

Speakers

Dr. B. R. Ambedkar

Prof. Meera Nanda, TISER-
Mohali, Punjab

M.K. Gandhi

Prof. Shambu Prasad
IRMA- Anand, Gujarat

Mahamana Pt. M.M. Malaviya

Prof. (Rtd.) B.N. Dwivedi
BHU, Varanasi, Uttar Pradesh

Rabindranath Tagore

Prof. Saradindu Bhaduri
CSSP, JNU, New Delhi

Moderator

Dr. Parvathi K Iyer
CSSTIP, CUG

Programme Chair



Prof. Rama Shanker Dubey
Hon'ble VC, CUG

Introductory Remarks



Prof. Alok Gupta
Registrar, CUG

Welcome Address



Prof. Sarita Agrawal
Dean, SSS

Introduction to the Webinar by
Dr. Hemant Kumar, Coordinator, CSSTIP



ગુજરાત કેન્દ્રીય વિશ્વવિદ્યાલય
CENTRAL UNIVERSITY OF GUJARAT

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(Established by an Act of Parliament of India, No. 25 of 2009)

A National Webinar on

Science and Technology in Modern Indian Thought: Conversations on Ambedkar, Gandhi, Malaviya, and Tagore

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October 12, 2020



3:30-5:30 PM

Organized by

**Centre for Studies in
Science, Technology, and
Innovation Policy (CSSTIP)**
School of Social Science, CUG, Sector
29, Gandhinagar, Gujarat-382030

Organising Team

Dr Parvathi K Iyer, Dr Shiju Sam
Varughese, Dr Kunal Sinha and
Dr Hemant Kumar

**Centre for Studies in Science, Technology and Innovation Policy
 School of Social Sciences, CUG
 Invites you to a National Webinar on**

**Science and Technology in Modern Indian Thought:
 Conversations on Ambedkar, Gandhi, Malviya and Tagore
 On**

Date: October 12, 2020 Time:3:30-5:30 PM

Programme Schedule

3:30-3:35PM	Invocation of Kulgeet
3:35-3:40PM	Introduction to the Webinar: Dr Hemant Kumar, Coordinator, CSSTIP
3:40-3:45PM	Welcome Address: Prof. Sarita Agrawal, Dean, SSS
3:45-3:50PM	Introductory Remarks: Prof. Alok Gupta, Registrar, CUG
3:50-4:10PM	Dr. B.R. Ambedkar: Prof. Meera Nanda, IISER-Mohali, Punjab
4:10-4:30PM	M.K. Gandhi: Prof. Shambu Prasad, IRMA, Anand, Gujarat
4:30-4:50PM	Bharat Ratna Mahamana Malaviyaji's vision of science and technology: Prof. (Rtd.) B.N. Dwivedi, BHU, Varansi, Uttar Pradesh
4:50-5:10PM	Rabindranath Tagore: Prof. Saradindu Bhaduri, CSSP, JNU, New Delhi
5:10-5:20PM	Discussion
5:20-5:30PM	Presidential Remarks: Prof. Rama Shanker Dubey, Honourable Vice Chancellor, CUG
5:30PM	Vote of Thanks: Dr. Hemant Kumar, Coordinator, CSSTIP

Convener: Dr Hemant Kumar

Moderator: Dr Parvathi K Iyer

Organising team: Dr Parvathi K Iyer, Dr Shiju Sam Varughese, Dr Kunal Sinha and Dr Hemant Kumar

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**SCIENCE AND
TECHNOLOGY IN
MODERN INDIAN
THOUGHT:
CONVERSATIONS ON
AMBEDKAR, GANDHI,
MALVIYA AND TAGORE**



गुजरात केन्द्रीय विश्वविद्यालय
CENTRAL UNIVERSITY OF GUJARAT

गुजरात केन्द्रीय विश्वविद्यालय
(भारत की संसद के अधिनियमसं 25, 2009 के तहत स्थापित)
CENTRAL UNIVERSITY OF GUJARAT
(Established by an Act of Parliament of India, No 25 of 2009)

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The views, ideas, and facts expressed in this webinar report are those of distinguished speakers and guests who participated in the webinar. It, necessarily, does not replicate or represent the opinion of Central University of Gujarat, Gandhinagar, including the Centre for Studies in Science, Technology, and Innovation Policy (CSSTIP), members affiliated to it. Cover images used in this report are representational and we have acknowledged their sources.

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SCIENCE AND TECHNOLOGY IN MODERN INDIAN THOUGHT: CONVERSATIONS ON AMBEDKAR, GANDHI, MALVIYA, AND TAGORE

Webinar Report

October 12, 2020

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Introduction to Webinar

I would like to welcome you on behalf of the Centre for Studies in Science, Technology and Innovation Policy, in this first webinar series.

Here at our centre, we have MPhil, PhD and MPhil-PhD programme and we teach several courses apart from the history of science and technology in Modern India. The course aims to explore the development of science and technology in pre and post-independent India. We discuss the role of different scientists and policymakers such as Meghnad Saha, Shanti Swaroop Bhatnagar, Homi Bhabha, Vikram Sarabhai, M. Visveswaraya and others. Most of them envisioned India's future of S&T based on the Western model, which also reflects in their practices and scientific institutions they established. We have a very interesting course outline and students have very good feedback. When we started planning this series, we thought to start with Gandhi and I contacted Prof. Shambu Prasad and then met our Hon'ble Vice-Chancellor sir for approval to conduct it. In that meeting, Sir suggested if I can also add more thinkers like Ambedkar and Malaviya, to put it in a context and have a more vibrant discussion and will benefit a larger audience. In fact, he shared a wonderful story about Malvaiya and I hope he will share it today again.



Dr. Hemant Kumar

Coordinator, CSSTIP
Central University of
Gujarat, Gandhinagar.

“... We are now at the juncture, when we are again talking about the self-reliant India and DST is soon coming out with the new S&T policy document, we need to explore the Indian thinkers' views on Science and Technology...”

