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PHYSICAL & ARCHAEOLOGICAL ANTHROPOLOGY

1. *Homo erectus* arrived in Indonesia 300,000 years later than previously thought



Homo erectus reached the Indonesian island of Java some 300,000 years later than many researchers have assumed, a new study finds.

Analyzing volcanic material from sediment that had yielded *H. erectus* fossils at Java's Sangiran site shows that the extinct, humanlike hominids likely arrived on the island around 1.3 million years ago, scientists report in the Jan. 10 *Science*.

More than 100 *H. erectus* fossils have been found at Sangiran since 1936, many by local residents. For around the last 20 years, many researchers have accepted Sangiran sediment dates — based on analyses of the rate of decay of radioactive argon in volcanic rocks — that put *H. erectus* on the island from about 1.7 million until 1 million years ago. Others have disputed that timeline, saying the best evidence points to an *H. erectus*

presence at Sangiran from between 1.3 million and 1.1 million years ago until roughly 600,000 years ago.

The new study supports that younger timeline. Researchers, led by paleoanthropologist Shuji Matsu'ura of the National Museum of Nature and Science in Tsukuba City, Japan, analyzed volcanic mineral grains, or zircons, from above, below and within sediment layers where *H. erectus* fossils had been found. One approach gauged the time since zircons had crystallized, and the other estimated the time since a volcanic eruption deposited zircons at Sangiran.

Using two dating techniques not tried before on volcanic material in Sangiran sediment makes the new study “a vast improvement” on efforts to gauge when *H. erectus* arrived there, says geochronologist Kira Westaway of Macquarie University in Sydney, who was not involved in the study.

The earliest Sangiran *H. erectus* fossils likely date to around 1.3 million years ago, the researchers say. But uncertainties about the original positions of those specimens suggest that some might date to as early as 1.5 million years ago, still later than what some scientists had previously argued. Consistent with that possibility, an *H. erectus* braincase previously found at another site in Java may date to as early as 1.49 million years ago.

Understanding exactly when *H. erectus* arrived in Indonesia could give new insight into early hominid migrations and settlements into Asia. Other *H. erectus* fossils have been found throughout Asia and Africa. Given the age of some of those fossils, some scientists had thought that *H. erectus* dispersed in a single big push from Africa into Asia starting more than 2 million years ago. But the new age estimates indicate that *H. erectus* moved eastward several different times, the investigators say.

That's the best explanation for the hominid's arrival in different corners of Asia at different times, apparently not as a result of a one-time migration from west to east, the team contends. For instance, *H. erectus* likely reached central China roughly 2.1 million years ago (SN: 7/11/18). Another *H.*

erectus migration may have reached southwestern Asia, closer to the African homeland, around 1.8 million years ago (SN: 10/17/13). Java arrivals around 1.3 million years ago likely resulted from a separate trek eastward through South Asia or along its coast to Indonesia, the scientists say. It's possible, though, that those travelers descended from an earlier *H. erectus* group in central China.

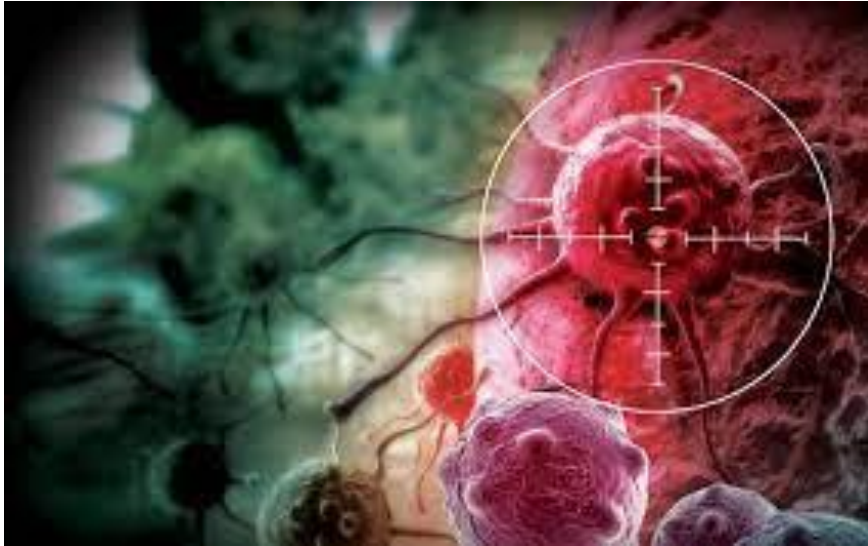
A revised, later age for the Sangiran finds "opens the window for several dispersals of *H. erectus* out of Africa, or the dispersal of their descendants across South Asia into Southeast Asia," says geochronologist Richard Roberts of the University of Wollongong in Australia, who was not involved in the research.

But debate on when Sangiran's fossil-bearing sediment layers were deposited will likely continue, says archaeologist Robin Dennell of the University of Exeter in England. "Matsu'ura's team may be right, but it's too early to start rewriting the textbooks."

Matsu'ura and his colleagues also found that *H. erectus* fossils from the older Sangiran sediment layers look similar to African *H. erectus* finds from as early as 1.7 million years ago. Younger Sangiran *H. erectus* fossils have larger braincases and smaller teeth like those of Chinese *H. erectus* fossils dating to around 780,000 years ago (SN: 3/11/09).

Younger Sangiran *H. erectus* fossils appeared after roughly 900,000 years ago, the new study estimates. Geologic studies indicate that global cooling around that time caused dramatic sea level declines, creating a land bridge from Java to mainland Southeast Asia. An *H. erectus* migration to Java across the land bridge could explain why younger Sangiran fossils differ from older ones, Matsu'ura says.

2. The science behind the cancer cure, and the therapy's future in India



- In a medical trial, 12 patients in the United States were completely cured of rectal cancer **without** requiring any **surgery** or **chemotherapy**.
- The study was done by doctors from the Memorial Sloan Kettering Cancer Centre in New York, and its results have been published in the New England Journal of Medicine.
- The trial used a **monoclonal antibody** called **dostarlimab** every three weeks for six months for the treatment of a particular kind of **stage two or three** rectal cancer.
- All patients in the study were in similar stages of their cancer. It was **locally advanced** in the rectum but had **not spread** to other organs.

Findings of the study

- **Immunotherapy:** The trial showed that immunotherapy alone without any chemotherapy, radiotherapy, or surgery that have been staples of cancer treatment could completely cure the patients with a particular kind of **rectal cancer** called '**mismatch repair deficient**'

- **Protein regulation:** The therapy in the trial used PD1 blockades, allowing T cells to kill cancer cells. **PD1** is a type of protein that regulates certain functions of the immune system, including by **suppressing T cell activity**, and PD1 blockade therapy looks to release the T cells from this suppression.
- **No recurrence:** No cases of progression or recurrence had been reported during the follow-up.
- **Early cure:** The response too was rapid, with symptoms resolving in 81% of the patients within nine weeks of starting the therapy.
- **Complete remission:** The patients involved in the cancer drug trial had undergone treatments such as radiation, chemotherapy, and invasive surgery that could result in urinary, bowel, and even sexual dysfunction.
- The findings of the latest cancer drug trial have shocked the medical experts who pointed out that the complete remission in every single patient is unheard off.

About Mismatch repair deficient cancer

- **Site of occurrence:** 'Mismatch repair deficient' cancer is most common among colorectal, gastrointestinal, and endometrial cancers.
- **Genetics:** The anomalies in the DNA result in cancerous growths in patients with mismatch repair deficient cancers. Patients suffering from this condition lack the genes to correct typos in the DNA that occur naturally while cells make copies.

New conclusions in the trial

- **No surgery needed:** Though PD1 therapy was already in use, but earlier it was used **post-surgery**, but the study has shown that a surgery may not be required.
- **Extensive application:** Till now, the PD1 therapy was usually used for cancers that have **metastasized** (spread to locations other than where the cancer formed). But it is now recommended for all mismatch repair deficient cancers.
- **Efficiency:** PD1 therapy result in quicker improvement and lesser toxicity as compared to traditional chemo and radiotherapy.

- **Minimizing treatment:** Eliminating other treatments can improve a patient's quality of life by preserving fertility, sexual health, and bladder and bowel functions.

Scope of treatment in India

- India also has a couple of PD1 blockades available, although not the one used for the study in US trial.
- **Statistics:** In India, cancer mortality has doubled from 1990 to 2016. India's cancer incidence was estimated at 1.15 million new patients in 2018 and is predicted to almost double as a result of demographic changes alone by 2040.
- **Inhibitory costs:** High cost is believed to be a major hurdle in PD1 blockades therapy in India. A genetic test may also cost up to Rs 30,000 and the patients in India cannot afford all this.
- An immunotherapy treatment can cost around **Rs 4 lakh per month**, with patients needing the treatment for six months to a year.
- **Limitations:** Doctors are also apprehensive of immunotherapy approach as according to them patients can be well managed with chemotherapy and radiotherapy as well.
- **Restricted surgery:** Also, the claim of the trial that a patient may not need surgery is rebutted by the fact that around 10 to 15% of cancer patients actually do not need surgeries.
- **Health Insurance:** Only those persons can afford treatment who can bank on schemes such as Central Govt Health Scheme (CGHS) for sponsoring their treatment or receive free doses from the companies as part of their assistance programme. In 1954, the Central Govt Health Scheme was launched for the current as well as former employees of the Central Government of India.
- **Finite research:** The precision medicine, such as using particular immunotherapy drugs for particular types of cancers, is still at a nascent stage in India and it would take at least ten years for it to become commonplace.

Conclusion

The cancer researchers who reviewed the drug informed that the treatment on drugs looks promising; however, a large-scale trial is required. If proven

effective on a larger group of patients, the discovery of Dostarlimab can revolutionise cancer care and stop the exploitation of millions of vulnerable patients by quacks selling unproven therapies to cure and control cancer.

The future of cancer treatment is molecular oncology thus holds assuring results as a mutation in one gene may be given a particular medicine and mutation found in another gene may be given another medicine.

3. Anthropologists condemn the use of terms of "stone age" and "primitive"

Good news: British anthropologists take part in public debates. The ASA (Association of Social Anthropologists) issued a statement where they "condemn the use of terms like 'stone age' and 'primitive' to describe tribal and indigenous peoples alive today".

We anthropology bloggers have often criticized the use of these terms.

