

The first Indians

DNA analysis helps us understand who our ancestors were and how they looked



TONY JOSEPH

Early Indians draws from a fascination with the Harappan civilisation: "Who were the people who built the largest civilisation of their time, and where did they go?" This specific question leads to others, and the scope of the research on India's pre-history expands from finding out who the Harappans were to how Indians came to be. Somewhere along the way, it also becomes clear that the most important revelations are emerging from the new field of population genetics, thanks to analysis of DNA extracted from individuals who lived tens of thousands of years ago. An extract:

When the first group of modern humans walked into India, perhaps no more than a few hundred people in groups of twenty or twenty-five, trekking all the way from the Arabian peninsula over hundreds of years or perhaps even a thousand or more years, did they have a cosmology of their own that tried to explain the inexplicable? And did they have any inkling that they were entering a special place that more than a billion of their descendants would one day call their home? We are unlikely to ever know the answers to such questions, but there are other questions that we can crack with the technology and material evidence that we have. Questions such as: when they entered India, were they walking into a country that they had all to themselves – like the first modern humans in Australia or the Americas – or did they have competition in the form of other members of the Homo species, like in the Levant and Arabia? Did they tangle with each other? Or did they tango? Did our ancestors drive the others to extinction? Did they bring advanced technology – like bows and arrows and spears – or did they come with just a Middle Palaeolithic stone toolkit of scrapers, axes and sharp flakes that could be used as blades? And, of course, what did they look like? Do we have their direct descendants among us today? How big a brood have they left be-



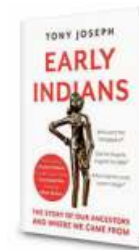
"Today's Onge are as distant chronologically from the first migrants as any of us." Former Prime Minister Indira Gandhi with the Onge in Hut Bay in Little Andaman in March 1981. * PRESS INFORMATION BUREAU

hind? Where can we find them?

The Onge

Let us start with the most tangible question first. What did they look like? We know that the Onge in the Andaman Islands are descendants of the original Out of Africa migrants who may have mixed less with other groups. But does that mean the First Indians looked like them? That would be stretching things too far.

Today's Onge are as distant chronologically from the first migrants as any of us. This is such an obvious truth that it shouldn't be necessary to say it. But it is surprising how often our mind plays tricks with us. For example, when we think of the earliest modern humans, say, those who existed 300,000 years ago, our mental picture of them may resemble today's Africans. But this is an ill-conceived idea. The Africans of today are exactly as removed from the earliest modern humans as we are and have gone through similar levels of mutation and change as the rest of humanity. They are no closer to the early



■ **Early Indians: The Story of Our Ancestors and Where We Came From**
Tony Joseph Juggernaut
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modern humans than we are. Mutations can change the colour of the skin, the shape of the nose, the texture of the hair, or the slant of the eye – not to speak of such things as the ability to survive at high altitudes (Tibetans) or to stay underwater for long (the Bajau people of south-east Asia).

Drift and selection

Similarly, in the case of the Onge too, 60,000 or 65,000 years is a long time for mutations to have done their work, and also for drift and selection pressures to have winnowed the genetic field. What is drift and selection? Genetic drift is the phrase geneticists use to describe the

tendency of small sequestered populations to have declining genetic diversity over time. The principle is simple. In every generation, there is a chance that the last person carrying a particular genetic variation may die without leaving an heir. In a large population, the chances of any single genetic variation dwindling down to having just one last representative is low and, therefore, the effect of drift will be less too. In other words, small populations are likely to lose enough diversity over time and become more homogeneous – or rather, drift towards a uniform genetic standard. So in a given time, drift alone could make a small population look very different from how they used to look.

The word 'selection', on the other hand, alludes to the essential process of evolution – the physical environment or the social environment or sexual preferences leading greater genetic success to some traits or mutations and less success to others, thus shaping the evolution of a population in a particular way. So it is highly likely that because of all these – mutations, drift and selection – the Onge today look quite different from what the First Indians looked like. (This is precisely the process – mutation, drift and selection – that makes different population groups separated by distance or other geographical barriers grow genetically distinct over time.)

Until we find a well-preserved skeleton from some 65,000 years ago that we can use to reconstruct the faces of the first migrants, we have only one other, suboptimal option: look for ancient skeletons of modern humans from other regions. And we do have one from the Skhul cave of Israel, although it is dated much earlier, between 80,000 and 120,000 years ago. It is the skeleton of a female modern human, and the reconstructed face shows a person we can easily identify with, but with some distinct differences. Of course, we have no idea what level of difference existed among modern humans in different parts of Africa and the Levant over 80,000 years ago. It is possible that the people who moved into the Arabian peninsula (who would eventually reach south Asia) looked quite different from those who broke into the Levant.