So, we found that an interesting proposal and it encouraged us to plan this webinar on S&T in Modern Indian Thoughts: Conversations on Ambedkar, Gandhi, Malaviya and Tagore. Through this we may be able to explore the perspective of Indian freedom fighters and political leaders on the role of S&T. These thinkers have their own take on it. For instance, Gandhi and Malaviya were opposing the Western model of S&T in their own ways. On the other hand, Ambedkar believed that the western model of S&T would be good for the development, especially Dalits and weaker castes, of post-independent India. Even Tagore was of the same opinion with a different perspective and argued that Science should serve the society and for India's development, we should adopt to the local conditions rather than just importing them from the western countries. However, there was one thing common among them, that none of them was opposing Science and Technology, but they question the way it is going to be projected as a developmental model for post-independent India. Even in the western world itself we have seen so many critical discourses on Science and Technology and has been reflected in various anti-science movements. At the beginning of the 20th Century, it was assumed that science is the panacea for all the problems. However, very soon scholars started questioning the process of science and by the mid of 20th century, Science Technology and Society emerged as one of the key interdisciplinary areas where scholars from different disciplines, such as Kuhn, Merton, Latour and many more contributed to the development of STS. Further, Rachel Carson's *Silent Spring*, the oil crisis of the 70s, environmental and feminist movements questioned the modernisation projects implemented in the name of Science and Technology. So, what we observed in the western context in the 70s and 80s, perhaps, many of the Indian thinkers have raised such questions about science and technology at the beginning of the 20th century. If that is true, then what we have learned from them is a big question in front of us as the STS community.

We are now at the juncture when we are again talking about Self-reliant India and Department of Science and Technology (DST) is soon coming out with new S&T

policy document, we need to explore the Indian thinkers' views on Science and Technology. These views are even relevant in today's time. In this context, we hope that this webinar will through some light, and explore new possibilities in the field of STS studies in the Indian Context. Further, it will stimulate us and our students to work on these thinkers in a more detailed manner.

With this, I again welcome you all and looking forward to a stimulating webinar.
Thank you.

Welcome Address

On behalf of Centre for Studies in Science, Technology and Innovation Policy, School of Social Sciences in the Central University of Gujarat, I welcome you all to this webinar on Science and Technology in Modern Indian Thought: Conversations on Ambedkar, Gandhi, Malviya, and Tagore.

The Central University of Gujarat, now, is in its eleventh year and was established by an act of Parliament in the year 2009. The university contributes to human services and a cause of higher education by imparting the academic and professional needs of youth in the state of Gujarat and across the country.

The vision of the university is to provide the quality education provide equal opportunities to encourage students to effectively engage with emerging innovations and technological challenges, international competitiveness and leadership in the thought as well as in action. The Central University of Gujarat is also conscious of the importance of developing entrepreneurial and scholastic abilities for the creation of knowledge, wealth and prosperity for the country as well as peace and happiness for humankind.

The Central University of Gujarat has established itself as a centre of excellence with a social commitment by



Prof. Sarita Agrawal
Dean
School of Social Sciences
Central University of
Gujarat, Gandhinagar.

*“...Centre for
Studies in Science,
Technology, and
Innovation Policy
is one of its kind
and there are
extremely few
centers in the
country...”*

integrating modern, scientific and technological knowledge and skills with the basic human ethos and values. The university endeavours to set a model in teaching, research and personality development and create a skilled human resource with a sense of responsiveness towards society, towards the country and the world at large.

The school of social sciences has been a pioneer school here in the Central University of Gujarat established in 2009 and nurtures a multidisciplinary approach. Five centres offer fifteen programmes in various disciplines like economics, sociology, Gandhian thought and peace studies, social management, political science, and science and society right from the undergraduate level to PhD. The school offers a postgraduate programme in social work.

The school is a hub of academic activities round the year. Several programmes of international and national level have been conducted so far in the school. Centre for Studies in Science, Technology and Innovation Policy is one of the founding centres of the university and focuses on the social and the cultural dynamics of science and technology from an interdisciplinary and comparative framework.

The centre specialises on a wide range of themes and concerns at the interface of science and society, dwelling upon theoretical insights offered by the emergent academic field of Science, Technology and Society (STS) studies. The centre endeavours to study philosophical, historical, sociological, cultural and developmental dimensions of S&T and equips students to critically analyse science, technology and innovation policies. The centre is one of its kind nationally and there are extremely few centres in the country. The centre offers an excellent academic environment that gives students international exposure and possibilities to interact with academicians, policymakers, S&T departments and agencies, civil society organizations and movements, entrepreneurs, innovators and technocrats. At this juncture, I would like to add that one of the students from our centre has

been awarded an international fellowship from Austria. He would be visiting an important pioneering institute in Europe.

Scholars who finish the academic programmes offered by the Centre have wide employment opportunities in the academics as well as governmental departments and agencies and civil society organizations. The centre offers an M.Phil. and PhD programmes in studies in Science, Technology, and Innovation policy.

Once again, I welcome you all and hope that there will be fruitful deliberations on the topic. My best wishes for the success of the programme.

Thank you.

Introductory Remarks

आप सभी पार्टिसिपेंट का इस वेबिनार में स्वागत है। मुझे बेहद खुशी है कि सेंटर फॉर स्डीज इन साइंस टेक्नोलॉजी एंड इनोवेशन पालिसी ने एक महत्वपूर्ण विषय पर ये वेबिनार आयोजित किया है। मैं इस सेंटर से बहुत सरे रूप में जुड़ा रहा हूँ। यह सेंटर विश्वविद्यालय की स्थापना के साथ २००९ में शुरू हुआ था। आज इसे ११ वर्ष हो गए हैं और विगतवर्षों में इस सेंटर ने बहुत सारी उपलब्धियां अर्जित की हैं। आज मुझे आप सभी को बताने में बहुत गर्व और खुशी है कि इस सेंटर के ५ विद्यार्थियों को पोस्ट डाक्टरल फ़ेलोशिप (२ डीएसटी, और ३ विदेशों में) प्राप्त हुआ हो चूका है। और अभी हाल ही में एक विद्यार्थी का डिपार्टमेंट ऑफ़ सोसाइटी एंड टेक्नोलॉजी इंटरफ़ेस, सेंट्रल यूनिवर्सिटी राजस्थान में असिस्टेंट प्रोफेसर के पद पर सेलेक्शन हुआ है।

सेंटर के सभी अध्यापक बहुत ही मेहनत के साथ विद्यार्थियों के सर्वांगीण विकास में अपना योगदान कर रहे हैं।

इसके पहले भी सेंटर ने बहुत ही महत्वपूर्ण विषयों पर सेमिनार आयोजित किये हैं। यह वेबिनार अम्बेडकर, गाँधी, मालवीय और टैगोर के विज्ञान एवं तकनीकी के सन्दर्भ में उनके विचारों को आप सभी के बीच



Prof. Alok Gupta
Registrar
Central University of
Gujarat, Gandhinagar.