The official condemnation comes in the wake of controversial comments made on the BBC (not online!) by Baroness Jenny Tonge, the Liberal Democrat peer, who called the Bushmen of the Kalahari Desert 'stone age' and 'primitive.'

The ASA statement reads:

'All anthropologists would agree that the negative use of the terms 'primitive' and 'Stone Age' to describe [tribal peoples] has serious implications for their welfare. Governments and other social groups. . . have long used these ideas as a pretext for depriving such peoples of land and other resources.'

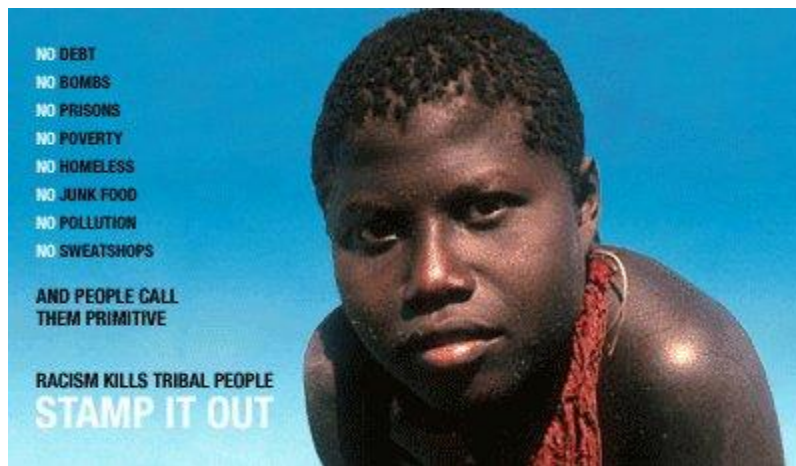
The ASA has become the latest supporter of Survival International's campaign against racism in the media which challenges the use of terms like 'stone age', 'primitive' and 'savage' to describe tribal and indigenous peoples.

Survival International writes:

Terms like 'stone age' and 'primitive' have been used to describe tribal people since the colonial era, reinforcing the idea that they have not changed over time and that they are backward. This idea is both incorrect and very dangerous. It is incorrect because all societies adapt and change, and it is dangerous because it is often used to justify the persecution or forced 'development' of tribal peoples. The results are almost always catastrophic: poverty, alcoholism, prostitution, disease and death.

Other supporters of this campaign include prominent journalists such as John Simpson, John Pilger and George Monbiot.

According the Washington Times, the American Anthropological Association did not return calls for comment.



But why do they still use the term tribe in their campaign? Why not use society or community? Doesn't the term tribe imply something similar as "primitive"?

As I've mentioned earlier, several African scholars argue that the idea of tribe promotes misleading stereotypes and that "anyone concerned with truth and accuracy should avoid the term "tribe" in characterizing African ethnic groups or cultures".

In their paper Talking about "Tribe" Moving from Stereotypes to Analysis, they argue that:

- Tribe has no coherent meaning.

- Tribe promotes a myth of primitive African timelessness, obscuring history and change.
- In the modern West, tribe often implies primitive savagery.
- Images of timelessness and savagery hide the modern character of African ethnicity, including ethnic conflict.
- Tribe reflects once widespread but outdated 19th century social theory
- Tribe became a cornerstone idea for European colonial rule in Africa.

Black Britain sheds more light on the use of this term. Several scholars, among others sociologist and cultural historian Lez Henry say that Survival and the ASA should also examine their use of the terms 'tribe' and 'tribal.' Henry says, people in Africa who live simple agrarian lifestyles are often seen as 'primitive.' Such notions served as justification for the colonisation of countries designated as 'third world'. For Ekwe Ekwe, the term 'tribe' conjures up images of being unsophisticated and away from technological advancement.

According to Survival, they are guided by the United Nations in their definition of the term 'tribe.':

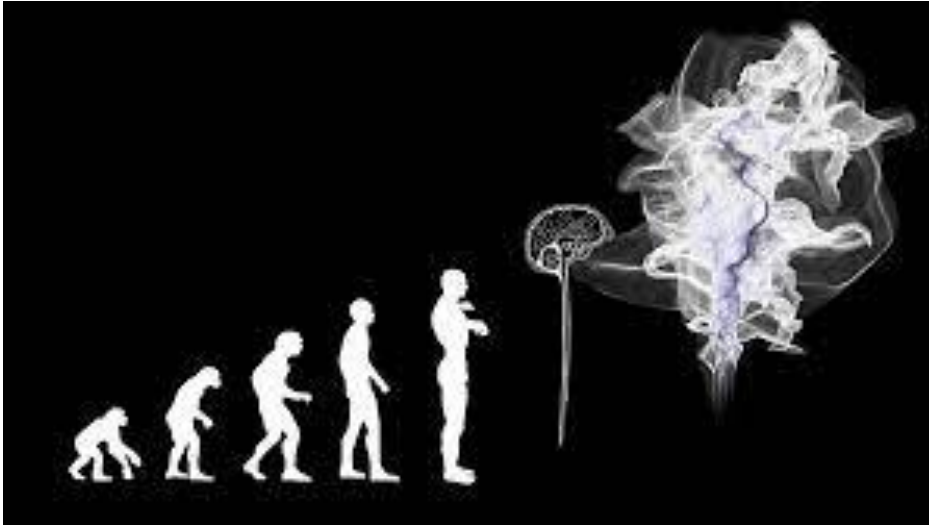
"Survival uses the term 'tribal' peoples, partly because we need a way to describe the type of people that we are working with. The term 'indigenous' can be used as well and often is."

Following publication of the Black Britain article, the ASA contacted Black Britain to clarify its position and said:

"The ASA does not support the use of the term 'tribal' to describe people...We share your concerns about the use of the word in perjorative ways in the same vein as primitive, etc.

"However, we do support the overall aim of the campaign which is to change perceptions and work against racism and outdated ideas of social evolution. Hence we wish to support Survival International's aims even if the wording is difficult."

4. From body to brains and personality, here's how humans will look like after 10,000 years



Even if nature isn't likely to murder us, we need to find partners and raise children. Sexual selection now plays a bigger role in evolution.

Humanity is the unlikely result of 4 billion years of evolution.

From self-replicating molecules in Archean seas, to eyeless fish in the Cambrian deep, to mammals scurrying from dinosaurs in the dark, and then, finally, improbably, ourselves – evolution shaped us.

Organisms reproduced imperfectly. Mistakes made when copying genes sometimes made them better fit to their environments, so those genes tended to get passed on. More reproduction followed, and more mistakes, the process repeating over billions of generations. Finally, *Homo sapiens* appeared. But we aren't the end of that story. Evolution won't stop with us, and we might even be evolving faster than ever.

It's hard to predict the future. The world will probably change in ways we can't imagine. But we can make educated guesses. Paradoxically, the best way to predict the future is probably looking back at the past, and

assuming past trends will continue going forward. This suggests some surprising things about our future.

We will likely live longer and become taller, as well as more lightly built. We'll probably be less aggressive and more agreeable, but have smaller brains. A bit like a golden retriever, we'll be friendly and jolly, but maybe not that interesting. At least, that's one possible future. But to understand why I think that's likely, we need to look at biology.

The end of natural selection?

Some scientists have argued that civilisation's rise ended natural selection. It's true that selective pressures that dominated in the past – predators, famine, plague, warfare – have mostly disappeared.

Starvation and famine were largely ended by high-yield crops, fertilisers and family planning. Violence and war are less common than ever, despite modern militaries with nuclear weapons, or maybe because of them. The lions, wolves and sabertoothed cats that hunted us in the dark are endangered or extinct. Plagues that killed millions – smallpox, Black Death, cholera – were tamed by vaccines, antibiotics, clean water.

But evolution didn't stop; other things just drive it now. Evolution isn't so much about survival of the fittest as reproduction of the fittest. Even if nature is less likely to murder us, we still need to find partners and raise children, so sexual selection now plays a bigger role in our evolution.

And if nature doesn't control our evolution anymore, the unnatural environment we've created – culture, technology, cities – produces new selective pressures very unlike those we faced in the ice age. We're poorly adapted to this modern world; it follows that we'll have to adapt.

And that process has already started. As our diets changed to include grains and dairy, we evolved genes to help us digest starch and milk. When dense cities created conditions for disease to spread, mutations for disease resistance spread too. And for some reason, our brains have got smaller. Unnatural environments create unnatural selection.

To predict where this goes, we'll look at our prehistory, studying trends over the past 6 million years of evolution. Some trends will continue, especially those that emerged in the past 10,000 years, after agriculture and civilisation were invented.

We're also facing new selective pressures, such as reduced mortality. Studying the past doesn't help here, but we can see how other species responded to similar pressures. Evolution in domestic animals may be especially relevant – arguably we're becoming a kind of domesticated ape, but curiously, one domesticated by ourselves.

Lifespan

Humans will almost certainly evolve to live longer – much longer. Life cycles evolve in response to mortality rates, how likely predators and other threats are to kill you. When mortality rates are high, animals must reproduce young, or might not reproduce at all. There's also no advantage to evolving mutations that prevent ageing or cancer – you won't live long enough to use them.

When mortality rates are low, the opposite is true. It's better to take your time reaching sexual maturity. It's also useful to have adaptations that extend lifespan, and fertility, giving you more time to reproduce. That's why animals with few predators – animals that live on islands or in the deep ocean, or are simply big – evolve longer lifespans. Greenland sharks, Galapagos tortoises and bowhead whales mature late, and can live for centuries.

Even before civilisation, people were unique among apes in having low mortality and long lives. Hunter-gatherers armed with spears and bows could defend against predators; food sharing prevented starvation. So we evolved delayed sexual maturity, and long lifespans – up to 70 years.

Still, child mortality was high – approaching 50% or more by age 15. Average life expectancy was just 35 years. Even after the rise of civilisation, child mortality stayed high until the 19th century, while life expectancy went down – to 30 years – due to plagues and famines.

Then, in the past two centuries, better nutrition, medicine and hygiene reduced youth mortality to under 1% in most developed nations. Life expectancy soared to 70 years worldwide, and 80 in developed countries. These increases are due to improved health, not evolution – but they set the stage for evolution to extend our lifespan.

Now, there's little need to reproduce early. If anything, the years of training needed to be a doctor, CEO, or carpenter incentivise putting it off. And since our life expectancy has doubled, adaptations to prolong lifespan and child-bearing years are now advantageous. Given that more and more people live to 100 or even 110 years – the record being 122 years – there's reason to think our genes could evolve until the average person routinely lives 100 years or even more.

