyes on and hands off"** - Non interference +protecting from outsider
- Human heritage

Atrocities on Dongria Kondh tribe

'Stop atrocities on Dongria Kondh tribals'

Amnesty seeks probe into Odisha police conduct

STAFF REPORTER
BHUBANESWAR

Amnesty India has urged the Odisha government to stop police atrocities on indigenous Dongria Kondh community by branding them as CPI (Maoist) cadres.

"Allegations of police intimidation and ill-treatment of the Dongria Kondh community in the Niyamgiri hills are deeply disturbing. It is unacceptable that the police ill-treat and abuse people. The authorities should carry out a prompt and impartial investigation into the police conduct," said Manohar Chauhan, senior campaigner of Amnesty India, in a statement here.

"Niyamgiri Suraksha Samiti, a community-led organisation that opposes mining in the Niyamgiri hills, had alleged that police arbitrarily pick up, detain and ill-treat members of the community, at a press conference on October 25. Lada Sikaka, president of NSS, claimed that he was picked up by the local



Lada Sikaka, president of Niyamgiri Suraksha Samiti, had alleged at a press conference in Bhubaneswar last month that he was arbitrarily picked up, detained and beaten up by Odisha police. • FILE PHOTO

police from the old market in Lanjigarh and taken to a police station where he was brutally beaten," Mr. Chauhan pointed out.

Right to protest

According to him there were many instances of police highhandedness reported from the Niyamgiri hill range.

The Kalahandi administration had forced the NSS to cancel a peaceful demonstration against the police on October 23 last year.

"People have a right to

peaceful protest under the Constitution of India and international law. The authorities have a duty to listen to the voices of the indigenous Dongria Kondh community and ensure that their rights are upheld," said Mr. Chauhan.

The particularly vulnerable tribal group had unanimously voted against proposed bauxite mining in the Niyamgiri hills in 2013. Since then the security forces have been going against the community, said the Amnesty campaigner.

Sentinelese

An endangered tribe

G. ANANTHAKRISHNAN
CHENNAI

Who are they?

The Sentinelese, a negrito tribe who live on the North Sentinel Island of the Andamans, have not faced incursions and remain hostile to outsiders.

The inhabitants are connected to the Jarawa on the basis of physical, as well as linguistic similarities, researchers say. Based on carbon dating of kitchen middens by the Anthropological Survey of India, Sentinelese presence was confirmed in the islands to 2,000 years ago. Genome studies indicate that the Andaman tribes could have been on the islands even 30,000 years ago.

How are they protected?

The Govt. of India issued the Andaman and Nicobar Islands (Protection of Aboriginal Tribes) Regulation, 1956 to declare the traditional areas occupied by the tribes as

BACKGROUNDER

reserves, and prohibited entry of all persons except those with authorisation. Photographing or filming the tribe members is also an offence. The rules were amended later to enhance penalties. But restricted area permits were relaxed for some islands recently.

Have they made contact?

The Sentinelese have been fiercely hostile to outside

contact. But in 1991 they accepted some coconuts from a team of Indian anthropologists and administrators.

Some researchers argue that the Sentinelese have been mostly left alone even from colonial times, unlike other tribes such as the Onge, Jarawas and Great Andamanese, because the land they occupy has little commercial attraction.

How many are there?

From 1901 to 1921 they were estimated to be 117 people. In 1931, the number dropped to 50, a figure used for the 1961 Census too. In 1991 their head count was put at 23.

Census 2001 counted 39 inhabitants.

Prevention of Aboriginal Tribe (Regulation) Act, 1956- No entry zones

- Anthropologist who contacted sentinelese-
 - **Madhumala Chattopadhyay**
 - **T. N. Pandit**

Menstrual cycle of woman and purity principle - Anthropological view

The notion of purity

The law alone cannot shatter a myth that has been built upon and aggrandised with every generation

ANJALI THOMAS



H. VIBHU

The focus on female bodily functions has never been more critical or as intense than it is now. The Sabarimala judgment has sparked a clash between culture and nature, an amplification of a battle cry that began when women started questioning why they were barred from some places of

worship. In 2016, a PIL was filed challenging the temple entry ban. That same year, women were allowed into Shani Shingnapur temple's sanctum sanctorum, in Maharashtra.

But equality will remain elusive as long as menstruation is considered taboo and linked to the idea of purity, or rather, the lack of it. Menstrual period is part of the female reproductive cycle when the body sheds the uterine lining if an egg is not fertilised. It is a rather mundane occurrence that is shrouded in a culture of shame.

In her essay, 'Is Female to Male as Nature is to Culture', American anthropologist Sherry B. Ortner argues that a woman's secondary status to man stems from the fact that the female physiology with its procreative functions is seen as closer to nature. The male body, on the other hand, is free from such restrictions. The dominant patriarchal view accords 'nature' far less value than 'culture' as the latter is associated with the creation of ideas and technology. For most women, menstruation can be uncomfortable and painful, and as Ms. Ortner points out, involves tasks of cleansing and waste disposal. "In many cultures it interrupts a woman's routine, putting her in a stigmatised state involving various restrictions on her activities and social contacts," she writes. So when Union Minister Smriti Irani questioned whether a woman would carry a "napkin seeped with menstrual blood into a friend's house," she was reinforcing ideas of purity that took root in society thousands of years ago. "Would you think it is respectful to do the same when you walk into the house of God? I have the right to pray, but no right to desecrate," she said at the time.

Most religions subscribe to this view. The *Book of Leviticus* in the Old Testament talks about purity and desecration in this context: "When a woman has a discharge consisting of blood from her body, for seven days she will be unclean due to menstruation, and anyone who touches her will be unclean until evening."

And when U.S. President Donald Trump said in 2015 that journalist Megyn Kelly had "blood coming out of her wherever" after she questioned his misogyny, he was reinforcing a stereotype that women everywhere are now challenging.

Desecration, impurity and defilement are powerful, negative words for a biological function that predates the evolution of culture. Increasingly, the legal system in India has been trying to address this imbalance, but the law alone cannot shatter a myth that has been built upon and aggrandised with every generation.

Section 124a against tribals

Adivasi group moves NHRC on sedition law

SPECIAL CORRESPONDENT
NEW DELHI

The Adivasi Adhikar Rashtriya Manch moved the National Human Rights Commission against what they called “reckless” and “illegal” use of the sedition law against 15,000 adivasis in Kunti district of Jharkhand by the State government.

The manch has alleged that the “open” FIRs filed by the police was a way of bullying and intimidating the adivasis.

Explaining the context of the petition, the manch said villages in this district have been involved in *pathalgarghi* – erecting stones at the

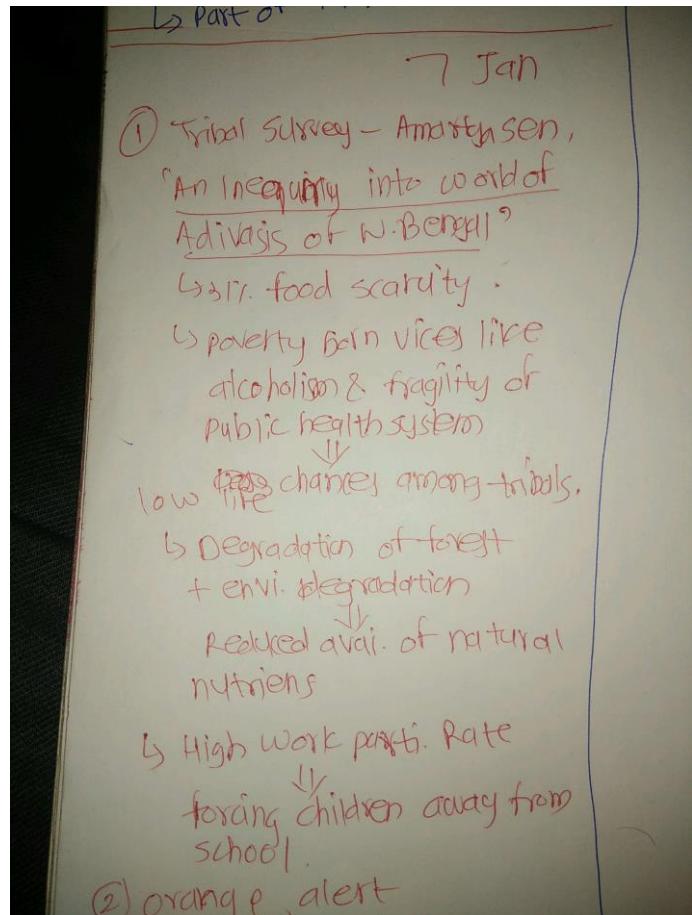
boundary of the village to demarcate it – since 2017. The stones quote Sections of the Constitution and the Provision of Panchayats Extension to Scheduled Areas Act 1996, (PESA), to assert that no project or programme can be conducted in the village without the consent of the gram sabha.

However, the State claimed that “outsiders” were misleading the villagers from implementing the government schemes.

“The State govt. unleashed repression on residents by implicating them in false cases,” the manch said.

Study on Tribals in West Bengal By amartya sen's Institute Pratichi

'An inquiry into world of adivasis of W. Bengal'



New civilization excavation

ASI finds 2,300-year-old artefacts in Odisha

Excavation at the Asurgarh Fort in Kalahandi points to an advanced civilisation

SATYASUNDAR BARIK
BHUBANESWAR

Archaeologists have unearthed artefacts believed to be 2,300-year-old while carrying out excavation at the Asurgarh Fort in Odisha's Kalahandi district.

A nine member team of Archaeological Survey of India led by Dibishada B. Garnayak, Superintending Archaeologist, Excavation Branch-IV, Bhubaneswar, excavated the items dating from Mauryan to Kushan period.

"The present archaeological work reveals a number of brick structures. Wedge shaped bricks are also noticed in the circular structures. Most of the structures have terracotta tiles with grooves and hole for socketing," said Mr. Garnayak.

"The Asurgarh people during that time probably used stone rubbles and tile fragments for flooring their houses and the streets. Besides, silver punch marked coins, silver and copper toe ring and ear rings, beads of carnelian, jasper, beryl, garnet, agate and coral have



The Asurgarh Fort excavation site in Kalahandi district of Odisha. ■SPECIAL ARRANGEMENT

been found," he said, adding that some of the artefacts were as old as 2,300 year.

Glass bangles

Other discovered artefacts include, glass bangle pieces of different designs and colours, sling balls, pestle, iron equipment like small wheel, ring, and arrow head.

"The findings of coral beads and imperial variety

of silver punch mark coins strongly indicates about long distant trade and association of hinterland people with seafaring people," pointed out Mr. Garnayak.