“...Discussing the opinions of Ambedkar, Gandhi, Malviya, and Tagore with reference to their thoughts regarding the role of science and technology is a unique experiment...”

उपस्थित विद्वान प्रस्तुत करेंगे। यह अपने आप में एक अनोखा प्रयोग है। हम अभी तक इन विचारकों को उनके स्वतंत्रता आंदोलन में भागीदार और उनके राजनितिक विचारों के सन्दर्भ में ही ज्यादातर पढ़ते रहे हैं। किन्तु इन विचारकों का विज्ञान एवं तकनीकी के क्षेत्र में क्या योगदान है और आज के संदर्भ में जब हम आत्मनिर्भर भारत की बात कर रहे हैं उनके विचार बहुत ही महत्वपूर्ण हो जाते हैं। मैं एक महत्वपूर्ण एवं रुचिपूर्ण संवाद के उम्मीद में आप सभी का पुनः अभिनन्दन करता हूँ एवं बधाई देता हूँ।

A hearty welcome to all the participants in this webinar. I am delighted to know that the Centre for Studies in Science, Technology, and Innovation Policy has organized this webinar on an important subject. I have been associated with this centre through many threads. This centre was established in the year 2009 along with the university. Today, it has completed eleven years of excellence and in the meantime, it has accomplished a lot many achievements. On this occasion, I am pleased and feel proud to inform you that five students from this centre have received Post-Doctoral Fellowships (two from DST and other three from foreign institutes). And, recently, one of the students from this centre has got selected as an assistant professor in the Department of Society, and Technology Interface at the Central University of Rajasthan. All the faculty members of this centre are dedicated for the all-round development of students. This centre has organized numerous seminars on various important themes previously too.

Scholars among us, today, will discuss the opinions of Ambedkar, Gandhi, Malviya, and Tagore with reference to their thoughts regarding the role of science, and technology. I find it a unique experiment. Till this time, we have been exploring these philosophers in the arena of their participation in freedom movements and studied them in the context of their political thoughts. Nonetheless, when we talk about a self-reliant India, how have these philosophers contributed and what were

their thoughts regarding science and technology become extremely important. In hope of an important and interesting discussion, I once again welcome and congratulate you all.

(The English version of this speech is translated by Kumar Gaurav, graduate student, CSSTIP)



Lecture 1

Ambedkar's Enlightenment & Rationalism

Ambedkar's Enlightenment Rationalism

Since the mid-20th century, science has been critiqued, especially with the emergence of the post-colonial and postmodern thinkers. They took an oppositional stand towards modern science in the name of the oppressed and subalterns. They argued that the modern science claims for objectivity, universality, and advancement of knowledge are mere a mask that legitimize patriarchy, colonialism and Eurocentrism which ultimately resulted in epistemic violence in the colonies. Nevertheless, these critiques are nothing new but something to be driven out of India. Gandhi too, in his work *Hind Swaraj*, take a similar stand where he critiques the modern science on similar grounds. However, it is interesting to note that none of the post-colonial or post-modern thinkers has subjected Dalits, who were the victims of these oppressions, in their studies. In this lecture, I argue that Dalits or the Indian oppressed classes took science and scientific methods as a weapon against the unjust order of the society. Further, it is a matter of great surprise that we do not find Ambedkar in any post-colonial critique of modern science. Thus, I look at a case that Ambedkar made for cultivating scientific temper and annihilation of caste in the best tradition of European enlightenment and rational thoughts.

Ambedkar's defence of scientific temper what he called *reflective thoughts* was extremely creative by the reinterpretation of the teaching of Buddha. Through the



Prof. Meera Nanda
Visiting faculty, IISER-
Pune

*“...Ambedkar's
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lens of the pragmatic philosophy of Jhon Dewey, Ambedkar tries to interpret the teachings of the historic Buddha to make scientific thinking a sacred duty of Neo-Buddhist (*Navyana*).

In "Annihilation of Caste" Ambedkar calls for developing scientific thoughts, unlike the mainstream of anti-colonial nationalist including Gandhi who generally condemned untouchability by glorifying the Varna system as the source of harmony and self-reliance. Ambedkar believed- "the outcaste is a by-product of the caste system... (t)here will be outcastes as long as there are castes. Nothing can emancipate the outcaste except the destruction of the caste system." The only fight against untouchability has to extend to fight against the caste system. But, how to eliminate it?

Ambedkar argued that the economic class is not only the source of oppressing religion, but religion has its own sphere of power. It cannot be assumed that if the economic structure of the society changes, society will accept the corresponding changes. Economics does not guarantee cultural changes. Extinction of caste requires a change in the worldview which can not be regulated by *Sanatan* (the unchangeable). Rather, the caste should be taken as the social construct which can be interrogated. By this, one should not think that Ambedkar popularized atheism. Ambedkar considered religion to be an important part of human life and by no means condemned it. What he was arguing is instead of the rules of laws, religion should be governed by the rules of principles which combines equality, fraternity, and justice. He emphasized that bringing reforms in religion is the duty of intellectuals. However, Ambedkar believes that the intellectual class of India has failed to bring such constructive changes. Ambedkar offers self- reflexivity as the tool to bring purification in the religion. *Prayschit* shall be turned into the act of critical thinking. Why am I worried about it? In a nutshell, the habitual practices are to be checked with critical reflectivity.