5. Neandertal and Denisovan blood groups deciphered

Blood group analyses for three Neandertals and one Denisovan by a team from the Anthropologie Bio-Culturelle, Droit, Éthique et Santé research unit (CNRS / Aix-Marseille University / EFS) confirm hypotheses concerning their African origin, Eurasian dispersal, and interbreeding with early *Homo sapiens*. The researchers also found further evidence of low genetic diversity and possible demographic fragility.

The extinct hominin lineages of the Neandertals and Denisovans were present throughout Eurasia from 300,000 to 40,000 years ago. Despite prior sequencing of about 15 Neandertal and Denisovan individuals, the study of the genes underlying blood groups had hitherto been neglected. Yet blood group systems were the first markers used by anthropologists to reconstruct the origins of hominin populations, their migrations, and their interbreeding.

In a new study, scientists from the CNRS, Aix-Marseille University, and the French Blood Establishment (EFS) have examined the previously sequenced genomes of one Denisovan and three Neandertal females who

lived 100,000 to 40,000 years ago, in order to identify their blood groups and consider what they may reveal about human's evolutionary history.

Of the 40-some known blood group systems, the team concentrated on the seven usually considered for blood transfusion purposes, the most common of which are the ABO (determining the A, B, AB, and O blood types) and Rh systems.

The findings bolster previous hypotheses but also offer new surprises. While it was long thought that Neandertals were all type O – just as chimpanzees are all type A and gorillas all type B – the researchers demonstrated that these ancient hominins already displayed the full range of ABO variability observed in modern humans. Extensive analysis covering other blood group systems turned up alleles that argue in favour of African origins for Neandertals and Denisovans.

Especially surprising is the discovery that the Neandertals harboured a unique Rh allele absent in modern humans – with the notable exceptions of one Aboriginal Australian and one Papuan. Do these two individuals bear testimony to interbreeding of Neandertals and modern humans before the migration of the latter into Southeast Asia?

Finally, this study sheds light on Neandertal demographics. It confirms that these ancient hominins exhibited very little genetic diversity, and that they may have been susceptible to haemolytic disease of the fetus and newborn (erythroblastosis fetalis) – due to maternofetal Rh incompatibility – in cases where Neandertal mothers were carrying the children of *Homo sapiens* or Denisovan mates. These clues strengthen the hypothesis that low genetic diversity together with low reproductive success contributed to the disappearance of Neandertals.

Geographic origin, blood group and dating of individuals studied. Rh blood group system analysis (+ = full Rh(D) antigen ; + partial = partial Rh(D) antigen / - = missing Rh(D) antigen) suggested risk of haemolytic disease of the fetus and newborn among Neandertals and revealed interbreeding (possibly in the Levant), traces of which might be found in modern humans from Australia and Papua New Guinea. In three of the

individuals, the presence of a 'non-secretor' allele, associated with protection from certain viruses, suggests selective pressure exerted by the latter.

WHAT'S NEW –

For the first time, scientists discovered that Neanderthals and Denisovans possess the ABO blood groups, which contain antigens that are important for modern blood transfusions.

This is the first time ABO blood groups have been confirmed in humans beyond modern-day *Homo sapiens*. It implies that the ancestors of Neanderthals, Denisovans, and *Homo sapiens* likely possessed these blood types too, Condemi says.

Beyond the discovery of the ABO blood groups, Condemi and colleagues made five other critical discoveries:

1. Scientists discovered a previously unknown allele called Rhd Duc2. This is found only in Neanderthals and in the blood types of some Aboriginal Australians and indigenous Papuans.
2. The results suggest early interbreeding likely occurred between Neanderthals and modern humans after they emerged from Africa, likely somewhere in the present-day Middle East.
3. The researchers found the molecular basis for the blood groups in Neanderthals and Denisovans, which was similar to the DNA found in modern people in Africa. This supports the idea that Neanderthals and Denisovans originated in Africa.
4. In Denisovan and Neanderthal genetic data, the researchers found a gene associated with strong resistance to Norovirus, which causes an upset stomach. This gene expression hadn't previously been found in non-human primates.

But perhaps most fascinating, is the finding of an allele associated with increased vulnerability to diseases that affect fetuses and newborns. A specific example is hemolytic disease, a blood disorder found in newborns. It's possible this played a role in the eventual extinction of Neanderthals as it "contributes to a decrease in reproductive success," Condemi explains.

WHY THIS MATTERS

Condemi argues that the study's findings will "contribute to a better understanding of the history and evolution of modern man."

"This shows the importance of the study of blood systems to understand the evolutionary history of humans, the diffusion in Eurasia of our species, as well as its encounters with other humans," she says.

The dominance of modern man — *Homo sapiens* — coincided with the extinction of the Neanderthals roughly 40,000 years ago. To understand how modern man dominated planet Earth, we need to understand why Neanderthals disappeared.

While the study wasn't designed with the intention of probing Neanderthal extinction, the research ultimately became "a new way to address this question," Condemi says.

6. Ancestors of Neanderthals confirmed as earliest humans in Britain

Archaeologists have confirmed the presence of *Homo heidelbergensis*, an ancestor of the Neanderthals, in Britain between 560,000 and 620,000 years ago. These were the earliest humans in Britain, at a time when it was still attached to the continent of Europe. A combination of excavations and radiometric dating at a site on the outskirts of Kent were used to arrive at the findings. Stone tool artefacts were first discovered at the site over a century ago. There is also tantalising evidence of the earliest animal hide processing in European history. The site is located in an ancient riverbed, and was first uncovered in the 1920s by local labourers, who came across hand axes.

The researchers have uncovered new flint artifacts, including the first 'scrapers', typically used for processing animal hides. According to the study, there were fleeting visits to Britain by humans as early as 840,000 and possibly 950,000 years ago. Populations of humans were driven out of Northern Europe repeatedly by cold glacial periods. There are several sites

in Suffolk that are believed to have tools from between 560,000 and 620,000 years ago, but these stone tools have been found in contexts that are difficult to date.

Home » Science » Ancestors of Neanderthals... Ancestors of Neanderthals confirmed as earliest humans in Britain News9 Staff News9 Staff 25 June 2022 2:56 PM Facebook Twitter Whatsapp Email Ancestors of Neanderthals confirmed as earliest humans in Britain Artist reconstruction of Homo heidelbergensis making a flint handaxe. (Image credit: Department of Archaeology, University of Cambridge, Illustration by Gabriel Ugueto) News At that time, Britain was still attached to the continent of Europe. A combination of radiometric dating and excavations were used for the findings.

There is evidence of the earliest animal hide processing in European prehistory. Archaeologists have confirmed the presence of Homo heidelbergensis, an ancestor of the Neanderthals, in Britain between 560,000 and 620,000 years ago. These were the earliest humans in Britain, at a time when it was still attached to the continent of Europe. A combination of excavations and radiometric dating at a site on the outskirts of Kent were used to arrive at the findings. Stone tool artefacts were first discovered at the site over a century ago. There is also tantalising evidence of the earliest animal hide processing in European history.

The site is located in an ancient riverbed, and was first uncovered in the 1920s by local labourers, who came across hand axes. Also Read - NASA's Mars Reconnaissance Orbiter to release one last rainbow map The researchers have uncovered new flint artifacts, including the first 'scrapers', typically used for processing animal hides. According to the study, there were fleeting visits to Britain by humans as early as 840,000 and possibly 950,000 years ago. Populations of humans were driven out of Northern Europe repeatedly by cold glacial periods. There are several sites in Suffolk that are believed to have tools from between 560,000 and 620,000 years ago, but these stone tools have been found in contexts that are difficult to date. Also Read - Long extinct, man-eating giant dwarf crocodile discovered in Africa Tobias Lauer led the dating of the site, and says,

"This is one of the wonderful things about this site in Kent. The artefacts are precisely where the ancient river placed them, meaning we can say with confidence that they were made before the river moved to a different area of the valley." Director of the excavation, Alastair Key says, "The diversity of tools is fantastic. In the 1920s, the site produced some of the earliest handaxes ever discovered in Britain. Now, for the first time, we have found rare evidence of scraping and piercing implements at this very early age."

Homo heidelbergensis was a hunter-gatherer that ate a variety of plant and animal food, with tools to process animal carcasses such as deer, horse, rhino and bison, as well as tubers and other plants. Evidence of the diet is provided by the handaxes found at the site. The presence of scraping and piercing tools suggest that other activities may have been undertaken at the site. Tomos Proffitt who analysed the artefacts says, "Scrapers, during the Palaeolithic, are often associated with animal hide preparation. Finding these artefacts may therefore suggest that people during this time were preparing animal hides, possibly for clothing or shelters."

Matthew Skinner who helped lead the excavation says, "There is so much left to discover about these populations. In particular we are hoping in future excavations to find skeletal remains of the individuals who produced these stone tools as these are very rare in Britain." As England was still attached to Europe, it allowed for easy movement of populations, with the site probably being inhabited only during the warm summer months. The researchers plan to further investigate the site to better understand the behavior of the early humans.

7. A new type of Homo unknown to science



Summary:

The bones of an early human, unknown to science, who lived in the Levant at least until 130,000 years ago, were discovered in excavations at the Neshar Ramla site, near the city of Ramla. Recognizing similarity to other archaic Homo specimens from 400,000 years ago, found in Israel and Eurasia, the researchers reached the conclusion that the Neshar Ramla fossils represent a unique Middle Pleistocene population, now identified for the first time.

Researchers from Tel Aviv University and the Hebrew University of Jerusalem have identified a new type of early human at the Neshar Ramla site, dated to 140,000 to 120,000 years ago. According to the researchers, the morphology of the Neshar Ramla humans shares features with both Neanderthals (especially the teeth and jaws) and archaic Homo (specifically the skull). At the same time, this type of Homo is very unlike modern humans -- displaying a completely different skull structure, no chin, and very large teeth. Following the study's findings, researchers believe that the Neshar Ramla Homo type is the 'source' population from which most humans of the Middle Pleistocene developed. In addition, they suggest that this group is the so-called 'missing' population that mated with *Homo sapiens* who arrived in the region around 200,000 years ago -- about

whom we know from a recent study on fossils found in the Misliya cave.

Two teams of researchers took part in the dramatic discovery, published in the journal *Science*: an anthropology team from Tel Aviv University headed by Prof. Israel Hershkovitz, Dr. Hila May and Dr. Rachel Sarig from the Sackler Faculty of Medicine and the Dan David Center for Human Evolution and Biohistory Research and the Shmunis Family Anthropology Institute, situated in the Steinhardt Museum at Tel Aviv University; and an archaeological team headed by Dr. Yossi Zaidner from the Institute of Archaeology at the Hebrew University of Jerusalem.