It is believed that the fort is surrounded by moat on its northern, eastern and southern sides. "Close to the western rampart, the river Sandul flows to the north thereby forming a natural

moat on the western side of the fort. On the eastern side of the fort there is an extensive lake. The fort had four wide gates in four cardinal directions and at each gate was installed one guardian deity. These guardian deities are named as Ganga at the eastern gate, Kalapat at the western, Vaishnavi at the northern and Dokri at the southern gate," he said.

Aryan debate

Links beyond boundaries

To insist that the Aryans were a distinct people is to impose present-day borders on the remote past



ROMILA THAPAR

Problems with the definition of 'Aryan' continue even though the term was first used a couple of centuries ago, writes eminent historian Romila Thapar in the foreword to Which Of Us Are Aryans: Rethinking the Concept of Our Origins. In the book, Professor Thapar and other scholars and experts critically examine the Aryan question by analysing history, genetics, early Vedic compositions, archaeology and linguistics, and challenge various myths and theories doing the rounds. Professor Thapar examines the definition of 'Aryan', its earliest use in Vedic and Iranian compositions, and the change it underwent. An extract:

In any discussion of the 'Aryan' a good place to begin would be to set out the space and time of the subject. In terms of space we tend to think only of the geography of the Indian subcontinent and the boundaries of pre-Partition India as they existed for British India. The focus is then narrowed down to north-western India. But the geographical area of the archaeological and linguistic evidence is far more extensive. The links therefore are way beyond just the boundaries of north-west British India and involve some familiarity with more distant cultures.

In terms of archaeology, the more extensive earlier reach was that of the Harappa Culture or the Indus Civilisation. From Shortughai in the Pamirs, evidence of Harappan settlements extends all the way south to the Indus plain and further to the Arabian Sea, westwards into Baluchistan and Makran and touching the Indo-Iranian borderlands, and eastwards into Punjab and Haryana. More recently finds have been located in Oman in the Arabian peninsula, particularly in the vicinity of copper mines. The Harappans were known to have had trading relations with the Gulf and Mesopotamia. People of the ancient past did not confine themselves to one place. They travelled, migrated, traded and communicated



"Varieties of Indo-Aryan and Indo-Iranian speakers can only be given an approximate geographical location which is not as firm as that of archaeological cultures." A furnace discovered at an Indus Valley Civilisation site in Birjar, Rajasthan. ■V. V. KRISHNAN

across vast distances. This would probably have been too vast an area to host a single, unified culture. We have to consider the possibility of a multiplicity of cultures and societies, some fairly isolated and others in close contact but possibly functioning under a recognised and similar sociopolitical rubric.

Covering extensive areas

Varieties of Indo-Aryan and Indo-Iranian speakers can only be given an approximate geographical location which is not as firm as that of archaeological cultures. The geographical area of all these languages is extensive but not all are referred to in the same text and they vary with the text. The wider geography of Proto-Indo-European takes a different direction from that of the Harappa Culture. Northern Syria and Anatolia are the locations possibly linked to Proto-Indo-Aryan, north-eastern Iran is the location for Old Iranian linked to the *Avesta*, and the speakers of Indo-Aryan as known from the *Rig Veda* are restricted to the Indo-Iranian borderlands and Punjab up to the Doab, which is geographically a small area. The history of the Indo-Aryan language has been extended backwards in time to the ancestral language of Indo-European and this brings in adjoining parts of Central Asia. The presence of Indo-Aryan in the Ganga plain is attested to in the post-Rig Vedic period.



■ **Which Of Us Are Aryans: Rethinking the Concept of Our Origins**
Romila Thapar and Others
Aleph
₹499

Thus although the focus is often only on the Punjab we should not forget that there was also a large area of West Asia and Central Asia that had a bearing on this history, even if the Indo-Aryan of the *Rig Veda* was not spoken in such a vast geographical area. The need for familiarity with the archaeology and linguistic history of other areas further complicates the problem. The geographical overlap between the Harappan sites and the place names associated with Indo-Aryan and Indo-Iranian is a limited area covering virtually only the Indo-Iranian borderlands and the Punjab. The thrust of the Harappan locations is southwards with maritime links westwards along the Persian Gulf, whereas the Indo-Aryan speakers show up overland and move south-eastwards to the Ganga plain.

The chronology of the two is also different. The time bracket covers many centuries. There are some dates well established among historians and archaeologists. The Harappan urban cultures, referred to as the

Mature Harappan, date from about 2600 to about 1700 BCE, after urbanism slowly peters out. The *Rig Veda* is generally dated to the period after the decline of urbanism and would therefore date from about 1500 BCE or a couple of centuries later. The subsequent Vedas – the *Samaveda*, *Yajurveda* and *Atharvaveda* – relating also to the Ganga plain are dated to the early first millennium BCE.

Placing the Vedas

However there are those who differ and would like to date the *Rig Veda* to 3000 BCE or even earlier and identify its culture with the Harappan cities. They maintain that the Aryans are indigenous and there was therefore not even a migration of any kind, let alone any invasion as was thought in the nineteenth century. To maintain this position it is even said that the *Rig Veda* is prior to the Harappa Culture or that the authors of the Harappa Culture were Rigvedic Aryans. These views have become a matter of rather extensive controversy to say the least. This latter chronology, apart from not being able to muster firm evidence, creates huge problems for the historian. The discrepancy between Harappan urbanism and Rigvedic agro-pastoralism negates equivalence. Such an early chronology for the *Rig Veda* would, for example, create a gap of at least 1,500 years between the *Rig Veda* and the other Vedas and therefore break what is known to be the continuity between the four Vedas. Taking it back to the third millennium BCE creates major problems of parallels and correlations with archaeological evidence. It leads to a long chronological hiatus between the first and the later three Vedas – the *Samaveda*, *Yajurveda* and *Atharvaveda* – as the dating of these to the first millennium BC remains firm.

The insistence that the Aryans were a distinct people and that they were indigenous to the territory of British India is to impose present-day boundaries on the remote past, which makes the statement anachronistic. Concepts such as 'indigenous' and 'alien' have to be precisely defined, which they are not in this case, and the definition has to conform to the time context for when it is being used.

Extracted with permission from Aleph

Erect Neanderthal



Upright Neanderthals

By reconstructing the spine and pelvis of a Neanderthal skeletal specimen found at La Chapelle Aux Saints in France, scientists came to the conclusion that Neanderthals walked erect, very much like modern *Homo sapiens* do.

Neanderthals are often depicted as having a hunched up, poor posture. So this discovery comes with a change of perspective. This was underlined by the wear marks on the hip joints of the skeleton which pointed to the upright posture. The research was published in *PNAS*.

New excavation of Harappan site

Excavations shed light on early Harappan ritual

Students, researchers from the Kerala University were part of the team

SARATH BABU GEORGE
THIRUVANANTHAPURAM

Archaeological excavations undertaken by a group of researchers and students of the University of Kerala in Kutch, Gujarat, have shed light on the custom and burial rituals that were prevalent during the early Harappan phase.

The 47-member team, which camped in Khatiya village of Kutch for a month-and-a-half, unearthed several skeletal remains from a cemetery-like burial site where 26 graves out of the nearly 300-odd ones were excavated.

The rectangular graves, each of varying dimensions and assembled using stones, contained skeletons that were placed in a specific manner.



A burial site at Khatiya village of Kutch.

They were oriented east-west with the heads positioned on the eastern side. Next to the legs on the western side, the archaeologists found earthen pots and pottery shards and other artefacts, including conch-shell bangles, beads made of stones and terracotta, numerous lithic tools and grinding stones.

"While the burial of be-

longs next to the corpse could possibly suggest the prevalence of the concept of afterlife, much study was required before we could arrive at any such conclusions," says Rajesh S.V., Assistant Professor at the university's Department of Archaeology, who along with Assistant Professor Abhayyan G.S., led the excavations. Of the 26 graves that

were excavated, the biggest was 6.9 metres long and the smallest 1.2 metres long. The skeletal remains of human beings in most of them were found to be disintegrated. The presence of animal skeletons along with those of humans were also recorded in a few graves.

Interestingly, the researchers found the mode of burial to be non-uniform. Instances of primary burial and secondary burial (when the remains of the primary burial are exhumed and moved to another grave) were found.

The remains of those who were possibly cremated were also found in a few graves.

The excavation team managed to recover a complete human skeleton, which was later placed in a box structure made of plaster of Paris.

Neanderthal Jaw news

How diet helped develop sounds

Neolithic advances in agriculture played a role in jaw evolution, says study

AGENCE FRANCE-PRESSE
WASHINGTON

Changes to the human diet prompted by Neolithic advances in agriculture played a role in human jaw evolution that allowed people to pronounce the consonants 'f' and 'v', researchers say.

Their work – which combines linguistics, speech science and paleoanthropology – was published in the journal *Science* on Thursday. The study indicates that language is not merely a random product of history but was also linked to biological changes at the time.

The Neolithic era – from 6,000 B.C. to 2,100 B.C. – was when wheat and barley-based farming took root and

animals such as goats, sheep and cows were domesticated.

"Language is not usually studied as a biological phenomenon and it does not normally figure in, say, the curriculum of biology," said Balthasar Bickel, a researcher at the University of Zurich. Man, before the Neolithic era, used his teeth quickly to chew the products of his hunting and gathering.

While the upper incisors covered the lower ones in children, wear and tear led to an "edge-to-edge bite" in adults, prehistoric skulls show – positioning that made it difficult to make certain sounds.

If one were to put the up-



A reconstructed Neanderthal skeleton, foreground, and a modern human version. •AP

of the lower lip and the upper teeth. Starting in the Neolithic era, hunter-gatherers learned techniques to process food.

"There were chiefly types of gruel or porridge, stews and soups, but also daily products like milk, cheese and yoghurt that came about through food processing technologies that led to the softer diets," said Bickel's colleague Steven Moran. "And an important thing here was the spread of pottery for preserving food."

Dental wear-and-tear was curtailed thanks to the softer diet, and the upper incisors maintained their adolescent position: over the lower teeth, as in today's humans.

Pathalgadi Movement

- Started in **Khunti district**, Jharkhand
- Pathalgadi- Tradition in **Munda tribe** to erect stone slabs and write important declaration relating to social life, village regulations
 - Here, they are erecting stones and writing Provisions of PESA on it

Why Brahmins Become vegetarians- by Dr. Ambedkar in his 'Beef, Brahmin and Broken Men'

THE LEAD

Why did the Brahmins become vegetarian?

It was to get one step ahead of the Buddhists that the Brahmins gave up beef-eating, says B.R. Ambedkar. An extract from a new edition of a book Babasaheb wrote in 1948

B.R. Ambedkar's 1948 work *The Untouchables: Who Were They and Why They Became Untouchables?* has been reissued as *Brahmins and Brooks: Medieval Castes and Caste Selection from The Untouchables*, published by Navayana with an introduction by Kancha Ilash Shepherd. This excerpt is from the chapter that deals with the conflict between Brahmanism and Buddhism and how it led to the Brahmins first giving up eating beef, and then turning vegetarian.

