

India's silent scientists

As the world celebrates the Higgs part of the God particle, the Bose part of the boson lies largely forgotten. S N Bose is not the only Indian to fade into obscurity. Sunday Times looks at three others, who made outstanding contributions to science, but never got their due

Arun Ram | TNN

Last week's discovery of a particle which could most likely be Higgs boson may not change the way you play golf, but it may let you understand better the creation of the universe, its minuscule components and its all-pervading vastness. And, if you have an abiding interest in the interface of science and everyday life, it may as well tell you why you missed the 18th hole.

So, it wasn't surprising that some 8,000 scientists and students from 60 countries were peering at a maze of mathematical projections at the European Centre for Nuclear Research (Cern) near Geneva to catch a glimpse of what they hate to call the God particle. As millions of protons travelled almost at the speed of light through a 27 km circular tunnel 100 metres below the Franco-Swiss border last week, the world held its breath. But, the scientists wouldn't say if they have found it. Finally, on June 3, there was a give away: Peter Higgs, the English theoretical physicist who predicted the existence of a particle in the early 1960s was invited to a conference near Geneva, where the announcement was to be made the next day.

We know the Higgs part of the elusive particle, but the Bose part of it remains in relative obscurity.

ty. Bose, one of the two fundamental subatomic components of particle physics — the other being fermion — was named after Indian physicist Satyendra Nath Bose (1894-1974). Bose, who worked with Albert Einstein to come up with the Bose-Einstein statistics and the Bose-Einstein condensate theory, was never nominated for the Nobel. In fact, it was out of Einstein's personal interest in Bose's work that saw much of his work being noted, after Bose sent his papers to Einstein who translated them into German and got them published in scientific journals.

Thanks to a few media reports on Bose in the wake of the Higgs boson discovery, the great man is being introduced to a vast number of Indians 38 years after his death. But, there are several Indian scientists, great in their own ways, who remain unknown to the layman and ignored by the scientific fraternity and the governments.

Ask any scientist who acknowledges original research to give a list of Indians who should have got a Nobel Prize, and you will find the name G N Ramachandran (1922-2001) there. Though trained as a physicist, Ramachandran's greatest contributions were to biology, where he formulated the 'Ramachandran plots' which every biophysicist uses while studying proteins. His triple-helix structure of collagen is a classic discovery worth a Nobel.

'History of Science, Philosophy and Culture in Indian Civilization'



POINT TO PONDER Bose, who worked with Einstein, was never nominated for the Nobel; (left) E Premkumar Reddy and (top right) Lalji Singh

says Ramachandran's lesser known contribution was to three-dimensional image reconstruction, which redefined the way we look inside the human body without cutting it open. Some, like P M Bhargava, founder director of the Centre for Cellular and Molecular Biology, believe Ramachandran should be considered the father of NMR and CT scan, though some others took credit for it. "Ramachandran was elected as a Fellow of the Royal Society after some of us worked hard for it. He never asked for it," says Bhargava. "He was neither elected as a foreign member of the National Academy of Sciences of the US, nor nominated for a Nobel Prize which he richly deserved."

Ramachandran died in 2001 without much international recognition; several other silently continue to do path-breaking research, refusing to blow their own trumpets. E Premkumar Reddy, for one. Now the director of



Ask any scientist who acknowledges original research to list the Indians who should have got a Nobel and you will get G N Ramachandran's name

experimental cancer therapeutics at Mount Sinai School of Medicine, New York. Reddy has made seminal discoveries of oncogenes that gave a clear understanding of the molecular basis of cancer. Though he has lived and worked for more than 40 years in the US, he was never elected to the National Academy of Sciences, the hall of scientific fame in the US. Recognition may come to him as a cancer drug that took shape from his research goes into phase III trials.

Reddy, like several other silent toilers of science, says he has no regrets, though he believes that some scientists get ahead through PR. "Becoming a member of National Academy not only requires a major

contribution to science, but also a certain amount of lobbying. I did not care to spend my time lobbying since I felt I could use my time and energy for a better cause," he says.