Timeline: The Neshar Ramla Homo type was an ancestor of both the Neanderthals in Europe and the archaic Homo populations of Asia.

Prof. Israel Hershkovitz: "The discovery of a new type of Homo" is of great scientific importance. It enables us to make new sense of previously found human fossils, add another piece to the puzzle of human evolution, and understand the migrations of humans in the old world. Even though they lived so long ago, in the late middle Pleistocene (474,000-130,000 years ago), the Neshar Ramla people can tell us a fascinating tale, revealing a great deal about their descendants' evolution and way of life."

The important human fossil was found by Dr. Zaidner of the Hebrew University during salvage excavations at the Neshar Ramla prehistoric site, in the mining area of the Neshar cement plant (owned by Len Blavatnik) near the city of Ramla. Digging down about 8 meters, the excavators found large quantities of animal bones, including horses, fallow deer and aurochs, as well as stone tools and human bones. An international team led by the researchers from Tel Aviv and Jerusalem identified the morphology of the bones as belonging to a new type of Homo, previously unknown to science. This is the first type of Homo to be defined in Israel, and according to common practice, it was named after the site where it was discovered -- the Neshar Ramla Homo type.

Dr. Yossi Zaidner: "This is an extraordinary discovery. We had never imagined that alongside *Homo sapiens*, archaic Homo roamed the area so

late in human history. The archaeological finds associated with human fossils show that "Nesher Ramla Homo" possessed advanced stone-tool production technologies and most likely interacted with the local *Homo sapiens*." The culture, way of life, and behavior of the Nesher Ramla Homo are discussed in a companion paper also published in *Science* journal today.

Prof. Hershkovitz adds that the discovery of the Nesher Ramla Homo type challenges the prevailing hypothesis that the Neanderthals originated in Europe. "Before these new findings," he says, "most researchers believed the Neanderthals to be a 'European story', in which small groups of Neanderthals were forced to migrate southwards to escape the spreading glaciers, with some arriving in the Land of Israel about 70,000 years ago. The Nesher Ramla fossils make us question this theory, suggesting that the ancestors of European Neanderthals lived in the Levant as early as 400,000 years ago, repeatedly migrating westward to Europe and eastward to Asia. In fact, our findings imply that the famous Neanderthals of Western Europe are only the remnants of a much larger population that lived here in the Levant -- and not the other way around."

According to Dr. Hila May, despite the absence of DNA in these fossils, the findings from Nesher Ramla offer a solution to a great mystery in the evolution of Homo: How did genes of *Homo sapiens* penetrate the Neanderthal population that presumably lived in Europe long before the arrival of *Homo sapiens*? Geneticists who studied the DNA of European Neanderthals have previously suggested the existence of a Neanderthal-like population which they called the 'missing population' or the 'X population' that had mated with *Homo sapiens* more than 200,000 years ago. In the anthropological paper now published in *Science*, the researchers suggest that the Nesher Ramla Homo type might represent this population, heretofore missing from the record of human fossils. Moreover, the researchers propose that the humans from Nesher Ramla are not the only ones of their kind discovered in the region, and that some human fossils found previously in Israel, which have baffled anthropologists for years -- like the fossils from the Tabun cave (160,000 years ago), Zuttiyeh cave (250,000), and Qesem cave (400,000) -- belong to the same new human group now called the Nesher Ramla Homo type.

"People think in paradigms," says Dr. Rachel Sarig. "That's why efforts have been made to ascribe these fossils to known human groups like *Homo sapiens*, *Homo erectus*, *Homo heidelbergensis* or the Neanderthals. But now we say: No. This is a group in itself, with distinct features and characteristics. At a later stage small groups of the Nesher Ramla *Homo* type migrated to Europe -- where they evolved into the 'classic' Neanderthals that we are familiar with, and also to Asia, where they became archaic populations with Neanderthal-like features. As a crossroads between Africa, Europe and Asia, the Land of Israel served as a melting pot where different human populations mixed with one another, to later spread throughout the Old World. The discovery from the Nesher Ramla site writes a new and fascinating chapter in the story of humankind."

Prof. Gerhard Weber, an associate from Vienna University, argues that the story of Neanderthal evolution will be told differently after this discovery: "Europe was not the exclusive refugium of Neanderthals from where they occasionally diffused into West Asia. We think that there was much more lateral exchange in Eurasia, and that the Levant is geographically a crucial starting point, or at a least bridgehead, for this process."

8. Famous Sterkfontein Caves deposit 1 million years older than previously thought

New dates for Australopithecus-bearing Sterkfontein Cave deposit places South African hominin fossils at the center of global paleo research.



New dates for Australopithecus-bearing Sterkfontein Cave deposit places South African hominin fossils at the center of global paleo research

Fossils found at the Sterkfontein Caves in South Africa reveal nearly four million years of hominin and environmental evolution. Since research began at the site in 1936 with the discovery, by Robert Broom, of the first adult hominin of the genus *Australopithecus*, it has become famous for the hundreds of *Australopithecus* fossils yielded from excavations of ancient cave infills, including iconic specimens such as the cranium known as Mrs. Ples and the Little Foot skeleton.

The majority of Sterkfontein's wealth of *Australopithecus* fossils has been excavated from an ancient cave infill called 'Member 4' -- the richest deposit of *Australopithecus* fossils in the world. Over the last 56 years of Wits-led research at Sterkfontein, the age of Member 4 at Sterkfontein have remained contested, with age estimates ranging from as young as about 2 million years ago, younger than the appearance of our genus *Homo*, back to about 3 million years.

New research presented in a paper published in the journal *PNAS* re-evaluates the age of *Australopithecus* from Member 4 at Sterkfontein together with the Jacovec Cavern, which contains a few additional hominin fossils in a deeper chamber in the cave.

"The new ages range from 3.4-3.6 million years for Member 4, indicating that the Sterkfontein hominins were contemporaries of other early *Australopithecus* species, like *Australopithecus afarensis*, in east Africa," says Professor Dominic Stratford, director of research at the caves, and one of the authors on the paper.

The new ages are based on the radioactive decay of the rare isotopes aluminum-26 and beryllium-10 in the mineral quartz. "These radioactive isotopes, known as cosmogenic nuclides, are produced by high-energy cosmic ray reactions near the ground surface, and their radioactive decay dates when the rocks were buried in the cave when they fell in the entrance together with the fossils," says Professor Darryl Granger of Purdue University in the United States and lead author on the paper.

Previous dating of Member 4 has been based on dating calcite flowstone deposits found within the cave fill, but careful observations show that the flowstone is actually younger than the cave fill and so it underestimates the age of the fossils.

"This re-assessment of the age of Sterkfontein *Member 4 Australopithecus* fossils has important implications for the role of South Africa on the hominin evolution stage. Younger hominins, including *Paranthropus* and our genus *Homo* appear between about 2.8 and 2 million years ago. Based on previously suggested dates, the South African *Australopithecus* species were too young to be their ancestors, so it has been considered more likely that *Homo* and *Paranthropus* evolved in East Africa," says Stratford.

The new dates show that *Australopithecus* existed at Sterkfontein almost a million years prior to the appearance of *Paranthropus* and *Homo*, providing more time for them to evolve here, in the Cradle of Humankind, and placing the hominins from this site front and center in the history early human evolution.

"This important new dating work pushes the age of some of the most interesting fossils in human evolution research, and one of South Africa's most iconic fossils, Mrs Ples, back a million years to a time when, in east Africa, we find other iconic early hominins like Lucy," says Stratford.

"The redating of the *Australopithecus*-bearing infills at the Sterkfontein Caves will undoubtedly re-ignite the debate over the diverse characteristics of *Australopithecus* at Sterkfontein, and whether there could have been South African ancestors to later hominins," says Granger.

SOCIO – CULTURAL ANTHROPOLOGY

1. Culture ministry to study 'racial purity' of Indians

The Ministry of Culture is in the process of acquiring an array of DNA profiling kits and associated state-of-the-art machines for establishing the genetic history and "trace the purity of races in India". Highly placed government sources said the acquisition process began recently following a meeting that Ministry of Culture Secretary Govind Mohan held with well-known archaeologist Professor Vasant S Shinde and senior scientists and scholars of the Lucknow-based Birbal Sahani Institute of Paleosciences (BSIP) in Hyderabad two months ago.

Shinde is adjunct professor at the Bangalore-based National Institute of Advanced Study and director of the Rakhigarhi Research Project. Founder of the Society of South Asian Archaeology, Prof Shinde's research contribution includes "DNA analysis and craniofacial reconstruction of Harappan People".

When contacted over phone, Prof Shinde admitted that the gadgets were in the process of being acquired. He said, "We want to see how mutation and mixing of genes in the Indian population has happened in the last 10,000 years. Genetic mutation depends on the intensity of contact among populations and the time that this process takes. We will then have a clear-cut idea of the genetic history. You may even say that this will be an effort to trace the purity of races in India."

The Kolkata-based Anthropological Survey of India (ANSI), which has, “of late”, expressed “disinclination” to proceed with the exercise to trace the genetic origins of early Indians because the issue is “politically loaded”, is also part of this project which was initially conceived in 2019. A budget of ₹10 crore has been earmarked for procuring the DNA profilers and the other related scientific gadgets, sources said. The aim, according to the ANSI, is to “develop a resource of cell lines and DNA samples that can be used to study DNA sequence polymorphism in contemporary Indian populations”.

More importantly, the ANSI seeks to “establish (the) Indian role in the dispersal of modern humans out of Africa” because “modern humans could have taken the ‘southern route of dispersal’, utilising the coastlines to travel from Africa, through Arabia, across the Indian subcontinent and then into South-East Asia and finally into Australia”.

Secondly, the ANSI wants to understand the genetic diversity of Indian populations among various ethnic groups in different regions of India based on direct re-sequencing of haploid genomes. By its own admission, under this project, the ANSI has studied 75 communities comprising 7,807 blood samples from different parts of the country. These communities include the Jarawa, Nicobarese, Andh, Kathodi, Madia, Malpaharia, Munda, Bhoi Khasi, Nihal, Toto, Dirang Monpa, Paitei, Lepcha and a host of others.