For generations the Brahmins had been eating beef. Why did they give up beef? Why did they, as an entire community, cease eating altogether and become vegetarians? It is two revolutions rolled into one. It has been shown that it had not been done as a result of the teachings of Manu, their Divine Law-maker. The revolution has taken place in spite of Manu and contrary to his directions. What made the Brahmins take this step? Was philosophy responsible for it? Or was it dictated by strategy? Two explanations are offered. One explanation is that this deification of the cow was a manifestation of the Advaita philosophy that one supreme entity pervaded the whole universe, that on that account all life, human as well as animal, was sacred. This explanation is obviously unsatisfactory. In the first place, it does not fit in with facts. The Vedanta Sutra which proclaims the doctrine of oneness of life does not prohibit the killing of animals for sacrificial purposes as is evident from 11.1.28. In the second place, if the transformation was due to the desire to realize the ideal of Advaita then there is no reason why

it should have stopped with the cow. It should have extended to all other animals.

Another explanation more ingenious than the first, is that this transmigration in the life of the Brahmin was due to the doctrine of the Transmigration of the Soul. Even this explanation does not fit in with facts. The Brahadaranyaka Upanishad upholds the doctrine of transmigration (VI.2) and yet recommends that if a man desires to have a long life he should not eat meat, prepare a mass of the flesh of the bull or ox or of other flesh with rice and ghee. Again, how is it that this doctrine which is propounded in the *Upanishads* did not have any effect on the Brahmins up to the time of the *Manusmriti*, a period of at least 400 years. Obviously, this explanation is also unsatisfactory. If Brahmins became vegetarians by reason of the doctrine of transmigration of the soul how is it that it did not make the non-Brahmins take to vegetarianism?

To my mind, it was strategy which made the Brahmins give up beef-eating and start worshipping the cow. The clue to the worship of the cow is to be found in the struggle between Buddhism and Brahmanism and the means adopted by Brahmanism to establish its supremacy over Buddhism. The strife between Buddhism and Brahmanism is a crucial fact in Indian history. Without the realization of this fact, it is impossible to explain some of the features of Hinduism. Unfor-

unately, students of Indian history have entirely missed the importance of this element. They knew there were Brahmanism. But they seem to be entirely unaware of the extreme supremacy in which these creeds were engaged and that their struggle which extended for 400 years has left some indelible marks on religion, society and politics of India.

This is not the place for describing the story of this struggle. All one can do is to mention a few salient points. Buddhism was at one time the religion of the majority of the people of India. It continued to be the religion of the masses for hundred of years. It attacked Brahmanism on all sides as its religion had done before.

Brahmanism was on the wane and if not on the wane, it was certainly on the defensive. As a result of the spread of Buddhism, the Brahmins had lost all power and prestige at the Royal Court and among the people. They were smarting under the defeat they had suffered at the hands of Buddhism and were making all possible efforts to regain their power and prestige. Buddhism had made so deep an impression on the minds of the masses and had taken such a hold of them that it was absolutely impossible for the Brahmins to fight the Buddhists except by accepting their ways and means and practising the Buddhist creed in its extreme form. After the death of Buddha his followers had set up the image of the Buddha and were setting up the images of the gods and goddesses. The Brahmins followed it. They in their turn, built temples and installed in them images of Shiva, Vishnu and Ram and Krishna etc—all with the object of drawing away the crowd that was attracted by the image worship of Buddha. That is how temples of Brahmanism which had no place in Brahmanism came into existence.

The Buddhists rejected the Brahmanic religion which consisted of yajna and animal sacrifice, particularly of the cow. The objection to the sacrifice of the cow had taken a strong hold of the minds of the masses especially as they were an agricultural population and the cow was a very useful animal. The Brahmins in all probability had come to be hated as the killer of cows in the same way as the guest had come to be hated as Gogima, the killer of the cow by the householder, because whenever he came a cow had to be killed in his honour. That being the case, the Brahmins could do nothing to improve their position against the Buddhists except by giving up the Yajna as a form of worship and the sacrifice of the cow.

That the object of the Brahmins in giving up beef-eating was to snatch away from the Buddhist Bhikkhus the supremacy they had acquired is evidenced by the adoption of vegetarianism by Brahmins. Why did the Brahmins become vegetarian? The answer is that without becoming vegetarians the Brahmins could not have recovered the ground lost and lost to their rival namely Buddhism. That in an agricultural population there should be respect for Buddhism and revulsion against Brahmanism which involved slaughter of animals including cows and bulls was very natural. What could the Brahmins do to recover the lost ground? To go one better than the Buddhist Bhikkhus not only to give up meat-eating but to become vegetarians – which they did. That was the object of the Brahmins in becoming vegetarians can be proved in various ways.

If the Brahmins had acted from conviction that animal sacrifice was bad, all that was necessary for them to do was to give up killing animals for sacrifice... That they did go in for vegetarianism makes it obvious that their motive was far-reaching. Secondly, it was unnecessary for them to become vegetarians. For the Buddhist Bhikkhus were not vegetarians. This statement might surprise many people owing to the popular belief that the connection between

Ahimsa and Buddhism was immediate and essential. This is an error. The fact is that the Buddhist Bhikkhus were permitted to eat three kinds of flesh that were deemed pure...

As the Buddhist Bhikkhus did eat meat the Brahmins had no reason to give it up. Why then did the Brahmins give up meat-eating and become vegetarians?

The giving up of the yajna system and abandonment of the sacrifice of the cow could have had only a limited effect. At the most it would have put the Brahmins on the same footing as the Buddhists. The same tactics used by the Buddhists had followed the rules observed by the Buddhist Bhikkhus in the matter of meat-eating. It could not have given the Brahmins the means of achieving supremacy over the Buddhists which was their ambition. They wanted to oust the Buddhists from the place of honour and respect which they had acquired in the minds of the masses by their opposition to the killing of the cow for sacrificial purposes. To achieve their purpose the Brahmins had to adopt the usual tactics of a reckless adventurer. It is to beat extremism by extremism. It is the strategy which all rightists use to overcome the leftists. The only way to beat the Buddhists was to go a step further and be vegetarians.

GETTY IMAGES/STOCK

Oldest Cave art (44,000 yrs old) discovered

Discovered: Cave art that's 44,000 years old

Archaeologists have found a cave painting on Indonesia's Sulawesi island which is being regarded as the earliest pictorial record of storytelling. The findings were published in *Nature* by a team from Griffith University, Brisbane

Until now, the oldest known "scenes" of humans and animals interacting date from the Upper Palaeolithic cave art of Europe (14,000 to 21,000 years ago)



Depictions of 'therianthropes' (part-human, part-animal figures) clearly suggest that Indonesian cave art involved the ability to think of supernatural entities long before humans first made art in Europe

Sources: *Nature* Magazine, Griffith University, GRAPHIC NEWS Pictures: A. Brumm; A.A. Oktaviana; R. Sardi; Newscom

Tribal democracy - Sortition method in Jharkhand villages

MANDAR PATKI AIR 22 CSE 2019

Jharkhand offers a slice of unique tribal democracy. It has worked for locals

The practice of sortition – random selection to choose who governs – is often fairer than elections



ALPA SHAH

The Jharkhand assembly election highlights a few crucial questions that the state and the nation faces. Will the Bharatiya Janata Party win the polls outright? Or will it be a neck-and-neck fight with the alliance of the Jharkhand Mukti Morcha, the Rashtriya Janata Dal and the Congress? What are the issues that will swing voters? As multinational and national corporations with their big business, mines and power plants hover over the state, how much will the promise to protect the Adivasi's access to their *jal* (water), *jangal* (forest) and *jamin* (land) matter? To what extent will the events in faraway places, such as in Kashmir and Ayodhya, influence voters? Or will more immediate issues resonate: Quality education, employment, and a corruption-free regime?

It is fair to say that most of the time, political parties disregard the promises they make to the people. Politicians often switch allegiances to opposing parties at the last minute. Parties with diverging ideologies form coalitions. And no matter what they promise, once in power, the old adage that power corrupts rings true.

Certain things have indeed changed in Jharkhand. Once, Adivasis would hide in the forest at the mere sight of a State authority. Maoists would issue diktats to boycott elections, which were implemented with ease across the forested hills. Local leaders and their goons stole voting booths to tamper the count. But elections today are much about the power to mobilise maximum resources. Who manages to get the most number of grassroots workers to drive voters to the booth? Who can realise the promise of *murga* (chicken) and *daru* (alcohol), Indira Awas, and contracts for building roads, health care centres and schools?

The electoral process is said to be the cornerstone of the world's biggest democracy. But it has also often been about maintaining or gaining power, status, and money as a means to exert elite control over the political process. Perhaps, it is not surprising then that across India, one finds that those involved in electoral politics are also seen by ordinary people as doing "*rajneeti*", an impure and immoral world of corruption, illicit activity and ruthlessness.

As a long-term researcher of Jharkhand, I find that discussions about democracy in India have been reduced to mere elections. But there is an alternative form of democracy that was central to some of Jharkhand's tribal communities. And it may contain the seeds of a transformative global process of democracy that allows ordinary people the power to rule the world. It is democracy by sortition — the use of random selection to choose those who govern us.

I first saw it in December 2000, less than a month after Jharkhand became a separate state, in the Mundia tribe village, where I was staying as a social anthropologist. They

were selecting their new *pahan* and *paenbharras*, who presided over secular and sacred village matters, for three years.

A man with a "light shadow" was blindfolded. He carried a winnowing basket on the edge of a pole, and was possessed by the village spirit, *Sarna-mai*. Shaking while he walked, as if he was being led by the spirit, he wandered from house to house, before eventually settling at one. He stopped shaking, an indication that *Sarna-mai* has chosen that house as the next *pahan*. The process was repeated for the *paenbharras*.

A few years later, I stumbled across another selection in the neighbouring village. There, instead of wandering across the village, a man with a "light shadow" stood blindfolded in the middle of a large circle of stones. Each stone represented a household. Once possessed, the man went around round the circle until *Sarna-mai* settled at one of the stones: It was the house that will send the next *pahan* or *paenbharras*. A random choice, these villages seemed to be practising a form of ancient Athenian democracy — with a tribal twist.

I tried tracing the local history of the *pahans* and *paenbharras*. Although many complained that the process has become corrupt in some villages, and that women did not seem to serve the roles, I could find no other pattern to who was chosen in these two villages. Instead, I found instances of selected households passing on the responsibility to others if they felt they could not fulfil it.