Extracted with permission from Juggernaut

FROM THE READERS' EDITOR

Whataboutery will not silence journalism

The media will never stop playing its adversarial role



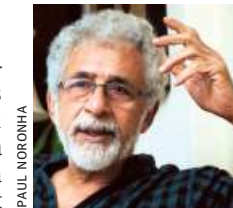
A.S. PANNEERSELVAM

Some readers have suggested that this column should only focus on *The Hindu's* acts of commission and omission, and not on issues relating to freedom of expression, press freedom, and constitutional guarantees. If this suggestion is considered seriously, this weekly column would read like a compendium of corrections and clarifications. The Readers' Editor is not a supra-subeditor. He or she provides the context in which the credible news media works, is an effective interlocutor between the newspaper and its readers, and offers a visible forum for accountability.

Defending two icons

Is it possible to talk about the virtues of the independent news media when we cannot talk about shrinking spaces? Being a journalist is a choice and not a compulsion. Fired by the spirit of public engagement, people opt to become journalists. People are in the public sphere because of a combination of factors. How do we explain the tragedy where we are forced to defend the rights of two great icons of modern India, Amartya Sen and Naseeruddin Shah, to express legitimate concerns about the country? For at least two generations of Indians, Professor Sen and Mr. Shah have represented the best of Indian democracy: they are fearlessly interrogative, argue, debate, dissent, and speak truth to power.

My own journey from being a science student to a reporter was shaped by Mr. Shah's art. His brilliant performances in Ketan Mehta's *Bhavni Bhavai* (1980), Kundan Shah's *Jaane Bhi Do Yaaro* (1983), and Shyam Benegal's *Mandi* (1983) sensitised me to the cruel realities of this country. His easy articulation of complex issues, sharp wit, role in theatre, and support for cinema not only enriched the art but brought creative minds across genres together. It is sad that BJP Yuva Morcha members prevented him from inaugurating the Ajmer Literature Festival. What is more worrying is that many who are spewing venom on the actor have no clue about



PAUL NORDINHA

his contributions; they are simply buying into the bigotry on social media and castigating him. It is chilling to read what this Padma Bhushan award winner told this newspaper: "The vicious jingoism masquerading as love for the country has reached truly scary proportions and so has the constant whataboutery in response to almost everything."

In the case of Nobel Prize-winning economist Amartya Sen, it was another eminent economist, Kaushik Basu, who defended him in a public column against a social media attack: "What has been a shocking experience in the last three or four years is the amount of trolling attacks unleashed on Sen whenever he is cited in popular writings; these come almost entirely from India. The attacks do not have any substance. Clearly, those crafting the attacks, if crafting is the word, do not have the capacity for serious debate. So what they unleash is merely a volley of completely fact-free name calling."

As a journalist, I value what Professor Sen said about the need for an unrestrained and healthy media. He wrote in *The Idea of Justice*: "The absence of a free media and the suppression of people's ability to communicate with each other have the effect of directly reducing the quality of human life, even if the authoritarian country that imposes such suppressions happens to be very rich in terms of gross national product." Professor Sen has argued that the media is important not just for democracy but for the pursuit of justice in general. He said: "'Discussionless justice' can be an incarcerating idea."

Function of a newspaper

The fact that we need to defend the rights of scholars and artists raises questions about how we are going to do our journalism. The controversy over what Mr. Shah said broke around the same time that the Ministry of Home Affairs issued an order authorising 10 Central agencies to intercept, monitor, and decrypt "any information generated, transmitted, received or stored in any computer." Yet another round of whataboutery has started filling cyberspace, with people saying that such a ruling existed even earlier, so why talk about it now. This suggests that newspapers should stop their critical adversarial function. If newspapers become silent, will they still be called newspapers?

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SINGLE FILE

Water woes

They will soon become more than just a political liability

MICHAEL KUGELMAN



The BJP's poor performance in the recent Assembly elections underscores the extent of India's agrarian distress and the political cost of failing to address it. The root cause of the Indian farmer's woes is water shortage. Yet, barring policy interventions, this problem will only worsen – to the point that

it will become far more serious than a mere political liability. Earlier this year, a sobering NITI Aayog report laid bare the seriousness of India's water crisis: 600 million people face acute water shortage and 200,000 die each year because they have no access to clean water. By 2020, 21 cities will run out of groundwater. Just over a decade from now, water woes could cause a 6% loss in GDP. The report made major headlines and prompted many TV debates. Then, as often happens with water-related matters, attention died down and the report was largely forgotten.

India can't afford to ignore its water crisis. Neither can South Asia or the world. Water scarcity is a clear and present danger, not a distant threat, and global warming heightens this threat. This month, international researchers from the U.S. and South and Central Asia released new research on major river basins at the Woodrow Wilson Center in Washington. Their findings reveal that snowmelt accounts for nearly three-quarters of the water in two of India's key basins – the Brahmaputra and Indus – and nearly half of the water in the Ganga, the country's largest river basin.

In the coming years, global warming portends higher temperatures and less snow, resulting in dramatic supply reductions in key Indian water lifelines. With rising demand for and consumption of water, and longstanding mismanagement of precious existing resources, fuelled by state failures to embrace water-saving technologies, a perfect storm is set to come into sharp relief. The implications for economic growth and public health are stark.

The water crisis is not just a domestic problem. Pakistan and China face similar water woes. Increasing water stress heightens prospects for hydro-related tensions and conflict, particularly given the absence of robust transboundary water accords. The exception is the Indus Waters Treaty; yet that arrangement too has come under increasing strain.