2. Female language style promotes visibility and influence online

Topic - Linguistic anthropology..Social context of language

A female-typical language style promotes the popularity of talks in the digital context and turns out to be an underappreciated but highly effective tool for social influence. This was shown by UZH psychologists in an international study in which they analyzed 1,100 TED Talks.

A large part of social interaction nowadays takes place digitally. And the digital age has brought new opportunities to interact and communicate with increasingly large audiences. The huge power for social influence of digital media may come with the risk of intensifying common societal biases, such as gender stereotypes. One behavioral manifestation that plays a major role in such social evaluations is language use. In past research that focused on offline contexts, male characteristics were associated with more influence, while female characteristics tended to be associated with less competence.

Men and women show different language styles

To investigate how gender-linked language styles influence the impact of online contributions and whether they are subject to the same rules as in offline environments, an international research group led by the University of Zurich made use of the TED science platform. The topics of the TED Talks range from technology, entertainment and design (TED) to global issues, business, science and culture, with an average two million views for each talk.

The researchers collected the transcripts of nearly 1,100 TED Talks (348 of which were given by women) in order to identify typical male and female language styles. For this purpose, an index was used that placed each speaker between the extremes of very masculine to very feminine speech, which were empirically defined on the basis of large samples. According to previous research men commonly use more abstract and analytical language while female-typical language has been described as more narrative, personal, social and emotional; women tend to refer more to themselves and to other people more than men.

Female-typical language is linked to higher impact

The researchers correlated the identified speech styles with the number of views as well as the positive and negative ratings the talks received. By doing so, they wanted to find out which language style had a stronger effect in TED Talks: A more instrumental and complex male-typical language style or a simpler and more personal female-typical language style.

"Due to the well documented male advantage in social influence, we expected a general advantage of male-typical language style in terms of talk impact," says first author and UZH psychologist Tabea Meier. "We assumed that this might be the case for women in particular, namely that a male language style might help them overcome the ascribed lower status typically associated with their gender." Instead, the researchers found the opposite - that female-typical language was connected with higher impact.

TED Talks that showed a female-typical language were associated with more talk views irrespective of the speaker's gender. "Female-typical language thus conferred an advantage for male and female speakers alike in our sample," says Meier. "For the most popular TED talks this meant over 700,000 extra views online."

"Beautiful" and "courageous" versus "fascinating" and "informative"

The language style not only predicted the quantitative impact manifested in talk views but also the qualitative impact in types of positive and negative ratings received. More female-typical language style attracted positive ratings like "beautiful", "courageous" and "funny" while male-typical language evoked positive ratings like "ingenious", "fascinating", "informative" and "persuasive".

"These different qualities are in line with common gender stereotypes of women being warmer and emotionally expressive, and men more factual," says author and research group leader Andrea Horn.

However, in the digital sphere, unlike offline, such qualities did not interfere with popularity. This was also reflected in the negative ratings of the TED Talks. More female-typical language style also led to fewer "unconvincing" ratings. The authors conclude that a female-typical language style may thus be a powerful tool to promote impact and visibility irrespective of whether the speaker is male or female.

3. What is business anthropology?

The vast majority of manuals define business anthropology as the application of anthropology to business challenges. Although this definition could be considered correct, we wanted to propose an alternative that represents much better the discipline's different nuances.

Business Anthropology is the discipline that applies the theories and methodologies of social anthropology in the investigation of (or for) organizations and their ecosystems.

Business anthropology is not limited exclusively to companies, and its application can occur in many different organizations, such as museums, schools, or hospitals. We must also understand that business anthropology is imminently holistic and integrates both organizations and their stakeholders (ecosystems) in the same analysis unit (such as clients, suppliers, investors, competitors, regulatory frameworks, the environment, etc).

In short, business anthropology allows us to raise our gaze and understand the challenges and problems of organizations systemically and from a broad, and varied, cultural and qualitative approach.

Main characteristics of business anthropology

-Focused on people and their groups

The origin of the word "anthropology" is apparent and straightforward: humans' study and knowledge. That is, in the very essence of everything we do which lies a tireless search to better understand people: their behaviors, their emotions, their thoughts, ways of communicating, the objects they surround themselves with, and how they use them, etc. . Unlike other approaches such as psychology, anthropology understands people as "social subjects", so its process will always take into account their groups and cultural contexts.

- Ethnographic research

One of the main characteristics of business anthropology is the intensive use of ethnographic techniques, that is, people's study through participation and observation. Anthropologists know that to understand a phenomenon fully, it is necessary to feel it and breathe it in the specific context in which it occurs. Only in this way can the profound differences between what people say and what they do.

- Thick Data

Unlike big data approaches specialized in solving questions of the type What? How? Where? or When? Business anthropology delves into human complexity and seeks to understand the why? These qualitative data types are known as Thick Data, a term coined by the anthropologist Tricia Wang and inspired by the concept of "thick description" by the anthropologist Geertz. If you want to know more about Thick Data, we recommend reading this article.

- Holistic thinking

The whole is much more than the sum of the parts. To understand different human groups in all their complexity; anthropology observes reality as an integrated WHOLE: consumption, work, kinship, religion, politics, economy, class, gender, ethnicity, identity ... Thanks to its holistic approach, anthropology is an excellent ally when it comes to uncovering insights and understanding contexts.

- Socio-anthropological Analysis

It's important to understand that both anthropology and its cousin sociology have a long history as a discipline. Numerous theories have been generated throughout time and allow us to evaluate, test, and interpret social and cultural phenomena. From the anthropology of business, we use

it to understand organizational dynamics, emerging trends in society, the creation of patterns of behavior, and many more.

- Practical and strategic approach

Business anthropology is an imminently practical discipline that seeks to solve organizations' problems and challenges through the generation of strategic insights.

The value of anthropology in business

Due to high business uncertainty and the increasing need to understand users or undertake cultural transformations within companies, business anthropology is experiencing a real BOOM both in the world's most innovative companies and in the world of agencies: research or boutiques.

The complementation between in-situ ethnographic research, holistic view, and socio-anthropological theory allow obtaining data, approaches, and field insights to get through other techniques such as surveys or digital metrics.

When companies understand that they are immersed in cultural realities (of their clients, their workers, and the market itself), they turn to anthropologists. Within companies, anthropology allows:

Understanding customers and users in-depth

Exploring new contexts

Discovering new trends,

Marketing blue oceans Design products

Servicing and experiencing putting customers at the center

Validating proposals with the market

Transform the business culture of organizations

4. Is Artificial Intelligence Magic?

Artificial intelligence can perform feats that seem like sorcery. AI can drive cars and fly drones. It can compose original music, write poetry that isn't too awful, and design recipes that do sound awful (blueberry and spinach pizza, anyone?).

AI can do some things better than humans: lip reading, diagnosing diseases such as pneumonia and some cancers, transcribing speech, and playing Jeopardy!, Go, Texas Hold 'em, and a variety of video games. AI software can even learn to make its own AI software.

It's almost quaint to mention science fiction writer Arthur C. Clarke's famous adage, "Any sufficiently advanced technology is indistinguishable from magic." Yet to the majority of people who do not understand AI's machinations, these technologies may as well be wizardry.

We want to go one step further and argue that artificial intelligence is not merely indistinguishable from magic, it actually invokes elements of magic, anthropologically speaking, and is driven by magical thinking.

So, what *is* magic?



A flute is a technological tool with the “magical” ability to change people’s psychological states. Judith Leyster/Wikimedia Commons

Magic can be a slippery concept: arcane, obscure, and all too readily dismissed by those who live in supposedly scientific and enlightened societies. The late anthropologist Alfred Gell wrote that magic “has not disappeared but has become more diverse and difficult to identify.”

As Gell explained, magic infuses both technology and art. Many people associate the term “technology” with digital innovations such as smartphones and the internet. But medicines, food storage systems, houses, clothes, musical instruments, printing, writing, and even language are all technologies.

To Gell, technologies are ways of achieving results that might otherwise prove elusive or unattainable. An ax is a technology for dismembering animals, cutting down trees to build shelter or carve a path, or attacking and defending. A flute is a “psychological weapon” whose purpose is to enchant and play upon our emotions, thus combining technology, artistry, and magic.

AI is not an “advanced technology” in the same way as nuclear fission, lab-grown meat, hyperloops, or anything else on the bleeding edge of possibility. It’s little more than a dense thicket of math, calculated quickly. So how can math be magic?

In anthropology, magic tends to involve two elements:

1.
 1. Manipulating symbols (through incantations, music, drawings, writing, and utterances, for example) to bring about some physical change in the world.
 2. Obtaining some ideal product or outcome without any cost or effort.

Math and artificial intelligence also manipulate symbols – numbers, letters, and computer code – to bring about change. In artificial intelligence, you take one thing (a set of inputs, such as crime statistics), manipulate those symbols in obscure and obfuscatory ways, and transform them into another thing (an output, such as guidance on where to deploy police forces and which groups of people to target).



In North-Central Africa, Zande witch doctors, such as the man pictured here, traditionally performed rituals that share commonalities with algorithm-driven judicial practices

Recently, we have begun to stack up countless examples of how the digital manipulation of symbols alters people's behaviors, feelings, and experiences.

Using "predictive policing," law enforcement and researchers plug big data into a computer, and an algorithm predicts who is most likely to commit a crime. This affects the people police officers target for arrest and intervention, and has real consequences, especially for those who are already marginalized. Algorithms are also influencing how judges hand down sentences.

A similar magical manipulation of symbols can be found in witchcraft and divination. In North-Central Africa, Zande witch doctors traditionally fed poisonous vegetable extracts (an extreme kind of input) to a chicken. They then determined the answers to questions of justice through an equally extreme output: the bird's survival or death. This method, widely practiced before the colonial period, helped Zande chiefs and judges hand down sentences.

Practitioners of folk magic have used effigies and poppets (dolls) in an attempt to change people's lives from a distance. Tech companies use computer code to change people's lives around the world. For example, Facebook created a tool that uses artificial intelligence to map disaster-struck areas, directing responders to hidden roads so they can deliver aid. And Uber's use of facial recognition technology is impacting transgender people's ability to earn a living.

In some cultures, oracles cast cowrie shells, rub boards, poke branches into termite mounds, or scry into crystal balls and reflective surfaces in order to divine the truth and make decisions. In modern health care, computerized neural networks can automatically diagnose common conditions, helping doctors make decisions that change and even save people's lives.