The roles did carry real responsibilities. Apart from propitiating the deities to ensure the village's safety from droughts, disease and other calamities, the *pahan* and *paenbharras* coordinated the villagers to settle their disputes. They had to feed the entire village at least three times a year, and always maintain extra supplies as a social security net for the poor. For that purpose, they were assigned special lands and seven helpers to cultivate it for the duration of their role. In the colonial land settlement records, I found that the Adivasi rebellions had forced the British to recognise the values of these local democratic traditions. Across the 114 villages of that block I stayed in, their records show the method of selecting the local leaders and the lands reserved for the roles.

Plato and Aristotle are said to have thought of sortition as more democratic than elections. For hundreds of years, until the French and American revolutions, sortition was considered a fundamental aspect of democracy. Today, numerous books document how sortition might be the most straightforward way to empower ordinary people to participate in and run their polity. They say it is a fair system, because it is inherently egalitarian as it allows everyone an equal chance to lead. As the Jharkhand election is underway, I can't help wondering whether we've got democracy all wrong, and that its future lies in the revolutionary ideals of real democracy — through sortition, as is hidden in the undulating forests of eastern India.

Alpa Shah is author of *Nightmarch: Among India's Revolutionary Guerrillas*, and associate professor of anthropology, London School of Economics
The views expressed are personal

NorthEast's opposition to CAB- Reasons

Difference between opposition in NE and Rest of the country -

- Rather than seeing it as anti-secular, NE ethnic tribes are seeing it as survival issue, identify issue

Reasons-

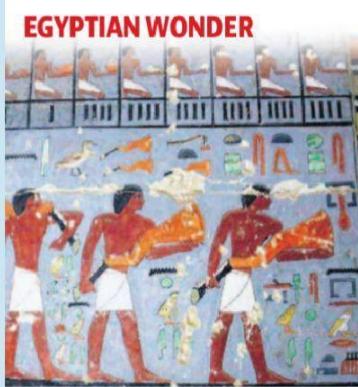
1. **Population Anxiety**- Census 2011 data shows that Assam has 15 million Assamese language speaker and 9 million Bengali language speakers. However, due to fear of migration from neighboring 164 million Bengali speaking nation, what is being witnessed in Assam is peculiar situation described as 'Majority with Minority complex'.
2. **Issue of Marginalization** - Bertil Linter, author who is closely associated with the region, points out that issue is based on ethnical identities rather than religious one.
 - He shows how Rohingya issue is much more bigger than projected Binary of Muslim VS Buddhist in Bangladesh.
 - As majority of Rohingyas settled in Chittgong tract having chakma population, there is fear among chakmas about marginalization.
3. **Fear of 'Tripura Model'** - especially in Assam
4. **Languages and survival**- Nari Rustomji, in his book ***Imperilled Frontiers: India's North-eastern Borderlands***, points out that when migration passes the threshold of absorption capacity by host community, it causes problems like in Northeast.
5. **Lack of faith in safeguards and regulations**- Bodos protesting inspite their BTAD exempted from CAB.
6. **Disruption of long emerged consensus about Assam Accords**- in initial years after signing, accords saw fierce debate on cut off date to be reset at 1951. However, over the years, consensus had emerged on 1971. But CAB disrupts this.

Archeology

MAJOR ARCHAEOLOGICAL DISCOVERIES OF THE YEAR

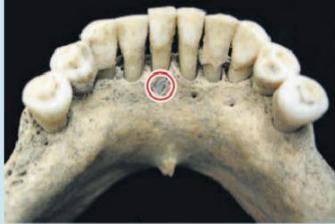
2019 was all about exciting finds, from a tomb in Saqqara to the world's oldest cave painting in Sulawesi

EGYPTIAN WONDER



A remarkably well preserved tomb discovered at the Saqqara necropolis south of Cairo is believed to be that of a nobleman named Khuwy, who lived 4,300 years ago. The elaborate interior suggests that Khuwy played a prominent role in the court of the Fifth Dynasty pharaoh Djedkare Isesi

TEETH OF A MEDIEVAL NUN



Tiny flecks of rare ultramarine pigment (in circle) derived from lapis lazuli and found on the teeth of a medieval German nun suggests women were more involved in illuminating sacred texts than previously thought. The woman, who lived between 997 and 1162, licked the end of her paintbrush as she worked

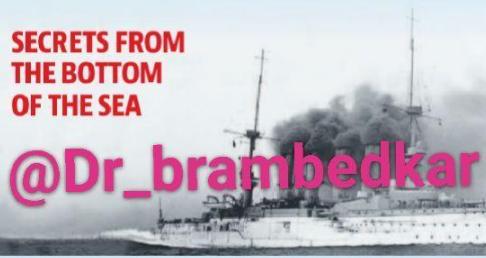
CAVE ART

This cave art, showing human-animal hybrids hunting, was found in Sulawesi, Indonesia. It's 44,000 years old - twice the age of similar art in Europe



SECRETS FROM THE BOTTOM OF THE SEA

@Dr_brambedkar



The wreck of a famous German warship from WWI was found on the seafloor near the Falkland Islands, where it sank in a battle with British warships 100 years ago. SMS Scharnhorst sank on Dec 8, 1914, with more than 800 crew members onboard

SOURCE: GRAPHIC NEWS

Archaeological discovery of Medieval Monasteries at Moghalmari

Inscriptions confirm presence of two medieval monasteries at Moghalmari

'Two monasteries in a single compound is unique in this part'

SHIV SAHAY SINGH
KOLKATA

A study of inscriptions on clay tablets recovered from recent excavations at Moghalmari, a Buddhist monastic site of the early medieval period in West Bengal's Paschim Medinipur district, have confirmed the presence of two monasteries – Mugalayikaviharika and Yajñapindikamahavihara.

Details of the study of these inscriptions were published earlier this month in *Pratna Samiksha*, a leading peer-reviewed journal from Bengal on Indian Archaeology.

"The presence of two monasteries dating to the same period within a single compound is unique in eastern India. Earlier excavations had indicated the presence of two monasteries on the basis of the structural plan," Rajat Sanyal, who deciphered these inscriptions, and is the author of the paper, told *The Hindu*.

Prof. Sanyal, who is associated with the Department of Archaeology, University of Calcutta, was a member of all the six seasons of excavations carried out at the site by the university. The monasteries at Moghalmari date from 6th century CE and were functional till the 12th century CE.

Tiny fragments

During one of the later seasons of excavations by the Directorate of Archaeology and Museums, Department of Information and Cultural Affairs, Government of West Bengal, six tiny fragments of inscribed seals were found. "Each of them contained a set of letters accompanied by the deer-dharmachakra symbols. We had to arrange them through different permuta-



The site where the excavations were carried out and (below) the seals which have been deciphered to reveal names of the Buddhist monasteries. *SPECIAL ARRANGEMENT.

tions to read and make sense of names inscribed on these tablets," Prof. Sanyal said.

The inscriptions are in Sanskrit and the script is a transitional phase between later north Indian Brahmi and early Siddhamatrika.

The first name Yajñapindikamahavihara, implying etymologically 'a place of sacrificial offering' is of special significance. The second name on the seals, Mugalayikaviharika, bears a phonetic resemblance to the modern name of the site, Moghalmari.

In Xuanzang's travels

Archaeologists and historians point out that famous Chinese traveller Xuanzang (more widely identified as Huen Tsang), who visited India in the 7th century CE, referred to the existence of 'ten monasteries' within the limits of Tamralipta (modern day Tamluk in adjoining Purba Medinipur district). However, he did not refer to any specific name or location.

With the discovery of the site and the deciphering of the inscriptions, at least two of these monasteries are now identified, Prof. Sanyal said. He added that it was

known from Buddhist texts that Buddhist monasteries have a definite hierarchy – Mahavihara, Vihara and Viharika – which is reflected in the inscriptions found.

"The study provides the only contextual epigraphical proof for the existence of a viharika (Mugalayikaviharika in this case) as early as the 6th century in this part of the subcontinent," Prof. Sanyal said. The study of the inscribed seals suggests that the monastery was called Mugalayikaviharika. Its continuation in the modern name of the area "still remains a riddle which needs more careful inspection and study," he said. "Apparently, the name Mugalayika suggests a fair connection to the modern place-name Moghalmari," he added.

In his paper, Prof. Sanyal refers to L.S.S. O'Malley's gazetteer of 1911, where the name Moghalmari is said to trace its name to a medieval battle between the Mughals and Pathans, sometime in the 16th or early 17th century. "It is difficult to ascertain if the name written on the seals indeed represents an early toponym of the modern village of Moghalmari."

Aryan-Dravidian Tussle in Sri Brahadeeswarar Temple of Tamil Nadu

How the old Aryan-Dravidian tussle played out in an iconic TN temple

ARUN JANARDHANAN
CHENNAI, FEBRUARY 12

TENS OF thousands of people thronged to the Thanjavur in Tamil Nadu's Cauvery delta to witness the *kumbhabhishegam* (consecration) ceremony at the Sri Brahadeeswarar Temple on Wednesday morning. This enormously significant event was held after 23 years and after the Madras High Court had settled an old argument over the ritual purification process only five days previously.

The judgment delivered on January 31 by the Madras Bench of the court addressed the struggle for supremacy between the Sanskrit and Tamil traditions that lies at the heart of several cultural battles in the state – and which also played out in the *kumbhabhishegam* ceremony.

Temple and ceremony

The consecration ceremony that culminated with the *maha poornahuthi* or the main *pooja* at 9.20 am on Wednesday, had begun on Saturday evening. Between then and Wednesday, about a million devotees are estimated to have visited the temple.

The Sri Brahadeeswarar Temple (also spelt Brihadeswara, and called Peruvudayar Kovil, which translates simply to 'Big Temple') is the most famous of the many temples in Thanjavur. The temple, one of

the world's largest and grandest, was built between 1003 AD and 1010 AD by the great Chola emperor Raja Raja I (c. 985–1014 AD).

At Wednesday's event, holy water brought from the *yaga salai* – the site of the *yagnam* in the temple compound – was poured on the gold-plated copper top of the 216-foot vimanam over the sanctum sanctorum. The other idols at the temple too were anointed with holy water from the *yaga salai*.

When several special trains were run for pilgrims, the temple management ultimately cancelled the nearly-awaited classical dance performances that were supposed to be part of the event, given the anticipated challenges in managing the massive crowd.

The last *kumbhabhishegam* ceremony in 1997 was marred by a fire at the *yaga salai*, which triggered a stampede in which more than 10 pilgrims were killed.

According to Brahminical tradition, temple must be consecrated every 12 years, including repairs and renovation. The 1000th year of the temple was celebrated in 2010, when M Karunanidhi was Chief Minister.