Today, with India in campaign mode in anticipation of the Lok Sabha election, water is generally seen as one of the reasons for the critical farmer constituency being so unhappy. Compared to hot-button topics like demonetisation and the Ram temple, it's a sideshow. Yet, not far down the road, when water becomes a more serious concern, it will be impossible to ignore – not just as an election issue, but as an existential issue.

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DATA POINT

Star turns

In vote share terms, the BJP fared badly in seats that fell in the areas where Narendra Modi and Yogi Adityanath campaigned in four States* that went to polls in November-December. **Varun B. Krishnan** analyses the data

The table shows the State-wise tally of seats which are located in the areas where Rahul Gandhi, Mr. Modi and Mr. Adityanath campaigned

Campaigner	Chhattisgarh	Madhya Pradesh	Rajasthan	Telangana	Total
Rahul Gandhi	19	20	28	8	75
Narendra Modi	8	18	26	3	55
Yogi Adityanath	23	11	26	1	61

The table shows vote % changes in seat terms in comparison to 2013/14

Campaigner	Seats where vote % dropped	Seats where vote % increased	NA/Did not contest
Rahul Gandhi	12	58	5
Narendra Modi	46	7	2
Yogi Adityanath	50	11	-

■ The slip in vote share for the BJP was most evident where Mr. Adityanath campaigned. There was a drop in vote share in 50 seats of 61 (82%)

■ Where Mr. Modi campaigned, the BJP's vote share slumped in 46 out of 55 seats (83%)

■ In Mr. Gandhi's case, 58 out of 75 seats (77%) registered an increase in vote share for the Congress

The table shows the average vote share change in 2018 compared to the 2013/14 elections in these seats

Campaigner	Chhattisgarh	Madhya Pradesh	Rajasthan	Telangana
Rahul Gandhi	+2.6	+6.8	+7.9	+22.9
Narendra Modi	-7.2	-3.8	-9.7	-8.6
Yogi Adityanath	-8.6	-5.8	-6.1	+16.2

The table shows % of seats gained or lost by the Congress in places where Mr. Gandhi campaigned. Gained denotes the % of seats where a party won in 2018 which it had lost in 2013/14. Lost denotes % of seats a party lost in 2018 but won in 2013/14

State	Gained	Lost
Chhattisgarh	47.4%	15.8%
Madhya Pradesh	35%	0%
Rajasthan	39.3%	0%
Telangana	33.3%	66.7%

The table shows % of seats gained or lost by the BJP in places where Mr. Modi campaigned. The BJP did not gain even one seat in these places

State	Gained	Lost
Chhattisgarh	0%	37.5%
Madhya Pradesh	0%	38.9%
Rajasthan	0%	61.5%
Telangana	0%	0%

The table shows % of seats gained or lost by the BJP in places where Mr. Adityanath campaigned

State	Gained	Lost
Chhattisgarh	8.7%	65.2%
Madhya Pradesh	0%	27.3%
Rajasthan	3.9%	46.2%
Telangana	0%	0%

FROM THE HINDU ARCHIVES

FIFTY YEARS AGO DECEMBER 24, 1968

U.S. plans reduction of bases in Japan

Plans for a drastic reduction or readjustment of American bases and all other military facilities in Japan were officially announced here [Tokyo] to-day [December 23] at the conclusion of a meeting of the Japan-U.S. Security Consultative Committee. About 50 bases or facilities, big and small, are involved in the readjustment programme, which, according to American Ambassador Alexis Johnson, who attended the meeting, accounts for one-third of all American facilities in Japan and approximately half of the land area involved therein. There are now a total of 148 American bases and installations here. Mr. Johnson said U.S. had no desire to hold bases for their own sake and sought only the minimum number "required to fulfil our commitments to Japan."

A HUNDRED YEARS AGO DECEMBER 24, 1918.

German Bolsheviks.

The Berlin Congress of the Soviets has passed a resolution in favour of the disarmament of counter-revolutionaries, the abolition of all orders and badges of honour and nobility and recommending the appointment of officers by soldiers [according to a report issued from Amsterdam on December 20]. This and the other decisions of the Congress show that the Bolshevik element is stronger than the Berlin Government, despatches have hitherto indicated, but the whole proceedings of the Congress are apparently chaotic, largely consisting of acrimonious wranglings. Nevertheless it is believed that the excellent organisation on the Scheidemann Socialist will secure the passage of the proposal for a National Assembly. According to a Berlin message [received in Amsterdam on December 19], the Congress of Soviets has passed a resolution affirming its supreme authority, but transferring legislative and executive power to people's commissaries until the national assembly arranges otherwise.

Sentientism

PHILOSOPHY

This refers to the philosophy that all sentient beings, which can experience different kinds of emotions that are similar to the emotions experienced by human beings, possess natural rights that need to be respected by people. Proponents of sentientism, also known as sentientists, believe that animals and other living beings that can feel emotions like pain and sympathy need to be treated with due consideration given towards their feelings. Some sentientists even argue that the ability of beings to feel emotions should be the fundamental consideration among moral philosophers when it comes to determining their moral rights.

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