INDIAN & TRIBAL ANTHROPOLOGY

1. Education for tribals: Bottlenecks and the way forward



Recognising tribal culture, language, cognitive strength, curriculum and inherent learning ability of children can revamp tribal education system

The Central and state governments, since India's Independence, have initiated several schemes and programmes to educate the country's tribal population. These include the establishment of Ashram Schools, Ekalavya Model Residential Schools, Kasturba Gandhi Balika Vidyalaya, pre-matric scholarships and vocational training centres.

Policy analyst and educationists have been meaning to recognise tribal culture, language, cognitive strength, curriculum and inherent learning ability of the tribal children. They believe this could revamp the tribal education system in the country.

There is, however, a long way to ensure holistic education in the tribal hinterlands.

Teacher-student relationship

A cordial relationship between tribal students and their teachers is one of the critical factors to promote meaningful learning in classrooms. It is important to understand that tribal children do not have the same backgrounds as their non-tribal schoolmates or teachers.

There is a need to respect and value culture, traditions, mannerisms, languages and cultural heritage of the tribal students. Interestingly, many tribal cultures have positive elements. It should be the responsibility of the teachers and academic personnel to promulgate this incredible wealth of indigenous knowledge among tribal youths in schools and colleges.

“I accepted my identity as a Saura, spoke Saura in public places and vehemently testified on the local community radio stations, that I belong to the Saura tribe,” said Srinibas Gomango, language teacher at a government primary school in Rayagada district, Odisha.

Medium of instruction

Article 350A of the Indian Constitution states that every state must have adequate facilities to teach children in their mother tongue.

“The initial medium of instruction should be the kids’ mother tongue. They could then be gradually encouraged to learn the regional language,” stressed Lokanath Panda, linguistic expert, who works in the tribal areas of Odisha.

“Ensuring proper instruction at the primary stage could increase better performance of tribal students,” he added.

Some teachers assume that tribal students are slow-learners. Overcoming the language barrier requires concerted efforts. The Odisha Government and civil society organisations have made some promising efforts to educate the Gonds, Bhils, Santals and other tribal groups in their mother-tongue. Tribal children are responding well to such innovative programmes, according to educationists.

The literacy rate among the Koyas, Santals, Bhuyia, Bhatudi and Bhumiji, has steadily gone up over the years.

However, several areas need work. "Development and printing of text books and syllabus should be decentralised," suggested Sushree Sangita Mohanty, deputy director, Mother Tongue-Based Multilingual Education, Kalinga Institute of Social Sciences (KISS).

"Learning materials should be prepared keeping in view the socio-cultural and economic situations of tribal people," highlighted Mohanty.

The establishment of multilingual language laboratory and employment of tribal teachers by KISS, for instance, played a pivotal role in bridging the language barrier and embraced cultural sensitivity of the students.

The language lab of KISS is India's first resource centre for the promotion of mother tongue based early childhood education among the indigenous population. Tribal children need to be cushioned with culture specific and appreciation of their ancestor's historiography in their learning process.

It is high time that schools explore folklore in primary education, which would help tap tribals' rich tradition in arts, crafts, music, songs, fables, etc. Similarly, stories and riddles should be collected, documented and used by teachers. Tribal development experts have been advocating the need for participation and sensitisation of community people to reduce the drop-out rate in tribal pockets. Empowering youth and nurturing tribal leadership could help create an enabling environment for active community participation.

Potential of youth, tribal leadership

Integration of tribal youth in their culture is imperative.

Development in tribal societies should focus on educational programmes that motivate keeping tribal youth integrated in their own culture.

Working with the tribal leaders is a key to ensure their active participation

and cooperation in sensitisation programmes on the importance of education.

There is a need to promote intensive participatory community mobilisation and sensitisation programmes for the community leaders and key stakeholders. Moreover, such awareness generation programmes should be organised through experienced and credible institutions working in the domain of tribal education.

The role of United Nations

United Nations Children's Fund (UNICEF) has been promoting quality education and employability amongst marginalised children. UNICEF, in collaboration with UNESCO, is supporting the Union government to achieve quality education for all children between 6 and 14 years.

Some of the key areas for cooperation include reaching out to vulnerable and deprived children, adapting international practices as well as supporting care providers and community advocates to demand inclusive and quality education.

One of the promising initiatives by UNICEF is to support for the development of the child-friendly schools and systems (CFSS) guiding principles, launched in 2014 and approved by the Union Ministry of Human Resource Development.

To ensure effective implementation of CFSS, assistance has also been provided for monitoring tools and the integration of CFSS indicators into state plans in support of making child-friendly schools.

Similarly, in collaboration with UNESCO, UNICEF is implementing a project titled *Promoting the Rights of Disabled Children to Quality Education* financially supported by the UN partnership to promote rights of persons with disabilities. Under this project, UNICEF provides support to states to make primary education curriculum more inclusive for children with disabilities and building technical capacity of teachers.

Way forward

It is the pressing time to consider holistic tribal education and their inclusive growth.

There is a pressing need for collaboration and strategic discourse between government, policy-makers, civil society organisations and international development institutions to collectively put efforts to address the chronic problems and allocate adequate funds from central and state budget for tribal education. Policy framers need to focus on a long-term strategy to enhance educational status of tribal children. “Equal access and opportunities should be given to tribal children to empower them,” said Joy Daniel Pradhan, development practitioner who works with the Union Ministry of Minority Affairs.

“Tribal communities will have to be elevated economically and educationally for promotion of a socio-economically integrated healthy society in the remote pockets,” Daniel said.

2. Police halt hill-cutting at Kharghar as tribals protest



The public anger against the cutting of Kharghar hill took a new turn on Sunday with the police halting the excavation following a protest by tribal villagers of Dhamole. People from Dhamole, touching the hill, came out to form a human chain protest as they said the hill-cutting would adversely

impact their homes. Balaram Pardhi, head of Vana Hakk Samiti, said that the affected tribals will write to the top state authorities to fully stop the hill-cutting that is harming the environment.

Kharghar police inspector Vimal Bidwe tried to prevent the human chain as the people had not taken permission, but the agitators agreed to be arrested if the police did not allow the peaceful protest.

“We would rather go behind bars peacefully than allow this demolition of the hill,” Pardhi said.

The protestors called for an immediate halt to the excavation which Cidco resumed after a brief break, following the intervention of the revenue department. The hill-cutting is being done for taking truckloads of soil to level the Kharghar golf course. The police then stopped work on the hill and the agitators decided to meet the governor and Cidco managing director with their demands.

NatConnect Foundation said it is shocking the excavation has restarted despite the Chief Minister Uddhav Thackeray asking bureaucrats to look into the issue.

3. Why is there a surge of violence against Tribals in India?



There is a huge gap between the democratic ideals which the Indian State

proclaims and the lived encounters of adivasis with the State. Adivasis are situated at the margins of society; any kind of systemic violence they face arises from the everyday socio-economic processes of Indian society.

THE aboriginal people of India, also known as 'Adivasis', had been treated as racially primitive savages by the erstwhile British government. The colonial State employed brute force while dealing with these people, reducing them to primitive savages who comprised the white man's burden. With the creation of India as a modern State, this intrinsic otherization of tribal people continued. They were viewed as 'irrational' and fundamentally incapable of being considered at par with 'normal' Indians.

In December 1946, at the Constituent Assembly debates, the leader of Adivasi Mahasabha, Jaipal Singh Munda, openly proclaimed himself as a proud *Jungli* (forest dweller). Munda argued in the assembly that backwardness is not necessarily an attribute of 'tribalness'; instead, it is a resultant factor of the centuries of exploitation that have been thrust upon them by non-aboriginals. Even Dalit leader Dr B.R. Ambedkar critiqued the caste system as being primarily responsible for manufacturing the pathetic conditions of primitive tribes and criminal tribes in India.

The concept of tribes gained legal recognition in the Constitution of India. Adivasis were designated as Scheduled Tribes [ST], and offered specific protective provisions, such as the Fifth and Sixth Schedules of the Constitution that provided them a certain level of autonomy. Today, India has 84.3 million ST people (8.2 percent of the population) who are categorized into 461 ethnic tribes and an additional 174 unrecognized tribal groups.

Rise in crimes against adivasis

However, despite seventy-four years of India's Independence, the tribal community still suffers from enormous violence across India.

The National Crime Records Bureau [NCRB] reports show that in the past ten years (2011-20), 76,899 crimes have been reported to have been committed against STs. As shown in Figure 1, such crimes have been

rising at an alarming scale. In 2011, there were 5,756 such crimes reported, and by 2020, the figure reached 8,272. These are, it must be kept in mind, just the registered cases of violence; the unregistered cases are bound to be much more than what data shows.

Data on registered atrocities/crimes against Tribals in India: 2011-20

The anti-Adivasi incidents have been rising on a tremendous scale in India. In 2011-20, around 76,899 cases have been registered, of which Rajasthan (24.2%), Madhya Pradesh (23.5%), Odisha (9.1%), Chhattisgarh (7%), and Andhra Pradesh (6.9%) accounts for most of the cases across India.

A state-wise comparison of anti-tribal violence is crucial to understanding the scale and causes for this violence. In every state, tribals are oppressed in different ways. In Madhya Pradesh, the prostitution rings exploit the tribals while in Jharkhand and Chhattisgarh, counter-insurgency operations against Maoists regularly victimize the tribals living there. Figure 2 shows that anti-tribal violence is concentrated in the states of Rajasthan, Madhya Pradesh, Odisha, Chhattisgarh and Andhra Pradesh. Most of the tribes are concentrated in these states. However, the reason for such violence differs from state to state. In general, tribals are situated at the margins of society; thus, any kind of systemic violence they face arises from the everyday socio-economic processes of Indian society. The State, in general, plays a significant role in committing violence on tribals in India. In July 2021, the forest department in Madhya Pradesh summarily evicted dwellings of Bhil and Barela communities, and there have been cases where the tribals have been displaced from Chhattisgarh to Andhra Pradesh due to public-private partnership projects. Several tribal communities across the country are still fighting for rights to their lands. In a study, the data research agency Land Conflict Watch explained that among 703 ongoing conflicts across India, 25 per cent are in tribal areas alone. The scholar Sanjukta Das Gupta elaborated that this phenomenon has been coming into national prominence from the 1990s onwards due to recurring land rights encroachment on tribal land, both by the State and corporate groups.

NCRB's data only shows violence against STs; there are also 'denotified tribes' that have not been accounted for in NCRB's data set. The violence

enforced on nomadic tribes is also a worrisome issue. The *Free Press Journal* reported that, in May 2019, women belonging to denotified tribes testified that they were tortured and raped almost every day. Denotified tribes are not scheduled, so they lack legislative protection, making them even more vulnerable.