Before the High Court

On Friday, the court, in a dispute over which language should be used in the *slokas* at the *kumbhabhishegam*, agreed with the state government's affidavit that the ceremony should be in both Sanskrit and Tamil. The Thanjavur Periya Koil Urimal Meetu

Kuzhu (Thanjavur Big Temple Rights Retrieval Committee), an organisation that aims to restore Tamil traditions in the Sri Brahadeeswarar temple, had demanded that the *kumbhabhishegam* should be held only in Tamil. They had received the backing of DMK leader M.K. Stalin.

However, Minister for Tamil Culture Mafo K Pandiarajan had said: "The consecration will be performed in both Tamil and Sanskrit. After we received the request from Tamil groups, a committee has been formed on behalf of the Hindu Religious and Charitable Endowments Department, they will find an amicable solution."

The judicial precedent

question before the court was whether the providing for archanas to be performed in Tamil at the request of the devotees in addition to the existing right of reciting archanas in Sanskrit, would confer the right to profess Hindu religion guaranteed under Article 25 of the Constitution of India". The petitioners wanted the court to restrain the government from interfering in traditional rituals in temples.

The judgment quoted from Dr S Radhakrishnan's *The Hindu View of Life*: "To many, Hinduism seems to be a name without any content, it is a name of beliefs, a medley of rites, or mere marks of geographical expression." (11) Regarding the question, it said: "If the petitioners' request for a restrained order is accepted, it will only result in the Hinduism becoming mere museum of beliefs."

The government's position, and ultimately, the High Court's verdict, defied a judgment delivered by Madras High Court over a decade ago, which refused to accept that the language of prayer could only be Sanskrit. The attempt by conservative clergy "to portray as if the God can understand only Devanagari language and Tamil cannot stand on par with any language" had no foundation, the court said.

In a judgment delivered by Justice Biju Dharma Rao and K Chandru, the *V.S. Sivakumar vs State Of Tamil Nadu*, March 19, 2008:

"The choice is vested with the devotees to seek their archanas to be performed at their wishes by chanting the mantras either in Tamil or in Sanskrit... It is the devotees or *bhaktas* who wish that their prayers or wishes be answered by the God..."

Larger political battle

While Friday's court order provided temporary closure ahead of the *kumbhabhishegam*, the questions in the long-term and ongoing battle involve emotive issues of rights and freedoms that are likely to be resolved easily. In essence, the disagreement is between the Aryan tradition that claims that Sanskrit is the only language that communi-cates with the God, and that chanting mantras in Sanskrit is an essential part of Hindu religious practice, and the Dravidian tradition that cites the ancient history of the *Upanisads* and the Tamil Nadu's rich devotional Sanskrit texts such as *Thevaram* and *Thiruvengal* texts, and *Shiva*, a deity of the common man.

Aryan-Dravidian disputes in Tamil Nadu have traditionally pitted Tamil nationalistic organisations against upper caste Hindu groups and, in recent times, Hindu outfits like Naamamalai Vaichi and other Tamil and Dravidian outfits such as the *Cavadi Urimai Meetu Kuzhu*, the *Tamil Deiva Periyakkam*, and the *Hindu Veda Perumalarchari Movement* were among those who raised the demand for consecration in Tamil in Thanjavur. The rival camp demanding prayers only in Sanskrit was led by Tamil Nadu Archagargal Samoga Nakasangam, which claimed to hold the flag for "existing tradition and practice".

Australian PM Apology to Indigenous people

PLEDGE TO CLOSE HEALTH, WELLBEING GAP BETWEEN INDIGENOUS PEOPLE AND OTHERS FAILING: GOVT

Australia admits 'national shame' of failing to help Aboriginals

AGENCIES
SYDNEY, FEBRUARY 12

A PLEDGE to close the health and wellbeing gap between Aboriginal and other Australians is failing, the government admitted Wednesday, describing the situation as a source of "national shame".

Prime Minister Scott Morrison said just two of seven key targets to improve the lives of Australia's indigenous people were on track – unchanged from last year.

More Aboriginal children

were enrolled in early education and graduating from high school than ever before, he said, but attendance rates were still lagging behind other groups.

Other targets to halve the gap in child mortality, literacy, life expectancy, and unemployment rates were not being met.

Morrison called the failure to give indigenous children equal opportunities to other Australian kids "a national truth and a national shame".

The admission comes 250 years since Captain James Cook's first voyage to the vast continent, a journey that led to British

colonisation and upended indigenous communities.

The life expectancy for Aboriginal Australians is about eight years lower than the national average.

Indigenous children are twice as likely to die before their fifth birthday and 25 times more likely to be incarcerated than the rest of the population, according to official statistics.

The report marks 12 years since former prime minister Kevin Rudd made a historic apology to Aboriginal people for centuries of injustice and launched the "Closing the Gap" initiative.

Morrison on Tuesday said the Australian government's policy is failing and will be replaced.

"We perpetuated an ingrained way of thinking passed down over two centuries and more, and it was the belief that we knew better than our Indigenous peoples. We don't," Morrison told Australia's Parliament. "We also thought we understood their problems better than they did. We don't. They live them. We must see the gap we wish to close, not from our viewpoints, but from the viewpoint of Indigenous Australians," he added.

Bilingualism

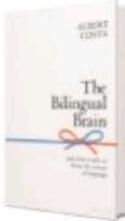
TIP FOR READING LIST

HOW THE BRAIN LEARNS 2 LANGUAGES

MORE THAN half of the world's population is bilingual —an extraordinary and complex ability that few have properly understood. How are two languages able to coexist in the same brain? What are the advantages and challenges of being bilingual? How do we learn languages, or forget them? Neuropsychologist Albert Costa, who died last year, addresses these questions in his book *The Bilingual Brain: And What It Tells Us about the Science of Language*. A former professor of the Pompeu Fabra University in Spain, Costa focused on the cognitive and neural underpinnings of language processing.

Costa uses neuro-linguistic research to investigate the impact of bilingualism on daily life — from infancy to old age. His studies show that newborn children, who are only hours old, are able to detect a change of language. At four to six months, toddlers can distinguish between languages by looking at the speaker's mouth. Knowing two languages has many upsides — bilingual children have a lower

egocentric bias, the tendency to rely too heavily on one's own perspective. They have better attentional control, and also a greater cognitive reserve. Trials have reported the onset of dementia in bilingual children up to four years later than others. Being bilingual also has flip sides, however. For instance, such individuals have a smaller vocabulary in their two languages as compared to monolinguals, Costa writes.



The *Guardian* writes in its review, "... This book is a great testimony to (Costa's) lifetime of research into the subject. Although peppered with a few technical aspects of neuroscience, it's very readable: the prose is gentle, anecdotal, witty, personal and — despite the many controversies — balanced. He doesn't deride monoglots (they have advantages too), but simply invites us to wonder what happens if you double up on what is already an extraordinary human ability — language." The book has been translated from Spanish to English by John W Schwieder, professor at Wilfrid Laurier University.

Tribal languages to be medium of education in pre-school

CHHATTISGARH/EDUCATION REFORMS

Tribal languages to be a medium of education in pre-school

GARGI VERMA
RAJPIUR FEBRUARY 15

INSTEAD OF "aa se oom", children in the tribal regions of Chhattisgarh will soon be learning "aa se ank potti (peepal or sacred fig leaf)". In around 15,000 anganwadis across the state, the Chhattisgarh government is going to start teaching pre-school children in 10 different tribal languages.

The brainchild of Chhattisgarh Chief Minister Bhupesh Baghel, the programme was announced by him at the Republic day parade in Jagdalpur. In a state where 32% of the total population belongs to Scheduled Tribes, the decision is expected to not only provide comfort but also to save these tribal languages.

"We first made a linguistic map of each district and the languages spoken in the region; then we made a linguistic map of the state. The ten languages we have included in



Pre-school students in Chhattisgarh will soon be taught in their language Express

this program are Gondi, Halbi, Madiya, Bhatri, Dhuva, Dorli, Singrauliya, Sarguja, Sadri and Kudukh," said Siddharth Komal Pardeshi, Secretary, Women and Child Development Department.

Among other responsibilities, the angan-

wadis work as the pre-primary schools for children. However, the medium of education was Hindi. "For the first time, we don't have to train our frontline workers. All the anganwadi teachers are well versed in their regional language. They connect to the people in those languages. In fact, we have been taking their help to design the books and teaching material," Pardeshi said.

"There is no script in most Adiwasari languages, they are phonetically driven. In 2018, a dictionary in Gondi was released by Kannada University in Hampi. There is a need to preserve these languages and to ensure that children who have grown up speaking such languages don't feel left out at schools," Dada Jokal, an author of several books in Gondi and who now teaches school teachers the language, said.

The linguistic divide in the state has been brought forth time and again by officials. In 2015, the previous government had planned

to train the officials in Gondi, a plan that stopped before it began. In 2019, police started training their men in the Gondi language to fight the Left Wing Extremists better. "In schools, teachers often have a hard time connecting with students because of the language divide. I had an interesting case, when a primary school teacher approached me that the children just kept repeating what he said, without understanding a word. They would keep repeating his questions at him, thinking that was their lesson. This is because of language barriers, which other linguistically prosperous states have understood and exploited," Dada Jokal said.

According to education expert Ujjwala Shankar, the idea of ensuring pre-primary and primary education in one's mother tongue is necessary for many reasons. "When the course imparted is in a language that the child is already familiar, the interest to learn more increases," she said.

Harappa ame Vegetarianism

A wider platter

Harappans would have scoffed at modern advocates of vegetarianism who seek to make ancient Indians appear like them



NAYANJOT LAHIRI

HARAPPAN FOOD WAS rich in all kinds of fleshy delights. Indeed, with an impressive variety of meats, fish and fowl, the cuisine of the Harappan city dwellers would even today be considered a gourmand's delight.

Before giving a graphic description of the nourishing non-vegetarian fare that they delighted in consuming, perhaps I should mention how food remains are studied. Within the material culture that has survived, there is the garbage of everyday life found at archaeological sites around the production and consumption of food – vast quantities of broken and discarded pottery, chewed and charred animal bones, sundry cereals and seeds of fruits and implements used in producing and processing food. Such artefacts are now studied through scientific techniques that can even indicate whether stone tools were used to cut meat or wild grass, and whether grinding stones mashed man-goes or cereals.

In India, unfortunately, we don't get direct evidence of a meal, that is, of what ancient people consumed at a particular time and day because this comes from the stomachs and the excreta of past people. Neither of these have survived in archaeological contexts here.