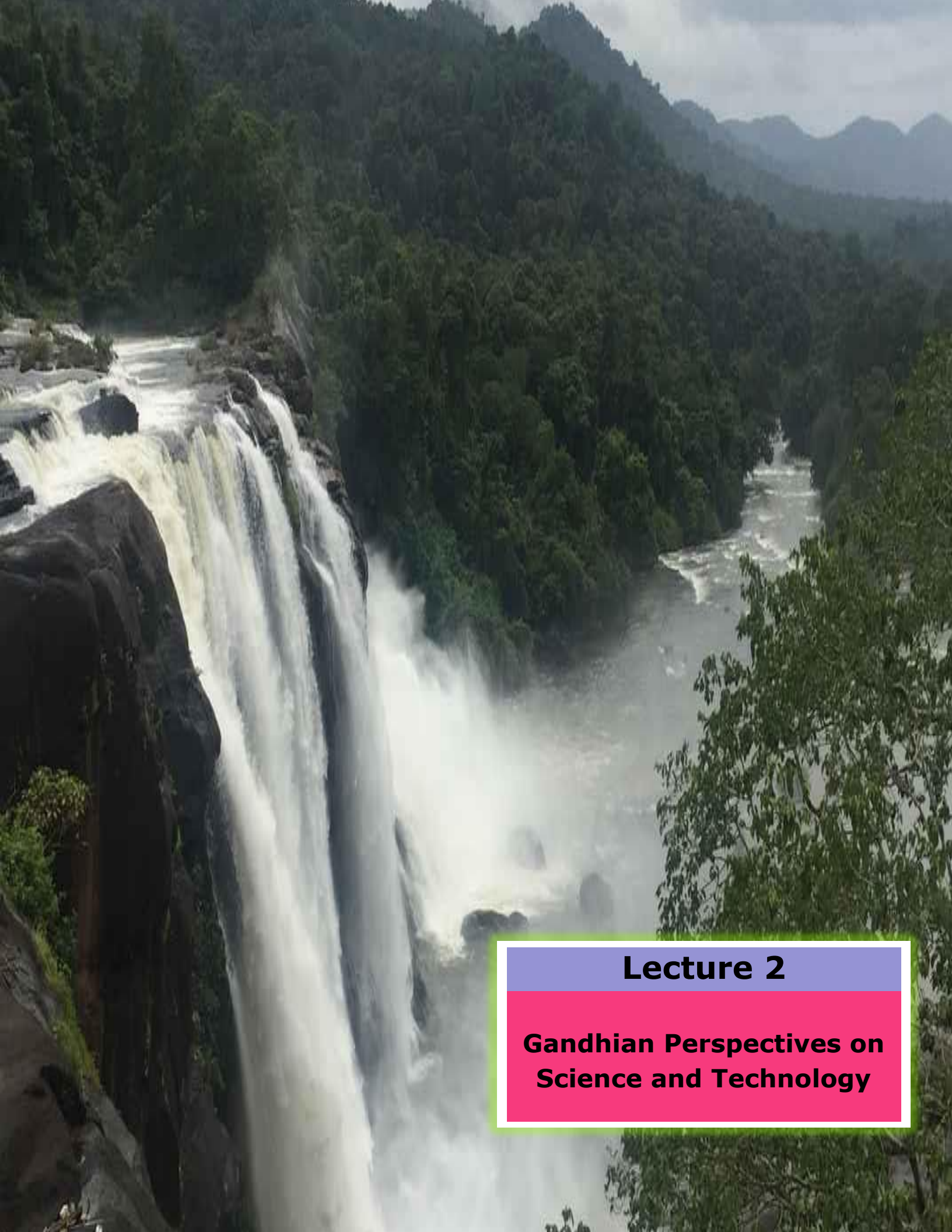
Ambedkar was highly inspired by Dewey's thought to draw from pragmatism. According to Dewey, with scientific evidence, there shall be a clear picture of a belief. He also believed that no knowledge should be considered ultimate. On similar lines, Ambedkar says- there is nothing fix which can be called *Sanatan* and there must be a constant revolution of the old values. It is in this context, that Ambedkar re-interprets historical Buddhist philosophies. *Dukha* (or the social injustice in Ambedkar's term) is a means to sorrow and the way to stop dukkha is mindfulness or scientific temper. To sum up: Ambedkar conceptualized the idea of science integrated into a political project and converted it into a sacred duty of followers of Buddha.



Rapporteur: Jyoti

Jyoti is a sportsperson, an active Ambedkarite, and a research trainee at CSSTIP, SSS, CUG, Gandhinagar.





Lecture 2

Gandhian Perspectives on Science and Technology

Gandhian Perspectives on Science and Technology

The new *Science and Technology Policy* is likely to be shaped shortly. In this context, I shall underscore over the contract between science and society and will try to situate Gandhi within this contract. I would also try to explore, the possibility of a Gandhian method beyond the historical Gandhi, which sometimes can be constricting as well.

One of the interesting elements in the upcoming Science Policy is a special section which emphasizes equity and inclusiveness. This emphasis highlights the importance of inclusive innovations which has been somewhat elusive. In this talk, I would suggest that we could not have inclusiveness without conversations on science and democracy. In some sense, the pandemic opens up the opportunity to re-think these relations, and perhaps Gandhi can help us in rethinking this.

Science-generally claimed to be the certain knowledge, in today's time faces a crisis and I would like to argue that we have brushed aside, in the name of anti-science, those who are dissenting against certain trends of science and technology and demand for some alternatives. This, according to me, is causality to understand science. Be it a strong denial of climate change in the United States or its variant in the Indian



Prof. C Shambu Prasad
IRMA-Anand, Gujarat

“...There is missing Gandhi in science policy of India, and missing science in Gandhian studies...”

contexts as well (say the case of G.D. Agrawal who continuously produced shreds of evidence against damming the upper catchments of the Ganges which had its impact on *aviralta* or the flow of the river), it has been witnessed that we tend to ignore the evidence. Also, the money-driven fake information compels us to ignore the factual depth. In my point of view, the engagement with truth becomes a matter of supreme importance both for the scientists and society as well. This leads us to establish a linkage between Gandhi and Science.

However, such a link can not be established by traditionally floating thoughts on Gandhi, rather a non-linear vision towards Gandhian philosophy is required. Therefore, one should look beyond Gandhi's *Hind-Swaraj* and Gandhi's criticism on western civilization as the bases of his views on science-based upon which many peoples have considered Gandhi as an anti-science. Therefore, I suggest to look at levels; one is- historically missing Gandhi in science policy in India, at the same time there is missing science in the Gandhian study. The Gandhian study is limited to his political work and not even considering the constructive works where he often articulates and invokes science.

Apart from the two registers, first -Gandhi's *Hind Swaraj* which critiqued the western civilization, and the second- those works where he approaches his followers to be more scientific in their actions; Gandhi envisioned a science maintaining equal-distance from both the state and the market. Decentralizing Khadi industries to villages was one of the experiments in this direction. Similarly, Gandhi critiqued not only vivisection and modern medicine but critiqued *Ayurveda* as well. In his dialogue with the *vaidyas*, he asks them to follow the scientific rules as followed by the western medical practitioner. So, Gandhi has an urge to continuously innovate.

At the same time, Gandhi was exploring the scientific model- India needed. He endorsed scientists to do science appropriated as per the societal needs of India.