The rising rape cases against tribal women is another significant marker of enforced patriarchal violence. States such as Madhya Pradesh, Chhattisgarh, Rajasthan and Maharashtra have poor records pertaining to sexual violence against tribal women. Rape or various other forms of sexual violence are used as a tool to show women their place in society; tribal women are much more prone to sexual violence as they are considered 'less than human' by the majority of Indians. In June last year, a teenage tribal girl in Chhattisgarh was allegedly raped and killed in a staged encounter by the members of security forces.

Scholar Kriti Sharma explains that gender-based violence is primarily shaped by the ongoing colonization, militarism, racism, and social exclusion of Adivasis. She points out that there is a connection between individual gender violence and deprivation of the collective rights of Adivasi women. Hence, the colonial State apparatus is a medium to enforce neo-liberal aggression and governmentality on Adivasis, which furthers their mental and physical distress.

Factors behind surge in crimes against adivasis

There are numerous factors involved in this violence. One such factor is the ease with which perpetrators get acquittal in most such cases.

The conviction rate for offences under the Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act against adivasis was 22.8 per cent between 2009 and 2018, even when such cases rose by 575.33 per cent in that period. There have been incidents where victims have become hostile, and in some cases of sexual violence, victims have been forced to retract the case due to external pressure. Such incidents prove how the Indian State and society are complicit in the violence against tribals. This also causes adivasis also start losing faith in the justice mechanism.

The other indicator is the caste-based distribution of resources. In India, it is the upper caste that has a greater hold over material resources, and the Adivasis and Dalits lack power over resources, which makes them vulnerable to economic and social exclusion. A World Bank report shows almost 43.8 per cent of the ST population in India lived below the poverty line as of 2004-05. It also shows that adivasis constituted 25 percent of the poorest decile of India's population in 2004-05, in spite of constituting eight per cent of the total population. In comparison to the 1980s and 2004-05, the Adivasis lag behind by twenty years when it comes to development ratio. The poor socio-economic indicators of the STs means that they are systematically subject to a continuous cycle of violence.

This also bears the question over how much role the State plays in perpetuating violence in the lives of Adivasis.

South African scholar Alf Gunvald Nilsen argues that in the context of western Madhya Pradesh, government functionaries who are supposed to provide citizenry rights and services to adivasi people are not fair. There is a huge gap between the democratic ideals which the Indian State proclaims and the lived encounters of adivasis with the State. Tribals experience the State's presence in their lives as everyday tyranny in the form of forest guards, security forces and revenue officials, among others, who treat them as inhuman subjects. For instance, in 2010 in Gujaarat, forest guards had assaulted tribals of the Kunbi community for merely cultivating on reserved forest land in Gujarat, and just last month, forest employees had been caught taking bribes from tribals in Madhya Pradesh. Nilsen says, *"This is an everyday spiral of tyranny tribals have to suffer in their daily lives."* Adivasis have been suffering due to violence for centuries, and it becomes even more important today to look at anti-tribal crimes in isolation from such anti-Dalit incidents. The Dalits in India have been segregated socially and ritually and from upper caste groups, whereas Adivasis have mostly remained in distant proximity from the mainlanders that makes them prone to physical and social exclusion.

4. Pro-poor schemes in plenty, but no end to tribal community struggles



Governance has virtually collapsed in tribal regions; most welfare and development schemes hardly reach even 10% of the targets

The struggle of the tribal communities for their rights was never easy. Even after seven decades of Independence, tribal communities in India have been striving for basic rights and entitlements.

What is happening in tribal hinterlands of India are not cataclysmic events that hog mainstream media attention. It is a slow insidious canker that has been eating into the vitals for over a century and continues unabated. It is the story of displacement, dispossession and theft of what belongs to the tribal people.

Tribal societies have remained obscured from the main historical current of development for centuries in India. In several instances, industrialisation and mining operations have led to the uprooting of tribal villages, forcing them to live like industrial nomads.

They have lost their traditional occupations, agricultural land and houses. They continue to lose employment and face bigoted competition with others in the highly unorganised Indian labour market.

At the dawn of our Independence, the country declared that it would build a socialist society. Pandit Jawaharlal Nehru, inspired by *Fabian Socialism*, was confident that the State in India will usher in the transformation towards an egalitarian society.

That dream faded in the last few decades when the 'license-permit raj' exposed the hollowness of the promises. Later, liberalisation tilted support towards the corporate.

Despite several development programmes, the affirmative actions and provisions, pro-poor laws and Acts, the tribal communities are still among the poorest communities. Studies have indicated that their conditions are steadily becoming worse, with clear evidence to show declining height-weight measurements amongst tribal adults over the last two-three generations.

The situation is abysmal in Odisha. Tribal families are forced into distress migration and evicted from their homes of centuries and tribal habitats. Regions of plenty and abundance are slowly moving towards environmental disasters due to overexploitation and misuse.

The human development index for the state bears the dismal condition of tribal populations. Malkangiri, Kandhamal, Kalahandi and Gajapati districts in the state have the lowest indices.

Reports have also indicated that the percentage of poor among the Scheduled Tribe population has in fact increased over the last decadal count to 76 per cent from 71 per cent. Governance has virtually collapsed in these tribal regions: Most welfare and development schemes hardly reach even 10 per cent of their targets.

Even as the formal elected governments and administration barely function or deliver, the treacherous erosion of indigenous laws of the tribal communities – ensuring environmental management, conservation and preservation of the natural resource base, a wide bio-diversity of cultivated crops, an egalitarian

system of land use – have quite eroded and are being replaced by a draconian jungle law, with hardly any place for any just and humane values. The growing discontent in tribal hinterlands, along with the rise of left-wing-extremism, has been a cause for concern. Special Acts for the tribal regions and tribal communities – including the Panchayat Extension to the Scheduled Areas Act (PESA), The Schedule Tribes and Other Traditional Forest Dwellers Recognition of Forest Rights Act (FRA) – are being reviewed and strengthened to be more effective for tribal communities.

Special policy provisions such as the Development Action Plan for Scheduled Tribes (earlier known as Tribal Sub-Plan) expenditures are also under review amid allegations of allocations not reaching targets.

“Pragmatic and collective efforts can address these issues, so that tribal community can come out of their poverty and attain a visible and significant measure of self-reliance and wellbeing,” said Kadey Soren, deputy director, academics, Kalinga Institute of Social Sciences.

Is that a possible solution? Would the several groups, individuals, and institutions come together and help tribal communities to take definitive steps to empower them to build a sustainable livelihood structure? Can the pro-tribal laws and provisions brought into play for the positive development of tribal communities and people? These questions require effort to address.

Labour

When the tribal community is displaced and disposed, they are only left with the option of selling out their skills in the form of labour. The historical process of dispossession and deprivation has not ended.

A majority depends on wage labour, and the last resource is dramatically used to further exploit the community. Pro-poor acts and schemes designed to empower them hardly translate into tangible benefits.

Take, for instance, the world's largest employment guarantee, the Mahatma Gandhi National Rural Employment Guarantee Act 2005 (MGNREGA). There

were cases where contractors employed people but did not pay them. The understanding of minimum wages does not even exist among most tribal people. "NREGA is ridden with glitches," Manoj Lakra, a Jharkhand-based development professional working with the Santhal tribal communities, said. "Unless we wipe out the corrupt middlemen from the system, we can never fix these problems. There is a need to promote a watertight system to root out corruption," he added.

Another vital issue is the frequent delay in wage payment that often discourages people to work under the scheme. In the last few years, a large balance of wage arrears has been observed. For instance, in 2019-20, a wage arrear worth Rs 10,000 crore was reported.

"This creates a vicious cycle," said Sukesh Mridha, program coordinator, Centre for Youth and Social Development, an Odisha-based not-for-profit organisation.

"If you don't pay the dues from last year, you run into a deficit. And when the government allocate budget for the subsequent year, a large chunk of the amount is spent in compensating the arrears of the previous year," Mridha said.

The government had allotted a budget of Rs 60,000 crore under NREGA scheme in 2019. A staggering 75 per cent of this budget was spent before the first half of the year.

This year is not an exception either. The government allocated Rs 61, 500 crore for 2020-21. Experts have said a large part of it, about Rs 10,000 crore will be spent on settling remnant dues. Joy Daniel Pradhan, a Delhi-based independent researcher, said, "The leftover will be Rs 50,000 crore after clearing previous dues. It will be utilised in the next six months."

The administration has hardly respected the local priority of work under the NREGA scheme. Instead of using it as a tool to reinforce decentralised

governance, the government has used a top-down approach and thereby destroying the spirit of people's participation.

Gram Sabhas and Gram Panchayat's plans are barely honoured. "This is a deliberate violation of the Act," Daniel said.

Tribal people should be encouraged to analyse and debate on the situation, in order to understand the complex linkages between wage labour, and the continuing poverty of tribal communities, according to experts. This could be the entry point for a critical understanding poverty within the community.

"Wage labour forms a critical part of livelihood among the tribal communities," said Liby Johnson, executive director of Gram Vikas, one of the leading not-for-profit organisations working with the tribal and marginalised communities in India and Africa.

According to Johnson, reduced access to forests and common property resources have increased their dependence on back-breaking and low-paying menial wage labour, especially during lean season that spans from mid-January to mid-May.

Children too join their parents at the worksites to support additional household income and that hampers their education.

"The government should promote better access to forest produce (MFP) and strictly ensure minimum support price for the tribal communities," Johnson said.

5. Telangana: Tribal women disrobed, beaten up for entering forest to collect firewood



The shocked women returned to their village and apprised village elders of the humiliation they had been put through.

KHAMMAM: In an inhuman act, a Forest Department official not only beat up four tribal women but yanked off sarees of two of them in deep jungles near Sakivalasa village in Mulakapalli mandal of Bhadravri-Kothagudem district on Thursday but the outrage came to light only on Friday.

According to sources, the tribal women went into the forest to collect firewood when Forest Section Officer N Mahesh stopped and shouted at them for “stealing” firewood.

The tribal women reportedly told him that they were picking up fallen twigs on the ground and that they were not felling any trees or stealing firewood from the forest. The “defiance” of the tribals infuriated the officer who beat them with a stick as they began fleeing, pulled off sarees of two women, leaving them dishevelled. He then left the scene.