Occasionally, a single sample on a site will yield large amounts of material. At the Harappan city of Surkotada, charred lumps of carbonised seeds were discovered from an earthen pot. Two of the charred lumps yielded nearly 600 specimens, an overwhelming majority of which were from wild plants. Only about 7 per cent were identified as being of cereals. The cereals were millets, wild and cultivated, wild grasses, nuts, and weeds. This cannot give clues to the relative importance of different cereals because the sample only reflects a moment in time.

Plant remains from Harappan sites reveal the entire repertoire, from cereals and lentils to fruits and vegetables, and even the spices used. Recognising grains is easy and has been done for nearly a century since the discovery of Mohenjodaro and Harappa because burnt cereals survive rather well and sometimes also leave an imprint on clay. Among vegetables and fruits, it is usually their seeds that are identified. More recently, the archaeologist Arunima Kashyap has recovered and identified at Harappan Farmana (in rural Haryana), starch granules from pots, grinding stones, and teeth, showing the processing, cooking and consumption of mangoes, bananas and garlic. What was left over after the household ate was evidently fed to their animals since the same starch granules were scraped off the teeth from cattle remains found there.

The first thorough investigation of ancient animal remains from an archaeological site anywhere in the Indian subcontinent was done at Mohenjodaro, published in 1931 in the first excavation report of the city. Written by Colonel R B Seymour Sewell and B S Guha, no less than 37 species were identified. There were domesticated and wild animals and included a considerable frequency of humped cat-

tle, pig, and fish. Apparently, gharials and turtles, remains of which in many cases have been burnt, indicate that such animals formed part of the food of that city. Since then, as a 1994 article by PK Thomas and P P Joglekar revealed, there have been some two dozen Harappan sites whose animal remains are reported. Interestingly, cattle bones account for more than 70 per cent of the bones and, in fact, any Harappan site where bones have been found, without exception, has yielded cattle bones. Evidently, while cattle were used for agricultural operations and as draught animals, their meat was vastly enjoyed. Mutton was the other food that was commonly consumed as were pigs.

Animal teeth have also been studied to understand when the victims were killed. At Harappan Oriyo Timbo (in Gujarat), nearly 15,000 animal bones were recovered and annular rings accurately fixed the age and season of death of fauna. The microscopic annuli on a dental substance known as cementum was carefully assessed. What these revealed was that cattle, sheep and goat were slaughtered from March to July. Usually, very young animals were not killed, and slaughtering was most common in cattle samples at 30 months and 18 months in sheep/goat. Mature animals bones were also very common which underlines that adult animals were valued for their productive capacity.

The animals that Harappans kept and consumed is rather well known. What is less known is the range of wild animals enjoyed by them and the fact that these contributed greatly to their diet. Various types of deer and antelopes were hunted, and many varieties of birds, turtles, fish, crabs and molluscs were found as Thomas and Joglekar point out, "in the kitchen refuse". We also know that ancient Punjabis at the city of Harappa enjoyed marine catfish.

Among wild animals, from Gujarat's Kuntasi and Shikarpur, bones of wild ass with cut marks and evidence of charring underlines that they were hunted for food. Gujarat's Harappan sites, as Shibani Bose's just published book on Mega Mammals in Ancient India reveals, also show the presence of rhinoceros. It is animals that are normally eaten which find their way into archaeological deposits and that is likely to be the reason why these bones are so commonly found. In the case of Nausharo in Baluchistan, rhino bones were found in a hollow along with trash. What Bose also points out is the consumption of rhino meat in historical India and that texts on Indian medicine like the Caraka Samhita attribute definite health benefits to it.

Some scriptures did frown on or had misgivings about killing and consumption of animals. The Satapatha Brahmana, an ancient Indian religious text that forms part of the Vedic corpus, is full of fine detail about sacrificial ritual, and the eater of meat is said to be eaten in his next birth by the animal killed. Regardless of these occasional scriptural impediments, the general picture is of an ancient populace not just carnivorous but eagerly so.

All this should give pause to modern advocates of vegetarianism who want to make ancient Indians in general and Harappans in particular appear to be like them. Harappans would most certainly have scoffed at such attempts, even as they chomped through chunks of roasted cattle and pig.

The writer is professor of history at Ashoka University

Christopher Gregory in **Bastar** District

- Book- *The Savage Money*, 1997
- research is based on mercantile families and marketing, focussing on everyday farming and mercantile values in the context of inter-family relationships.
- places the theme of 'alternate values' and rival value systems at the centre in order to interrogate the politics as well as the economics of commodity exchange, and the implications for an anthropologically informed theory of value.



Cultural Consensus Theory: Developed by A. Kimball Romney, William Batchelder, and Susan Weller in the 1980s as a way to approach cultural knowledge. CCT assumes that cultural knowledge is shared, but too large to be held by a single individual, and thus unevenly distributed. Using a collection of analytical techniques, CCT estimates culturally correct answers to a series of questions while also estimating each participant's degree of knowledge or sharing of answers (Weller 2007). It has become a major component of social, cultural, and medical anthropology and is used in other cognitive sciences and cross-culturally based research.

Cultural Consonance Theory:

This theory was developed by Alabama's own William Dressler and colleagues (Dressler, Baliero et al. 2007). Cultural consonance refers to the degree to which people's activities match with their beliefs about how they should be. The more their lives match their ideas of success, the better their wellbeing. Dressler and other researchers have found that people with high cultural consonance have lower stress and fewer blood pressure problems (Bernard 2011: 51). Interestingly, traits of "successful lives" are shared to a surprising extent cross-culturally.

Folk Models:

These include games, music, and god sets, used to instruct individuals to negotiate potentially stressful situations (Colby 1996: 212). Thus, a child may learn how to judge speed and distance from hide and seek, which can then be translated into crossing a busy street. John Roberts was the first to use folk models as a subject of study in cognitive anthropology. Some folk and decision models, such as god sets with well-recited attributes, form larger cognitive systems, such as divinatory readings. The diviner, by collecting several readings and training under another diviner learns to read people, and produce divinations that are socially acceptable

Folk Taxonomies:

Much of the early work in ethnoscience concentrated on folk taxonomies, or the way in which people organize certain classes of objects or notions. There is an enormous amount of work in this area. For a sampling of what is out there, interested readers can refer to Harold Conklin's (1972)

Schemata:

This has been one of the most important and powerful concepts for cognitive anthropology in the past twenty years. Bartlett first developed the notion of a schema in the 1930s. He proposed that remembering is guided by a mental structure, a schema, "an active organization of past reactions, or of past experiences, which must always be supposed to be operational in any well-adapted organic response (Schacter 1989:692). Cognitive anthropologists and scientists have modified this notion somewhat since then. A schema is an "organizing experience," implying activation of the whole. An example is the English term writing. When one thinks of writing, several aspects come into play that can denote the action of guiding a trace leaving implement across a surface, such as writer, implement, surface, and so on. While individual schemas may differ, cognitive anthropologists search for the common notions that can provide keys to the mental structures behind cultural notions. These notions are not necessarily culturally universal. In Japanese, the term kaku is usually translated into English as writing. However, whereas in English, nearly everyone would consider writing to imply that language is being traced onto a surface, the term kaku in Japanese can mean language, doodles, pictures, or anything else that is traced onto a surface. Therefore, schemas are culturally specific, and the need for an emic view is still a primary force in any ethnographic research (D'Andrade 1995:123).

Adivasi Andolan

- From Gwalior to Delhi
- Demand : LAND REFORMS (Jal Jangal Jameen)

Sabarimala issue

- **Malampandaram** tribe opposing SC's verdict about Sabarimala തിരുപ്പ് N-M-S complex, sacred complex

Jabalpur Doctor

Relatives of two patients assaulted doctor belonging to ST categories as they wanted treatment from doctor with "upper caste"

Moria Tribe

- Chattisgarh
- Displaced during ***salwa judum*** in 2005 from CH
- Demanding rehabilitation

India's 1st indigenous film festival @Bhubaneshwar

- It will showcase films made by indigenous people or by non indi in collaboration with indigenous people
- To shine and celebrate huge and diverse native tribes and indigenous cultures, their issues, concerns and problems

-
1. 4 case studies of jajmani system affecting due to various factors

NYISHI TRIBE

1. Most populous tribe in Arunachal Pradesh
2. **Polygyny** is common, woman not allowed to divorced.
3. **Nyokum** is the festival celebrated
4. Christianity is the major religion among the Nyishis. Small groups of Hindus also exist among the Nyishi.
5. The Nyishis, who traditionally wear cane helmets surmounted by the crest of a hornbill beak (known as pudum, padam), have considerably affected the population of this bird.

6. Though have customary laws, panchayat system is there. Both of system work in

harmony.



Bru tribe

- a.k.a Reangs
- Mizoram, but displaced to Tripura due to targeted violence against them.

Why?

- 1997, murder of Mizoram forest guard by Bru militants
- Thus MNF (Mizo National Front) started violence against them.
- Bru militancy - due to demand of Mizos to keep them out of state electoral as they are not indigenous to Mizoram

Context-

- GOI+GO MIZORAM +MBDPF (Mizoram Bru Displaced Peoples Forum) > agreement to rehabilitate Bru in Mizoram

SAPIENS BY YUVAL NOAH HARARI

1. Over hasty jump of sapiens on top of pyramid gave a little time for ecology to adjust this change. This resulting into devastating effects like ecological crisis. Even humans themselves have not adjusted to situation, as seen in deadly wars
2. Domestication of fire was significant step in march to top- reduced time in eating, thus reducing size of large intestine, thus diminishing trade off for energy between intestine and brain, thus paving a way for better development of brains
3. 70,000 to 30,000 yrs ago- Cognitive Revolution - ability to think collectively
4. Fiction or common myth/collective imagination forms basis of creation of mighty human enclaves/groups beyond Dunbars number
 - o It helps to describe things that exists beyond physical world, which help people to cooperate and work towards common goals
5. Ever since Cognitive Revolution, humans have been living in dual reality, Objective and Imagined reality. With the time, imagined reality become more powerful, so that very survival of objective reality depends on them
6. Agricultural Revolution (9500 BC) - began in Turkey, Western Iran, Levant
7. Though our mind is of Hunter-gatherers, our cuisine is of ancient farmers
8. Agricultural Revolution was **history's biggest fraud**- less satisfying life than foragers because:
 - o Danger of starvation and disease
 - o Population explosion and pampered elites
 - o Harder work than foraging
 - o Worsen diet and nutrition content
 - o Settles life was not in harmony with physical system of sapiens
 - o New diseases - harnia, arthritis
9. Plants domesticated Home Sapiens, rather than vice versa- as it was sapien who began to live in houses, thus getting domesticated and devoting much of his time and energy to take care of wheat
10. Human body was not adopted to do agriculture work and live settled life. So it was human spines, knees, necks and arches who paid the price of agriculture Revolution
11. Success of agriculture Revolution - enabled sapiens to multiple exponentially due to increase in per area availability of food
12. Agri Revolution helped to preserve and maintain copies of DNA helix of sapiens, thus continuing gene pool
13. Thus, though agricultural Revolution was leap forward for sapien kind, it was disastrous for individual beings due to lowered std of living
14. Why Sapiens did not revert back to foraging- due to iron law of history which states that Luxuries tend to become necessities and to spawn new obligations.
15. Humanity's search for better and easy life released immense forces of change that transformed the world in ways nobody envisioned or wanted

16. Agricultural Revolution was beautiful boon for evolutionary success of domesticated animals like chicken, dogs
17. Most important takeaway from Agricultural Revolution - The discrepancy between evolutionary success and individual sufferings
18. Psychological impact of Agriculture Revolution - attachment to 'My House' and separation from neighbors become hallmark of much more self centered creature
19. Worry for the future was inherent aspect of Agriculture Revolution - future planning for production, sowing + worry of famine, calamity and rain
20. This Psychological stress was foundation of political and social system- emergence of elite who sniffed off the surplus of farmers
21. Large kingdoms, societies were built on long continued 'imagined reality' from forager times, i.e. Shared Myths
22. Universal principles are myths which exists in fertile imagination of sapiens, who holds no objective value.
 - o Example -
 - Code of Hammurabi, the code of justice of Babylonian Empire
 - Philadelphia declaration which was outcome of American Revolution

We hold these truths to be self-evident, that all men are **created equal**, that they are **endowed** by their **Creator** with certain **unalienable rights**, that among these are life, **liberty**, and the pursuit of **happiness**.