In his board of exploration, Gandhi received support from C.V. Raman, Sam Higginbottom, and J.C. Bose. His own idea was to convert his community workers into scientists. He called for scientific attitude rather than qualification. According to him, everyone has the potential to be scientists (later studied as grassroots innovators by several scientists). The other important contribution of Gandhi's institution was the promotion of *science by the people* (now studied as citizen' science). There was a technical journal in Hindi, *Amber*, which ran from 1948 to 1964 where all these constructive workers were trying to engage with technologies in the vernacular.

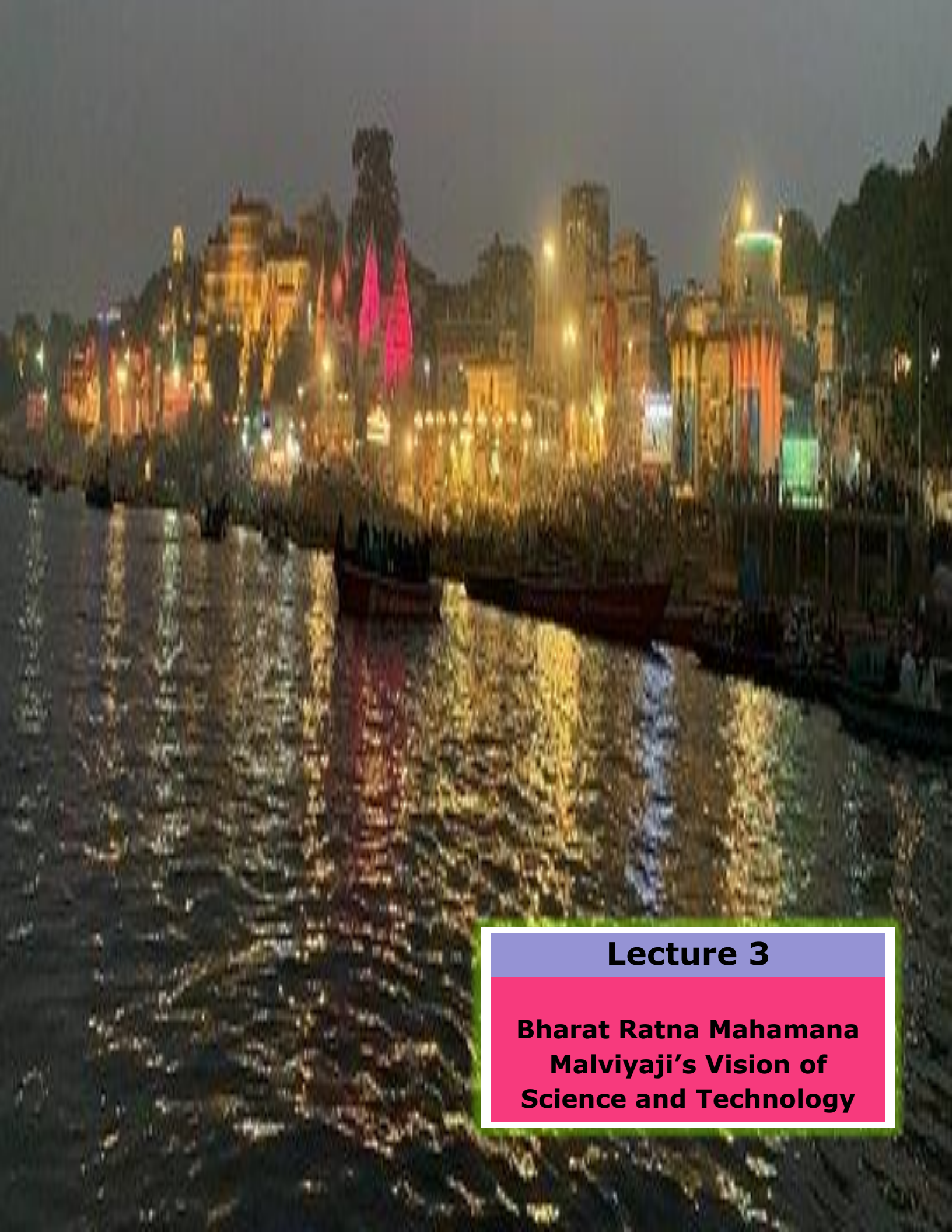
The recent work of J.B.S. Haldane, where he talks about the non-violent biology, is to some extent inspired by his visit to India. At one hand, Haldane critiqued the internal structure of Indian laboratories, but on the other hand, he praised the observation capabilities of Indian scientists. The finest experimental observation can only be produced by removing the dichotomy between *experts* and *lay*. Thus, this is the time when we need to focus on expanding the community of experts and bring plurality in the expertise in terms of public dialogue and engagement. How can the citizen of India write their own science policy? - is the question we need to deal with especially when we target complexities (like climate change and the COVID 19 pandemic). Of course, it requires new principles, institutions, and resilient mechanisms and Gandhi becomes significant to resolve these issues.



Rapporteur: Gaurav Kumar Talsaniya

Gaurav is passionate about practicing meditation and is a research trainee at CSSTIP, SSS, CUG, Gandhinagar.





Lecture 3

**Bharat Ratna Mahamana
Malviyaji's Vision of
Science and Technology**

Bharat Ratna Mahamana Malaviyaji's Vision of Science and Technology

Professor B.N. Dwivedi has been a research physicist at the University of California, San Diego and formerly taught at BHU as a professor of Physics. He was a Royal society visitor at the Glasgow University and also Commonwealth Academic Staff Fellow at Glasgow, Cambridge. He was a visiting scientist in Max Planck institute in Germany. He is a person with 40 years of experience in broad fields and has over 300 research papers, reviews and book chapters in both Indian and international journals. He is an awardee of National award for outstanding efforts in science and technology communication, the Indira Gandhi award for popularizing science, the popular writing award for solar Physics by the American Astronomical Society and the list goes on to bag many other national and international awards.