Lobbyism prevails because there is a lack of objective assessment of scientific work in India, feels Lalji Singh, who developed a new technique of DNA fingerprinting which has applications in forensics, parent determination and even resurrection of extinct species. Singh, 65, who served as the director of CCMB, Hyderabad, is now the vice-chancellor of Banaras Hindu University. One of Singh's works became the only research from an Indian lab to make it to the cover of 'Nature' magazine in October 2010. Singh was never nominated for the Fellowship of Royal Society. Bhargava feels the Padma Shri that Singh got was far too little for his genius.

So, what is wrong with the system? "The problem is," says Singh, "that the system doesn't work." C N R Rao, head of the scientific advisory council to the Prime Minister, feels it is better sometimes that the government does nothing. "Just keep quiet and let scientists do their work, that's enough," says Rao, who feels the government has no clear-cut policy to promote science and scientists in India.

arun.ram@timesgroup.com

Blogging for brands

Many companies are connecting with their consumers through bloggers, who are increasingly swaying buying decisions

Saira Kurup | TNN

The next time you shop for a new mobile or sedan, chances are you, the urban educated reader, may first check out blogs, read product reviews and decide on the winner. Be it new LED TVs, designer stilettoes, Hollywood DVDs, home décor, independent reviews by bloggers are increasingly swaying customer choices and opinions.

Brands have seen this coming for some years. Today, they are actively engaging with bloggers to market their brand ethos and products. "When a blogger writes about our brand, it's an independent view. It's not brand-speak. It's an opportunity to see how people see our ethos," says Neeraj Goyal, general marketing manager at Johnson & Johnson. His company organised a meet for women bloggers in the 19-35 age group in Mumbai last May in association with Indiblogger, as part of its product, Stayfree's "It's time to change" campaign. "Bloggers have the potential to change the thought process of readers," says Goyal.

With fun contests, games and giveaway goodies like mobiles involved, such meets attract good numbers. For instance, the Indiblogger-Spice Mobiles blogger meet in Delhi in June had around 250 bloggers in attendance, reportedly the largest one in the capital so far. T M Ramakrishnan, CEO of S Mobility Ltd says, "You are open to criticism at a bloggers' meet. We



MY MESSAGE COUNTS Women bloggers participating in a meet in Mumbai

instantly get to know what people think of our product. Such interaction is very important."

That kind of interface can inspire blogs which create a buzz around the brand. Blogger and creative writer Arvind Passey says, "I have had a lot of readers get in touch with me through Facebook or Twitter or even direct messaging and mail... and I have made serious attempts to address their queries every time." He says brands appreciate that bloggers have a deeper online penetration and a mass-perception

that they express and reflect the truth according to their sensibilities; they can be won over by a fraction of investment that other traditional forms of advertising entail; they add their unique insights to product perceptions and also tend to reflect the changing moods of the public.

The "thinking population" might be the target audience as of now, partly because net penetration is low in India (10.2%), as compared to China (38%) and Japan (80%). But that might not matter, says Veer-Chand Bothra, chief strategy officer of digital communications firm, Netcore Solutions. "Tech bloggers are already established and they are authentic voices and people trust them. I get most traffic through Google."

One platform that promotes this level of interface is Indiblogger, which has around 28,000 registered bloggers. "Our core philosophy is engagement. We organise the events. It's up to the blogger to participate. A number of brands now have separate budgets allocated for us," says Vineet Rajan, one of the co-founders of the site. Goyal of Johnson & Johnson adds, "Companies are putting aside 15-20% (and increasing) of their ad budgets on digital campaigning."

Industry watchers say there are no "payments" involved as of now. "Most bloggers tend to be happy with small gifts (disguised as prizes) and write about brands in their way. Remember, bloggers can be friendly and they can be harsh. But they would like to remain as close to the truth as their individual perception allows them to. This is important to them as their readers too aren't absolute suckers. Blogging does pay you but a good blogger doesn't run after money," says Passey.