According to the science of biology, people were not 'created'. They have evolved. And they certainly did not evolve to be 'equal'. The idea of equality is inextricably intertwined with the idea of creation. The Americans got the idea of equality from Christianity, which argues that every person has a divinely created soul, and that all souls are equal before God. However, if we do not believe in the Christian myths about God, creation and souls, what does it mean that all people are 'equal'? Evolution is based on difference, not on equality. Every person carries a somewhat different generic code, and is exposed from birth to different environmental influences. This leads to the development of different qualities that carry with them different chances of survival. 'Created equal' should therefore be translated into 'evolved differently'.

23.

24. Page 123- a great comparison between objective biology and imagined reality

So 'life, liberty, and the pursuit of happiness' should be translated into 'life and the pursuit of pleasure'.

So here is that line from the American Declaration of Independence translated into biological terms:

We hold these truths to be self-evident, that all men evolved differently, that they are born with certain mutable characteristics, and that among these are life and the pursuit of pleasure.

25. Natural order is stable order. It functions Irrespective of whether people believe in it or not. However, imagined order is always in danger of collapse, because it depends on myths, and myths vanish once people stop believing in them. Thus to safeguard the imagined order, continuous and strenous efforts are required.
- Some of these efforts take shape of violence and coercion, even done by police, army, courts etc which force people to act in accordance with imagined order
26. Imagined order are enforced by elite sections top of the pyramid. This enforcement is not due to cynical interests. But due to fact that large segment of population, particularly elite population, truly believe in it.
- This is reason behind sustenance of Christianity, democracy

The Prison Walls

How do you cause people to believe in an imagined order such as Christianity, democracy or capitalism? First, you never admit that the order is imagined. You always insist that the order sustaining society is an objective reality created by the great gods or by the laws of nature. People are unequal, not because Hammurabi said so, but because Enlil and Marduk decreed it. People are equal, not because Thomas Jefferson said so, but because God created them that way. Free markets are the best economic system, not because Adam Smith said so, but because these are the immutable laws of nature.

27.

127

You also educate people thoroughly. From the moment they are born, you constantly remind them of the principles of the imagined order, which are incorporated into anything and everything. They are incorporated into fairy tales, dramas, paintings, songs, etiquette, political propaganda, architecture, recipes and fashions. For example, today people believe in equality, so it's fashionable for rich kids to wear jeans, which were originally working-class attire. In the Middle Ages people believed in class divisions, so no young nobleman would have worn a peasant's smock. Back then, to be addressed as 'Sir' or 'Madam' was a rare privilege reserved for the nobility, and often purchased with blood. Today all polite correspondence, regardless of the recipient, begins with 'Dear Sir or Madam'.

The humanities and social sciences devote most of their energies to explaining exactly how the imagined order is woven into the tapestry of life. In the limited space at our disposal we can only scratch the surface. Three main factors prevent people from realising that the order organising their lives exists only in their imagination:

28. 3 main factors prevent us from realising that order organising our lives exist only in imagination
1. The imagined order is embedded in material world
 2. The imagined order shapes our desire - Romanticism
 3. The imagined order is inter-subjective

There is no way out of the imagined order. When we break down our prison walls and run towards freedom, we are in fact running into the more spacious exercise yard of a bigger prison.

29.
30. As sapien's social order is imagined, humans cannot store critical information for running it simply by making copies of their DNA and pass this to progeny. They used Brains. However, brain has limitations like capacity, inability to handle 'numbers' due to evolutionary limitations in forager

stages and death of humans. Thus, Sumerians of Southern Mesopotamia invented data processing system called 'writing'.

- o It was Partial Script which was invented to copy what spoken language could not failed at.
- 31. Most important impact of script on human history- gradually changed the way humans think and view the world. Free association and holistic thought have given way to compartmentalization and bureaucracy

Writing was born as the maid servant of human consciousness, but is increasingly becoming its master. Our computers have trouble understanding how *Homo sapiens* talks, feels and dreams. So we are teaching *Homo sapiens* to talk, feel and dream in the language of numbers, which can be understood by computers.

And this is not the end of the story. The field of artificial intelligence is seeking to create a new kind of intelligence based solely on the binary script of computers. Science-fiction movies such as *The Matrix* and *The Terminator* tell of a day when the binary script throws off the yoke of humanity. When humans try to regain control of the rebellious script, it responds by attempting to wipe out the human race.

32.

There is no Justice in History

1. Hierarchy serves important function- enable complete stranger to know how to treat one another without wasting much time and energy in getting acquainted personally

The Vicious Circle

1. All societies are based on imagined hierarchies which originates as a result of set of accidental historical circumstances which was then perpetuated and refined over many generations as different groups have vested interest in it

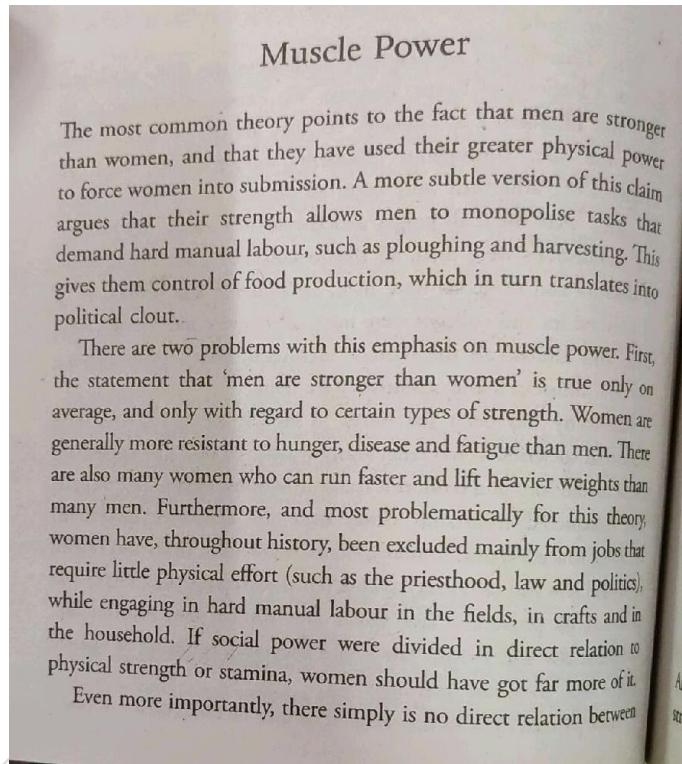
He and She

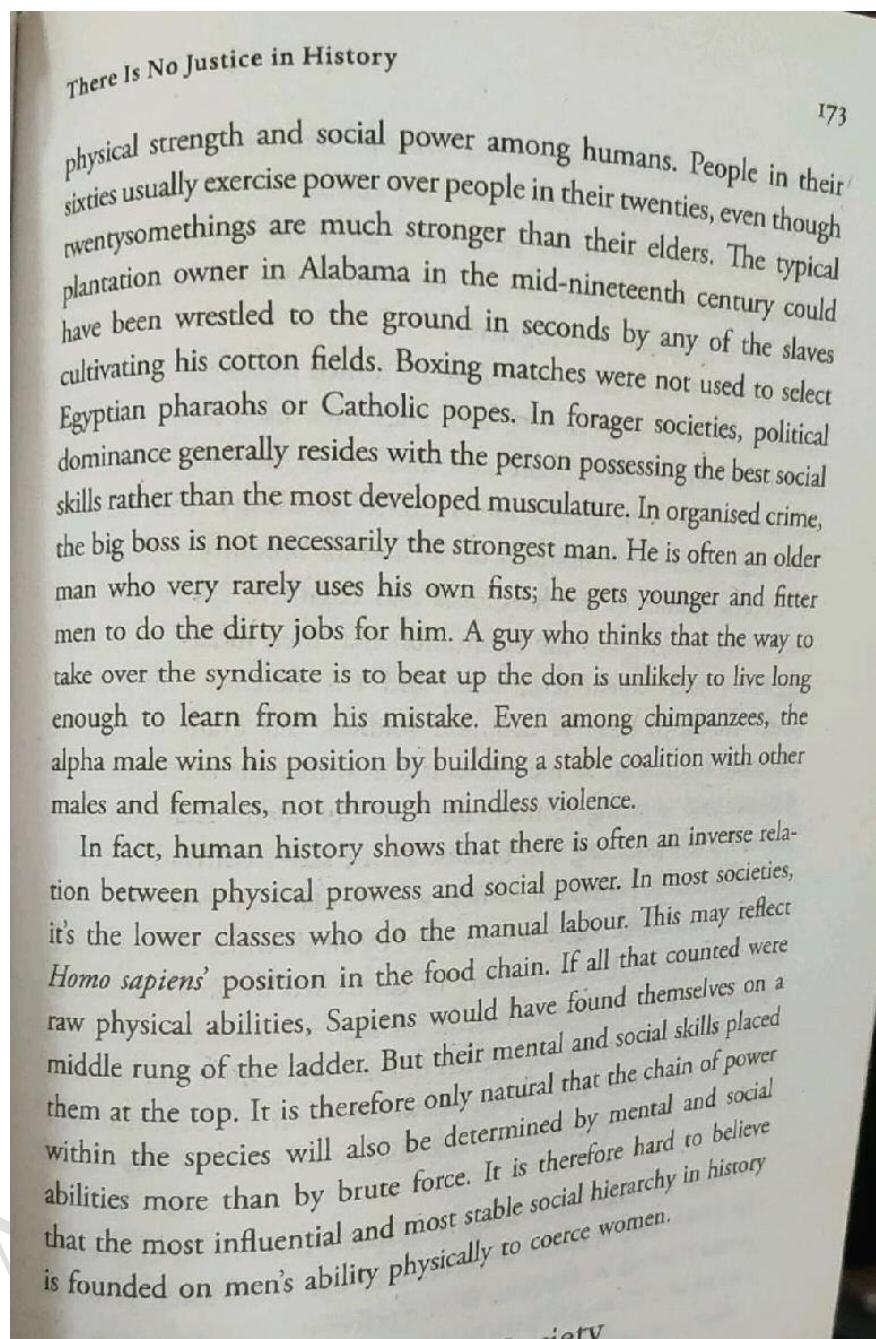
1. Social segregations are based on biological myths.
2. 'Biology enables, culture forbids' - biology is willing to tolerate wide spectrum of possibilities, however, it is the culture which puts prohibition on some of the possibilities
3. The basic problem in notion of 'natural' and 'unnatural' is that they are not taken from biology, but from Christian theology- natural is what god intended to do and unnatural is what he forbids

4. Since myths, rather than biology, define the roles, rights and duties of men and women, social stratification based on gender takes place
5. Gender is a race in which some of the runners compete only for Bronze medal.