The shocked women returned to their village and apprised village elders of the humiliation they had been put through. One of them then rushed to Kurasala Ganapathi, sarpanch of a nearby village Rachannagudem, and described the heinous act perpetrated by the Forest Department official.

As it was late already, the sarpanch visited Mulakapalli on Friday and after discussing the issue with others, decided that the women should prefer lodging a complaint with Mulakapalli Police on Saturday.

The four women were among the 40 to 50 families who had migrated to Mulakapalli from Chhattisgarh about 20 years ago. They eke out a living by working as daily wage labourers and they also frequently go into the forest to collect firewood.

When contacted, Mahesh denied misbehaving or beating up the tribal women though he admitted that he had asked them to leave the place. "I did not beat them. Neither did I try to disrobe them. It is a blatant lie," he said.

Meanwhile, CPI (ML) New Democracy State joint secretary Potu Ranga Rao demanded stringent action against the forest official. He wanted to know if it was a crime for women to fetch firewood from the forest area. He said there seems to be no end to the harassment of innocent tribals by the forest staff. "The official should be suspended forthwith," he said.

Blatant lie, says official

When contacted, Forest Section Officer N Mahesh said: "I have neither beaten them up nor tried to disrobe them. It is a blatant lie."

6. Health, education sectors improve in tribal areas: KTR

With the objective of achieving self-rule of tribals in their villages, the State government has upgraded tribal hamlets to gram panchayats, KT Rama Rao said.

HYDERABAD: Minister for Municipal Administration KT Rama Rao on Wednesday said that he would soon chair a review meeting involving people's representatives from tribal areas and officials of various departments to discuss health and education-related issues in agency areas.

He was speaking after leaders of tribal organisations and TRS people's representatives from agency areas met him at Pragathi Bhavan on Wednesday, requesting him to find solutions to their issues. He told them that the State government has been giving due importance to the welfare of tribals and that could be seen in the way Chief Minister K Chandrashekar Rao had informed officials to take a decision in favour of tribals regarding forest lands.

Pointing out that there were certain limitations in the implementation of the Scheduled Tribes and Other Traditional Forest Dwellers Act, 2006, Rama Rao said the State government was taking a favourable view to benefit tribals in the state. With the objective of achieving self-rule of tribals in their villages, the State government has upgraded tribal hamlets to gram panchayats, the Minister said.

He also explained how tribals were reaping the fruits of development and welfare schemes after the formation of Telangana, and how healthcare and education had improved in the agency areas. Rama Rao assured the tribal representatives that he would convey their concerns and feedback to the authorities concerned and that the government would be more supportive of tribals in the State

7. How education was taken to the children from the Chenchu tribes in Telangana and Andhra Pradesh



Rural Development Trust (RDT) has been working in the Nallamala region for over a decade now and this is why they will continue working for the noble cause of education

Bringing education to a Particularly Vulnerable Tribal Group like Chenchu doesn't just mean handing over a few gadgets or starting tuition classes, it means making them realise the importance of education, ensuring that inter-personal education and communication happens between them and their classmates and all this while, ensuring that they remain rooted in their tradition. This was the task ahead for **Rural Development Trust (RDT)**, a non-profit that works for empowerment of rural communities.

It was in the year 2010 that the organisation decided to work on the uphill task of helping education permeate to the deepest regions of the forest, where the reclusive Chenchu tribe is known to dwell. Kurnool, Prakasam and Guntur districts in Andhra Pradesh and Nagarkurnool and Nalgonda districts in Telangana – basically the Nallamala region of these two Telugu-speaking states that the tribe is spread across – and it is here that RDT works. Low enrollment in schools, lack of good quality teachers, lack of transport plus other tribes dominating over Chenchu tribes in residential schools, many problems plague the community and once the problems were identified, community-based officers (CBOs) were appointed to tackle

them one by one.

First came the sensitisation workshops for parents conducted in many villages along with the Integrated Tribal Development Agency (ITDA) – at least one per month. "We would often involve doctors and engineers, basically achievers from the same community, and they would talk about the importance of education at these sessions," says ITDA PO (Project Officer) Mannanur, G Ashok. Parents of 6,976 were given a token amount of Rs 700 to keep them motivated towards educating their children.

Chenchu and their culture

To keep their cultural identity intact, cultural activities were organised and children were encouraged to perform tribal songs and dances. "We noticed that these children are particularly good at archery, a skill they pick up from their parents at an early stage. So we organise archery competitions (participation has even gone up to 240). In fact, in a school in Mannanur, Telangana, archery is taught as a subject," says Pushpa Latha, the Regional Director of RDT, while talking about retaining their cultural ethos. Also, offering us an insight into the psyche of these children from the Chenchu tribe, the Regional Director says that living in isolation makes them reluctant to mingle, which serves as a bottleneck when children from deep forest areas are put up in residential schools. Yet they are courageous, confident and active in sports and cultural activities as well.

Area Team Leader B Sudhakar expands further and says that one can detect a major lack of motivation when it comes to education, from the side of both parents and teachers. "Children often run away from schools and we need to counsel and get them back," he says and Pushpa Latha helps us understand this by giving the example of Nagaamma, who was studying in a prominent school, where RDT had put her up. She met a boy in Marripalem and ran away into the deep forest and for 20 whole days, wasn't to be seen.

Upon coming back, she had to be counselled, encouraged to pursue her education and is now pursuing her intermediate second year. There are other instances when parents take their children into deep forests for foraging and they don't return for 20 days at a stretch and lose out on

classes. Another girl from Achampet was facing abuse at the hands of her parents and was shifted to a shelter home where she is attending online classes now. But not every effort bears fruit. For example, a tribal girl from Class X was married off before anyone could even intervene.

Food and other forms of discrimination

There are other problems that these tribal students are riddled with when it comes to mingling with fellow students in school. Sudhakar brings to our notice one such instance. The staple food that the Chenchu tribe carries for their lunch is white rice with chilli powder and at one school, they were belittled by other children who would come with rice, dal accompanied by a vegetable and even pickle to boot. It got to a point where Chenchu children did not want to even step into the school. Both sets of students were counselled and made to understand the realities of life. Such specific and heart-rending issues are solved only through counselling and one-on-one conversations.

Usually, due to a lack of schools, students have to opt for residential schools from as early as Class III itself. There are also 23 tuition centres set up by RDT to help facilitate education in the areas where schools, even up to Class III, haven't been established. When teachers are missing, they are appointed by RDT and remunerations are provided by the organisation itself. A note about RDT's Special Education Programme where they conduct an annual common entrance test to recognise meritorious students and fully fund their education, including residential fees. From the 92 students selected till date, 36 dropped out because they would have to move away from their native place to pursue their higher education in an English-medium institution (another persistent problem in the tribal community). In the Srisailam forest area, students below the age of ten with disability were identified and are now enrolled in fully residential programmes and in Dornala, RDT is building a centre for intellectual disability which will be a school and offer accommodation as well.

What COVID did to their lives

The pandemic was tougher on the tribal areas, especially during strict lockdowns. So the focus shifted to supplying food grains with the help of

other NGOs in the area and for the last three months, since lockdowns have been eased, RDT is collaborating with ITDA to gather school and residential principals for talks to accelerate the process of bringing children back to school. But there are tales of fierce children from the deep forest area, like that of Nagalakshmi, who weren't bogged down by the pandemic.

Being the last orphan child who was left unmarried in her family, the fact that she would be married off at any time weighed down hard on her. Yet, with the ambition to pursue education, she would get up early in the morning, pack lunch for herself and trek to a small mountain nearby where two bars of network would miraculously facilitate online classes. Currently, she is pursuing her long-term coaching for entrance examinations. "I hope to be a doctor and work in the health field," she says with a quiet passion.

Shivaram Dasari completed his Engineering four months ago and is waiting for a job now. His father passed away and through labour, his mother would earn around Rs 5,000, barely enough to support his education or the family. "RDT helped me pursue my education in Hyderabad," he shares. In this way, the organisation has impacted 4,845 children from Classes I to V; 2,357 children from Classes VI to X; 305 from intermediate; 89 from degree and above plus 92 children studying under their Special Education Programme.

"For tribal children who have completed their bachelor's and enrolled in professional courses, we will support them with an additional scholarship of Rs 50,000. We are in the process of identifying these children so that they can avail these funds," says the ITDA PO officer with regards to their plans in the near future. Working in tandem with RDT, who they have been working with for many years, and other organisations, they hope to bring education to the remotest areas which the Chenchu tribe inhabits.

8.Tendu Leaves Collection in India

Tribal residents in Chhattisgarh have decided to file an FIR against an official of the state forest department after he confiscated the tendu leaves that they had collected.

Tendu Leaves

- Leaves of tree species *Diospyros melanoxylon* are used as wrappers of tobacco to produce bidi.
- This tree is commonly known as “tendu,” but also called “abrus” in Andhra Pradesh, “kendu” in Orissa and West Bengal, “tembru” in Gujarat, “kari” in Kerala, “tembhurni” in Maharashtra, and “bali tupra” in Tamil Nadu.
- This leaf is considered the most suitable wrapper on account of the ease with which it can be rolled and its wide availability.
- Tendu is also called ‘green gold’ and is a prominent minor forest produce in India.

How it is traded?

- In 1964, the trade in tendu leaves was nationalised in then-undivided Madhya Pradesh.
- Until then, people were free to sell tendu leaves in markets across the country.
- Maharashtra adopted the same system in 1969, undivided Andhra Pradesh in 1971, Odisha in 1973, Gujarat in 1979, Rajasthan in 1974 and Chhattisgarh in 2000.
- Under this arrangement, the state forest department collects tendu leaves, allows their transportation and sells them to traders.

Why is there a dispute?

- The dispute is essentially about who has the right to sell the leaves.
- State governments say only they can do so due to nationalization.
- On the other hand, tendu leaf collectors cite **The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006** and the **2013 Supreme Court verdict in the Niyamgiri Case** to say private collectors can sell them on their own.

- Tendu leaf collectors allege that the government gives them a lower price for the leaves, while it fetches a higher price in the open market.

What do the tribals want?

- The tribals, after having obtained forest rights leases under the FRA 2006, now want to sell tendu leaves on their own, with the permission of Gram Sabhas and make good profits.
- Many types of minor forest produce like Mahua, Salbeej or the seeds of the Sal tree (*Shorea robusta*) and Chironji or Almondette kernels (*Buchanania lanzan*) are collected and sold by tribals.
- Hence, there should not be a dispute over tendu leaves.