Professor Dwivedi started his speech after offering his deep reverence for Pandit Madan Mohan Malviya for his contribution in leading India in the path of becoming a nation rich of science and technology. He addressed Malviyaji's nationalist ideology, his concerns towards problems of modern India; especially in the sector of education, and all other qualities of Malviyaji those make him a person to be worshipped. Professor Dwivedi went down the memory lanes to celebrate the



Prof. B.N. Dwivedi
Banaras Hindu
University, Varanasi

“...Mahamana envisioned to bring together brilliant minds and give them all opportunities and freedom to excel in their respective departments...”

foundation of The Banaras Hindu University by Mahamanaji and recalled his visionary for inviting people to BHU who later on went to achieve the highest esteem in any nation, like Mahatma Gandhi, C.V. Raman, P.C. Ray. He also orated a beautiful story about Malviyaji crossing the holy river Ganga and thinking about the kind of University he wanted to build in the form of BHU. The pictures Malviyaji got in his head were of Takhsashila and Nalanda. It might have been a reflection of his thoughts on how to build the bases as he always wanted to preserve the goods of ancient Indian civilizations. Malviyaji dreamed to build a university as a centre of excellence in every branch of human knowledge through preserving the treasures of ancient values. He went on to establish various departments, some major establishments are the department of mechanical and electrical engineering, glass technology, pharmaceutical chemistry, mining and metallurgical engineering and to hold back to the Indian culture he established departments for Ayurveda and higher Sanskrit learning. To make the university flourished, Malviyaji eyed on the best scholars in India; Jaduram Sarkar, Birbal Sahani, Shanti Swarup Bhatnagar were some of the names. He saw liberation in India through education and learning, in which BHU has been playing a prominent role. Malviyaji always believed that the most important parts constituting great learning are interaction with brilliant minds, analytical reasoning, ability to integrate the discoveries from different disciplines, and healthy work culture. Malviyaji's vision was to bring together brilliant minds and give them all opportunity and freedom to excel in their respective departments. This might be the reason the managing committee of BHU voted Malviyaji for selecting someone good at practical knowledge in technology to look forward to the Engineering department. It was Malviyaji's efforts that Shanti Swarup Bhatnagar could take Chemistry department to be the best in the country. He always inspired the young mind to acquire great learning and serve the country the way it wants.

As Professor Dwivedi was trying not to get into very technical aspects, he simply gave us a new perspective of Mahamana and the greatest institution he was a part

of; BHU. He enlightened the listeners about how great Malviyaji was; he was a great mind, a true patriot, a responsible political leader and pure social worker.



Rapporteur: Priyanka Mallick

Priyanka, blessed with a melodic voice, is a research trainee at CSSTIP, SSS, CUG,





Lecture 4

**Rabindranath Tagore's
Thoughts on Science and
Technology: An Exploration**

Rabindranath Tagore's thoughts on Science and Technology: An Exploration

Bhaduri started delivering the talk by mentioning that he is not a conventional Tagore's scholar. Tagore's studies have become a rich field of inquiry itself, so in a way, Bhaduri holds a quasi-outsider outlook on Tagore's perspective on science and technology. As he Professor Bhaduri comes from evolutionary and institutional economics, one of his entry points to Tagore has been, through how ideas and institutions shape policies. They took up a PhD project a few years back to understand how or whether Tagore's ideas were reflected in the policy-making given that many politicians including Nehru during that time were highly influenced by Tagore. Although Tagore is primarily known for his literature, we also know that Tagore had a strong political view. A politically active person he was invited to be the president of Congress in 1917 by the then president Annie Besant which he rejected. Tagore was the first president of the Civil Liberties Union, set up in 1936. So, some of these facts are important to keep in mind how diverse Tagore's sets of activities were. Professor Bhaduri focused on Tagore's writings where he wrote about his ideas on science and technology. Bhaduri however didn't include what others say about Tagore's understanding of science and technology partly



Prof. Saradindu Bhaduri

Jawaharlal Nehru University, New Delhi

“...[T]agore's notion of humanized science, scientific co-operation, emphasis over tacit knowledge, and self-reflexivity shall be the matter of further scrutiny for science policy scholars...”

because Tagore's study is a rich field on which Bhaduri has not deeply embarked upon.

The topic of the webinar is Modern Indian Thought and Bhaduri started his presentation with an antithesis where Tagore, it is sometimes claimed that Tagore was not seen as somebody representing modernity in the West. According to Nabanita Dev Sen, this was in sharp contrast to how he was taken in India. In the West Tagore was represented as a certain kind of mysticism which referred to as an irrational mind. So this outlook on Tagore was not only confined to the West but was quoted in China, and several people were not very appreciative of certain aspects of Tagore. And the aspect was that Tagore was singing in the praise of Oriental civilization. Referring Nabanita Sen, Bhaduri mentions that when Tagore was delivering lectures in the West, where he was trying to develop a critique of the then Western civilization and Tagore was offering an alternative where certain forms of Eastern values and Eastern reasoning could be put together with the Western scientific conception of that time to enrich the civilizational discourse further. However, Professor Bhaduri does not agree with Nabanita Sen's view that Tagore was accepted unequivocally as somebody who represented modernity as in science even in India. Meghnad Saha wrote a two paged write-up on Tagore's 70th birthday and praised Tagore for his scientific temper, for his deep understanding of social and political views. However, Saha opined that Tagore was probably not appreciative of then science practice in India and urge Tagore to be more appreciative of India's scientific and laboratory practice. This was also the view shared by then noted historian Jadunath Sarkar whom Tagore had invited to be a member of the board of Viswabharati and he at some point said that the environment of Viswabharati's environment is inimical to undertake activities in the search of exact knowledge. So according to Bhaduri, the above discussion presented an antithesis of Tagore's actual understanding of science and technology. But Bhaduri tries to claim that Tagore's views about science were a nuanced view that defies simple binaries. So Bhaduri aims to present some of these nuances that he does it in two steps. First, he shows how deeply Tagore was

involved in science and the deep admiration about what science could do. Second, Bhaduri presents how Tagore looked at the science, the then institutions of science, and how it was different from the mainstream thoughts of thinkers on the science of that time. Following that, Bhaduri briefly turns to some issues which Tagore dealt with as part of his Sriniketan experiments to argue how these experiments were grounded on his worldview on science and technology. Finally, to put together some thoughts on the implications Tagore's thoughts can have for the science-policy studies or STS.