Muscle power

1. One of the common reason given to justify gender discrimination -





The Scum of Society

1. Another reason given for gender discrimination is Talent of Physical Aggression of men needed in wars
2. However, top political ranks who manage the war, needs, more than aggression, the ability to appease, manipulate and see different perspectives. Thus segregation of men and women based on aggression stands illogical.

PART-III Unification of Mankind

The Arrow of history

1. Cognitive dissonance is integral part of every culture- contradictory beliefs (eg- liberty and equality, Christianity and Chivalry) are inseparable part of every culture
2. Such contradictory beliefs are culture's engines, responsible for creativity and dynamism of our species
3. Discord in our thoughts, ideas and values compel us to think, re-evaluate and criticise.
4. If tensions, conflicts and irresolvable dilemmas are spice of every culture, a human being who belongs to any particular culture must hold contradictory beliefs and be riven by incompatible values.

The Global Vision

1. During Cognitive Revolution, Homo Sapiens who earlier were scattered along their geographic locations, began to cooperate with strangers on regular basis, whom they imagined 'brothers' or 'friends'. This started feeling of Us and They.
2. By 1000 BC, Three potential Universal orders emerged who imagined entire world as single unit governed by single laws. These were
 1. Economic- monetary order
 2. Political - Imperial order
 3. Religious - different religions

Shells and Cigarettes

1. Money was a Mental Revolution - creation of new inter subjective reality
 - o Money isn't a material reality, its a Psychological construct
2. Everyone always wants money because everyone else also always wants money
3. History's first known money= Sumerian barley money

For thousands of years, philosophers, thinkers and prophets have besmirched money and called it the root of all evil. Be that as it may, money is also the apogee of human tolerance. Money is more open-minded than language, state laws, cultural codes, religious beliefs and social habits. Money is the only trust system created by humans that can bridge almost any cultural gap, and that does not discriminate on the basis of religion, gender, race, age or sexual orientation. Thanks to money, even people who don't know each other and don't trust each other can nevertheless cooperate effectively.

- 4.

The Price of Money

1. Two Universal principles of money-
 1. Universal convertibility
 2. Universal Trust

What is an Empire?

1. Cultural diversity and territorial flexibility gives empire central role in history
2. Empires were one of the main reasons for reduction in human diversity

Law of Religion

1. Three great unifiers of humankind-
 1. Money
 2. Empires
 3. Religion
2. Religion is assigned role to give superhuman legitimacy to social order and hierarchies. It asserts that our laws are not result of human caprice, but ordained by absolute and supreme authority. This places some Fundamental laws beyond challenge, thus ensuring social stability.
3. Religion legitimises the social and political order.
4. To unite large human population under its aegis, religion must be Universal and Missionary
 - o Universal- true always and everywhere
 - o Missionary - it must insist on spreading belief of universality to everyone
5. Religious Revolution accompanied Agriculture Revolution
6. Fundamental insight of polytheism, which distinguishes it from monotheism, is that the supreme power governing the world is devoid of any bias and interests, and therefore is unconcerned with mundane desires, cares and worries of humans.
 - o Eg- 'Atman' concept in Hindus- We never build temple for atman as it is of no use to fulfil mundane desires. Only use of Atman is to renounce our worldly existence and attain Moksha, liberation from mundane desires. Thus sadhus wander in effort to unite with Atman.
7. Why polytheism? - As Supreme power is devoid of any interest and bias, the humans approach other gods which have 'partial Powers' i.e. Having interests and biases. Thus, this dividing up of all encompassing power of supreme deity into smaller gods creates Plurality of gods.
8. Since polytheism accepts existence of other gods, it is more open minded and tolerant
9. Birth of Monotheism - polytheist began to believe that their supreme god has interests and biases, thus they can approach him for mundane needs. This discredited need of partial gods, thus emergence of monotheism.

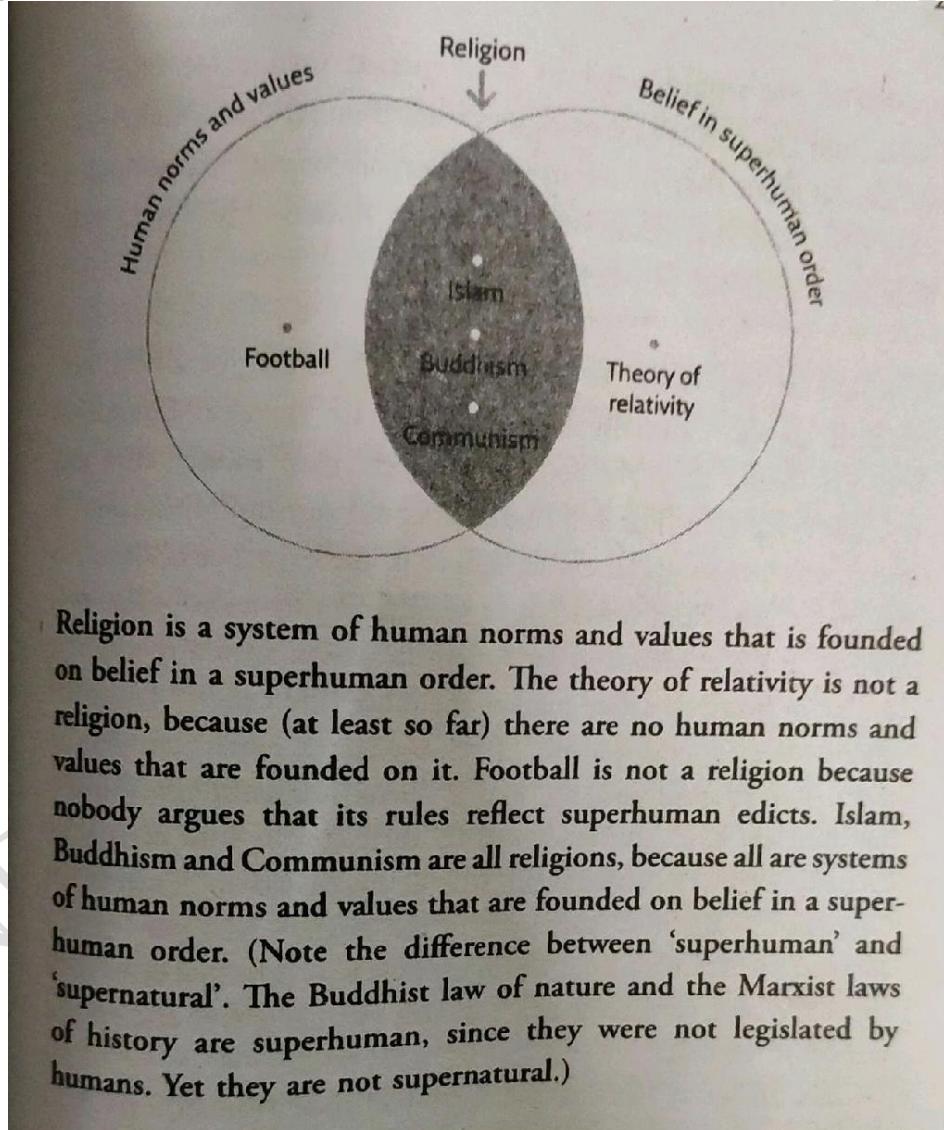
The Battle of Good and Evil

1. Monotheism explains universal order, but is mystified by evil. Dualism explains the evil, but is puzzled by universal order.

The law of Nature

1. All the religions were not focused on belief in gods and other supernatural entities. Many religions were characterised by disregards towards gods- Buddhism and Jainism in India, Daoism and Confucianism in China, Cynicism and Stoicism in Mediterranean basin.
2. These religions work on 'laws of nature' which are equally applicable to so called god.
 - o Eg- 'suffering arises from cravings' is Fundamental law in Buddhism which is always and everywhere true, just as in modern physics E always equals to mc²

The Worship of Man



- If religion is system of human norms and values that is founded on belief in superhuman order, then ideas like Communism, Liberalism, Capitalism, Nationalism are no less than religion.

- **Humanism** - a belief that *Homo Sapien* has a unique and sacred nature, which is fundamentally different from the nature of all other animals and all other phenomena.

Humanist Religions – Religions that Worship Humanity		
Liberal humanism	Socialist humanism	Evolutionary humanism
<i>Homo sapiens</i> has a unique and sacred nature that is fundamentally different from the nature of all other beings and phenomena. The supreme good is the good of humanity.		
'Humanity' is individualistic and resides within each individual <i>Homo sapiens</i> .	'Humanity' is collective and resides within the species <i>Homo sapiens</i> as a whole.	'Humanity' is a mutable species. Humans might degenerate into subhumans or evolve into superhumans.
The supreme commandment is to protect the inner core and freedom of each individual <i>Homo sapiens</i> .	The supreme commandment is to protect equality within the species <i>Homo sapiens</i> .	The supreme commandment is to protect humankind from degenerating into subhumans, and to encourage its evolution into superhumans.

- Nazist ideology primarily based on **Law of Evolution of Humankind**- Fittest will survive and unfit be Eliminated. Those who does not respect this 'law of Nature' are calling for their own destruction. (written in *Mein Kampf*)

The Secret of Success

PART IV- THE SCIENTIFIC REVOLUTION

The Discovery of Ignorance