But money matters for brands. "We need to find out how many Facebook "Likes" or blog hits are actually converting into brand participation," says Goyal. However, the bottom line remains — ignore blog power at your own peril.

saira.kurup@timesgroup.com

Archana Khare Ghose | TNN

On January 26, 2010, when 85-year-old Boa Sr passed away at Port Blair, Andaman and Nicobar Islands, many things died with her: The most important of the cultural heritage that faded into oblivion with her passing away was her language — Bo, of the Great Andamanese family of which she was the last speaker. And with that an endangered language had met its end.

Just a few months before the passing away of Boa Sr and Bo, the Unesco had released an atlas of the world's endangered languages, which India had topped with 196 languages in the category (Tulu was added to take the number to 197). The figure had set the alarm

Communities and the state will have to jointly save languages. Unfortunately, it is not a top political or social issue

Ashok Vajpeyi | AUTHOR AND POET

bells ringing in a linguistically well-endowed country like India. Though work has been going on to save the country's languages, the issue has come under the spotlight with Google announcing its Endangered Languages Project recently (its website, www.endangeredlanguages.com, lists 53 languages in India's account).

What after all is a dying language and how can it be saved? An endangered language is one that is likely to become extinct in near future. These are languages that are falling out of use with newer generations switching to other languages for various reasons.

S N Barman, director of the Central Institute of Indian Languages (CIIL), Mysore, says, "A language's survival becomes threatened primarily if it is abandoned by its speakers. People may give up their language for various reasons—for better social identity, upward mobility or for economic reasons. Often, political reasons too play a part though no Indian language has become extinct due to

HOW TO SAVE A DYING LANGUAGE

Google is trying to preserve endangered languages through its recent project. What is India's gameplan to protect 197 of its written and spoken dialects that are disappearing?

Floresco Productions/Corbis



STRUGGLING FOR SURVIVAL

- The Great Andamanese, spoken in Middle and North Andaman has only 5 speakers while Jarawa in the South Andaman Island has 31
- A few languages spoken in northeast India, like Ruga, Tai Nora, Tai Rong and Tangam — have just 100 speakers each

imposition of a state policy."

As for saving these languages, the community's interest in safeguarding its linguistic heritage — which implies the language and other cultural symbols of the community enumerated through its language — is cited as the most vital factor by most scholars. A Krishna Murthy, secretary, Sahitya Akademi, says: "The primary issue is not that of the language but of its speakers. If a community and its way of life are preserved, its language will automatically survive. Sindhi, for instance, is a stateless language yet it thrives due to its speakers."

The Sahitya Akademi supports 24 Indian languages — 2 more than the number recognized by the Constitution — and Murthy adds that support is always available for work being done in any language even if it is unrecognized, or is only a dialect.

The CIIL's role in saving a language involves surveys to measure its state of endangerment. "If a language's extinction is imminent, then detailed documentation is undertaken. But if there is scope to save it, then after the documentation, efforts are made to introduce it at the primary level of education," says Barman.

The CIIL is soon going to submit a new project to the government on saving endangered languages. Author/poet Ashok Vajpeyi had also suggested the institution of an independent national commission for languages to former prime Minister Atal Bihari Vajpeyee with the latter announcing the same on September 14, 1999 but the idea was later shot down. Vajpeyi says that much more is needed to preserve India's rich linguistic diversity. "As languages are the repositories of the entire racial memory, the communities as well

as the state will have to jointly save the languages. Unfortunately, language is not a top political or social issue in India today," he says.