Professor Bhaduri in his presentation restricted himself to focusing on Tagore's thoughts on its implication or relevance for science policy studies. Bhaduri referred to many of the efforts of the scholars in the past two decades or so who had translated, compiled, and put together many of Tagore's thoughts in the form of writings and letters. Bhaduri takes up Tagore's political writing to show how deeply Tagore absorbed the science of that time. And here Tagore was developing a critique of the nation-state. And he is comparing the government of a nation-state with something of an applied science principle, like a hydraulic press whose pressure is impersonal and, on that account, completely effective. Now the amount of its power may vary in different engines, some may even be driven by hand thus leaving a margin of comfortable looseness in the tension but in spirit and method, their differences are small. Then Tagore invokes a similar metaphor, the elements of machines in them and he compares the nation-state with the earlier times of government and portrays them one as handloom and the other as power loom, where the power loom is relentlessly lifeless and accurate and monotonous in its production. Then Tagore goes on to say that crowd psychology is a blind force. Like steam and other physical forces, it can be utilized for creating a tremendous amount of power. And then how that power is bent upon turning their people into machines of power where certain unreasonable things in the form of hatred, race superiority would be promoted. Now what Professor Bhaduri finds fascinating on this account is the way Tagore is using scientific metaphors and analogy which probably put us in a position what scientists would do. Here Tagore is talking about

playing political thought but he is invoking the metaphors and analogy of science to make his point which to Professor Bhaduri seems to suggest that Tagore had a deep admiration for science and he was up-to-date with scientific thoughts of that time. And Tagore articulates his thoughts on science in one of his writings and says that science has a great meaning for man and it proves to him that he can bring his reason to cooperate with nature's laws. We should note Tagore's emphasis on the word 'co-operate'. Conventionally sometimes we think that science is important to have control over nature but here Tagore is talking about certain kinds of co-operation serving at the high ends of humanity and that he can transcend the biological world of natural selection and creates his world of moral purposes by the help of nature's laws. What important here is that Tagore's emphasis on higher forms of consciousness. It is also reflected in his later writings on, for example, the Religion of Man but at the same time he was sceptical about the outcomes or the manifestation of the science of that time but he opposed turning away from science at the same time. Tagore makes a courageous statement as explained by Bhaduri that, we can only hope that science herself will help us bring back sanity to the human world by lessening the opportunity to gamble with our fortune. The means that science has produced through which to gain access to nature's storehouse is tremendously complex which only proves her immaturity just as simplicity is wanting in the movements of a swimmer who is inexpert. So Tagore is showing the courage to say that the science of that time was immature and the complex manifestation in terms of the kind of machines that it was producing was a manifestation of its immaturity. And Tagore was hopeful that science would do a correction to make itself more useful for humanity. Now the question is, what kind of science did Tagore advocate? Tagore picks up that question in a write-up on 'Can science be humanized?' And in that writing, he makes a point that science should be a blessing and open up new opportunities for the human being to prosper. Now, what are the elements of that thought, elements of humanized science? And Bhaduri turns to three particular events cum writings. One was his meeting with Einstein, which took place in 1930. The second was the conversations

Tagore had with J C Bose and the third was his about a short piece that he wrote in a journal of Indian Statistical Institute. Meeting with Einstein had a profound impact on Tagore and his thoughts on science. Einstein maintained that truth is independent of human beings, whereas, for Tagore, the scientific truth is especially not independent of human beings because we arrive at the scientific truth through a process of logic. And logic to Tagore was an organ of thought which is purely human. And therefore, what Tagore says. What we call truth lies in the rational harmony between the subjective and the objective aspects of reality both of which belong to the super-personal man. Now, this emphasis is important. It is not about that anybody can realize harmony, but it is a super personal man that Bhaduri talks about in the latter part of the talk. So super-personal man is somebody who does not have individual limitations and we realize that through our limitation. Einstein maintained that we attribute to truth a superhuman objectivity. For Tagore, in any case, if there be any Truth unrelated to humanity, then for us it is non-existing. And it is not existing because without that human organs of thought we cannot arrive at the truth. So, the linking of subjectivity to objectivity was one of Tagore's elements of humanized science.

J C Bose writes it was Tagore's association and friendship which gave him new insights to look for the existence of life in plant species. J C Bose acknowledged later that it was Tagore's recommendation to read psychology. After that Bose got interested in insights on what to look for in plants. Tagore was interested in understanding the unity of life forms. The third point that Bhaduri mentions is one of Tagore's writing, a short piece that he wrote for *Sankhya*. Few people know that Tagore was one of the pioneering thinkers on statistics in India. He was a key person who motivated P C Mahalanobis to take statistics. The objective behind motivating Mahalanobis to study statistics was to use statistics to understand the deprivation that India was facing at that time. Tagore thought through numbers we can understand the deprivation much more meaningfully. Tagore understood statistics was important for nation-building. When Indian Statistical Institute was set up and its journal, Tagore was invited to write in the second volume which was

one of the fascinating accounts, that how Tagore looks at the continuity of the mathematical world with his world of poetry, and how he looks at numbers which is an important element for both the worlds. So, it is about the continuity of the harmony between different kinds of sciences that Tagore was hopeful about in the version which he dreamt of as a humanized version of science. Now the context in which we talk about continuity, one interesting example would be rice mill technology. Tagore points out that this is not a very useful technology in the particular context where it was being used and how it was robbing the whole people of its vitality through a constant weakening of his nourishment.

On his last slide, Bhaduri presents one of the poems written by Tagore for the Bengali audience named '*Juta Abishkar*' which in English means the invention of shoes. To Professor Bhaduri the poem portrays Tagore's view on science and technology. And the artificial boundaries that kept scientific discipline separated from each other. Then Bhaduri briefly explains the poem and all the accounts of narration of the poem shows us the way different kinds of knowledge are treated. In the last part of his talk, the speaker looks at the possible set of relationships or influences that Tagore's thought might have on the STS or science policy studies. One of the things that come naturally to our mind is Tagore's approach to multidisciplinary. Tagore viewed that science is compartmentalized as physics, chemistry or physiology do not see each other and do not talk to each other. So, there is a lot of rebuke going on between these disciplines as one scientist from one discipline does not like another scientist from another discipline to work on his/her area. So, this type of compartmentalization existed in the then nation-state. Over time we have seen that interdisciplinarity in sciences has known today what Tagore was referring to through his thoughts. We also talk about reflexivity which is important for a person which leads to objectivity as we see in science policy keeping aside personal prejudices or social position or whatsoever. Tagore talks about the super personal mind which is about the highest level of consciousness. Super personal minds are in some way relaxed from different forms of prejudices as Tagore viewed. So the speaker sees the link between the idea of