A new stakeholder on the subject has taken birth with the Google project. Gregory D S Anderson, director of the Living Tongues Institute for Endangered Languages, Oregon, USA, who has been working in India on tribal languages of the Munda and Tibeto-Burman families for two decades, says, "The internet develops an online presence and allows various communities a level playing field which was inconceivable until recently." Anderson adds that his organization has been working on various language projects with Indian communities such as the Bonda (Remo), Didey and Sora of Odisha, the Mundas of Jharkhand, the Khasis of Meghalaya and the Koro-Aka of Arunachal Pradesh among others.

According to Endangeredlanguages.com, only 50% of the languages alive today would be spoken by the year 2100 — which means that despite efforts, some languages will eventually die. This also means that the threat of extinction for languages like the Great Andamanese, which has only 5 speakers, is real. After all, except for Hebrew in Israel, no other language in the world has made the enviable transition from being a dead entity to the first language of a large community. But with the world coming together both online and offline, there is hope that the languages would remain with us even when their speakers are gone.

archana.khare@timesgroup.com

(With inputs by Arushi Malhotra)

Santosh Kumar Singh is not the only one fighting to get his identity back. There are thousands of people who have been shockingly declared deceased

Shailvee Sharda | TNN

Even the dead want justice, especially when they are still living. Because some things happen only in India, men like Santosh Kumar Singh have to run from pillar to post in 21st century India to prove that they are alive, and not 'dead' as certified by a government document. After fasting at Jantar Mantar for months and failing to contest the country's presidential election, the 32-year-old finally landed at UP chief minister Akhilesh Yadav's office last week, asking the government to declare that he

DEAD, BUT STILL KICKING

was alive. As the young CM assured Santosh of "looking into his case", it seemed his 9-year-old battle to reclaim his life was finally nearing an end.

"What else can I do to prove that I am not dead? I went to file my nomination for the President's post but they sent me back because I don't have an ID proof," says Santosh. His story may sound bizarre — his cousins declared him dead and grabbed his land after he married a Dalit woman, but neither is his case an aberration nor is he the only one fighting to get the word 'dead' erased from their records. In the dustbowl of UP, there are many such men and women who have been robbed of their land — and existence — by scheming relatives who procured their fake 'death certificates' by bribing revenue officials.

Twenty-five years ago when Ram Narayan Yadav went to work in Punjab, his sister got him declared dead and grabbed his land in Akhaipur, Azamgarh. "In 1996, my employer had a tiff with a rival which turned into a gang war. One person from each side was killed. I landed in jail for 10 years. When I was released and went back



Members of the UP Mritak Sangh are fighting for the rights of the 'living dead'

home, I found that my relatives had declared me dead and taken over my land," says Yadav. Three years on, Yadav contin-

ues his battle with his relatives and the system to get his identity and land back. Though Yadav is determined to fight till

the finish, people like Dhiraji Devi, a frail widow of 75 years from Mau district, find it hard to take on the system. "Both Ram Narayan and Dhiraji Devi represent those who have been betrayed by their family and the government," says Lal Bihari, the man who was declared dead by his brother way back in 1976. "I came to know about my 'dead' status when I applied for a loan from a bank against my five-acre plot of land. My cousins had grabbed the plot after declaring me dead," says Lal Bihari.

It took Bihari more than 18 years to get his life and land back. As he fought hard against the revenue department and his family, Bihari found that there were many like him. So he formed an association called UP Mritak Sangh to fight for the rights of the 'living dead'. "We simply want to highlight that corruption is rampant in the land revenue record offices," says Bihari.

The association's efforts have yielded results. After the intervention of the National Human Rights Commission, 335 'living dead' persons got their lives and rights back. Recently, the UP state revenue board



Santosh Kumar Singh at Jantar Mantar

corrected the records related to 221 persons. Still, says Bihari, there are scores of people waiting for justice. "If revenue officials get their records scanned properly, they will find at least 50,000 persons are facing this kind of identity crisis," he says.

On July 30, the members of Mritak Sangh will walk the streets of Azamgarh to celebrate the 36th 'death anniversary' of the association and press their case. It was high time the government heard the voice of the 'dead'.

shailvee.sharda@timesgroup.com