reflexivity that we practice in science policy with that of Tagore's view of a super personal mind. Considering the relation between subjectivity and objectivity today we understand the importance of tacit knowledge. How tacit knowledge of scientists make certain experiments more effective than when a person does not have tacit knowledge and tacit knowledge is gained through experience. We also have talked about the need for the usefulness of the dialogue model of public understanding as opposed to the deficit model of public understanding where it is supposed that scientists know everything and the society needs to be made only aware of certain realities. Today we appreciate that scientific knowledge can be distributed outside the domain of experts. Tagore took up many examples where he talked about such dialogue and, in one of his writings, he wrote about the Sriniketan experiments, the rural reconstruction experiments that he would value the usefulness of technology more than its scientific criticism so that the technologies that are developed by people of the villages if they are usable or has usefulness he will value that more than how it has been made, whether it has been able to satisfy all the required scientific standards. Compared to Tagore's time when he only takes about nation-state, now we talk about science that comes with various kinds of special interests. We talk about public engagement versus private science, open science versus closed science, etc. and all kinds of nomenclature. So there lies a scope between what Tagore understood as science and the way postcolonial thoughts looked at the different organizations of doing science. The final point the speaker makes pertains to a field of the study that he has closely been associated with and referring once again to the example of the invention of shoes that how innovations and inventions can happen outside the laboratory set up and gear towards usefulness enriched by one's own experience. So, for that different kinds of interactions are required at a different level. Albeit those ideas came much later, but one can see the interesting connections with the way the Tagore sought his science to be more humanized. That is where the speaker likes to pay attention as a science policy scholar that we could make further scrutiny to see the deeper connections that one can have between some of the nuances that

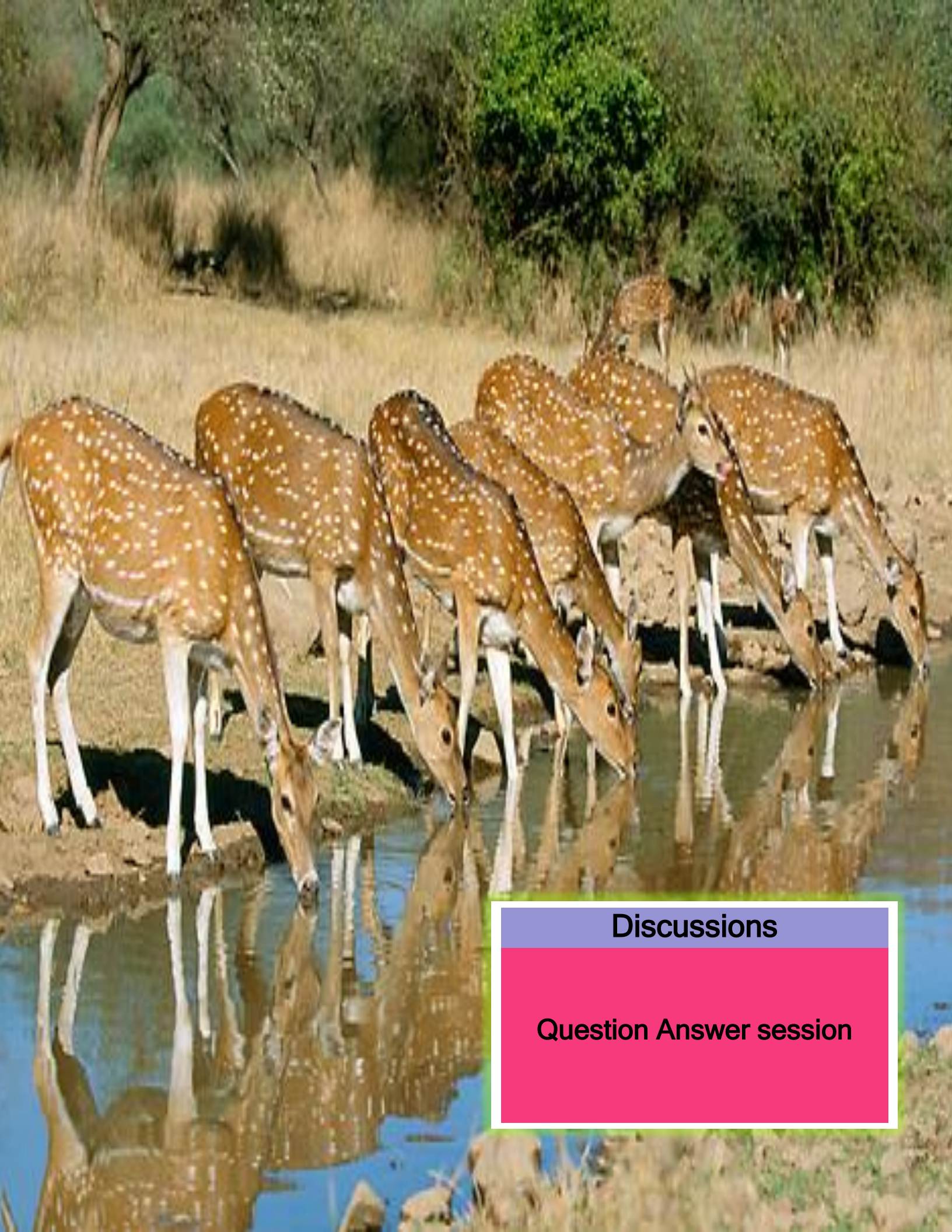
Tagore's view of science had with what we are witnessing in science studies or what we are arguing.



Rapporteur: Dhritiman Barman

Dhritiman celebrates heavy-metal music and is a research trainee at CSSTIP, SSS, CUG, Gandhinagar.





Discussions

Question Answer session

Question Answer Session

1. **How will the deployment of civil societies and commoners in scientific research help in solving risks like *COVID-19* when at one hand mainstream scientists lack shreds of evidence, and at the other hand AYUSH comes up with its time tested remedies? To what extent the efficacy of such remedies shall be relied upon? What would be the citizen's input in these critical situations when the evidence is translucent? Will they have critical enough perspectives and methodological understanding to participate in scientific discussions? Will these engagements lead to a sound science?** (Prof. Meera to Prof. Shambu)

(Prof. Shambu replies) For sure, there remain ambiguities in the current situation. But, at the same time, various patients in the southern part of India have got relief from this infection using common protocols of traditional medicines. In such a scenario, it becomes the duty of institutions like AYUSH to follow these cases meticulously and bring up the exact facts. Presence of ambiguities should not rule out the possibilities and scopes of public knowledge.

(Prof. Bhaduri adds) Tools, procedures and methodologies (with a reference to Randomized Control Trials (RCT)) used in medical sciences for estimating efficacy of certain medicinal knowledge is often surrounded by hidden agendas and politics, and thus relying upon only one testing tool has been questioned. The pandemic has opened up a way to accept the plurality embedded in any claim and public engagement would provide us with some clue in this direction.

2. **In this discussion, we were separately looking at Ambedkar, Gandhi, Malviya, and Tagore. How can we put them in dialogue? I think this extremely important for they all belonged to same historical period.**

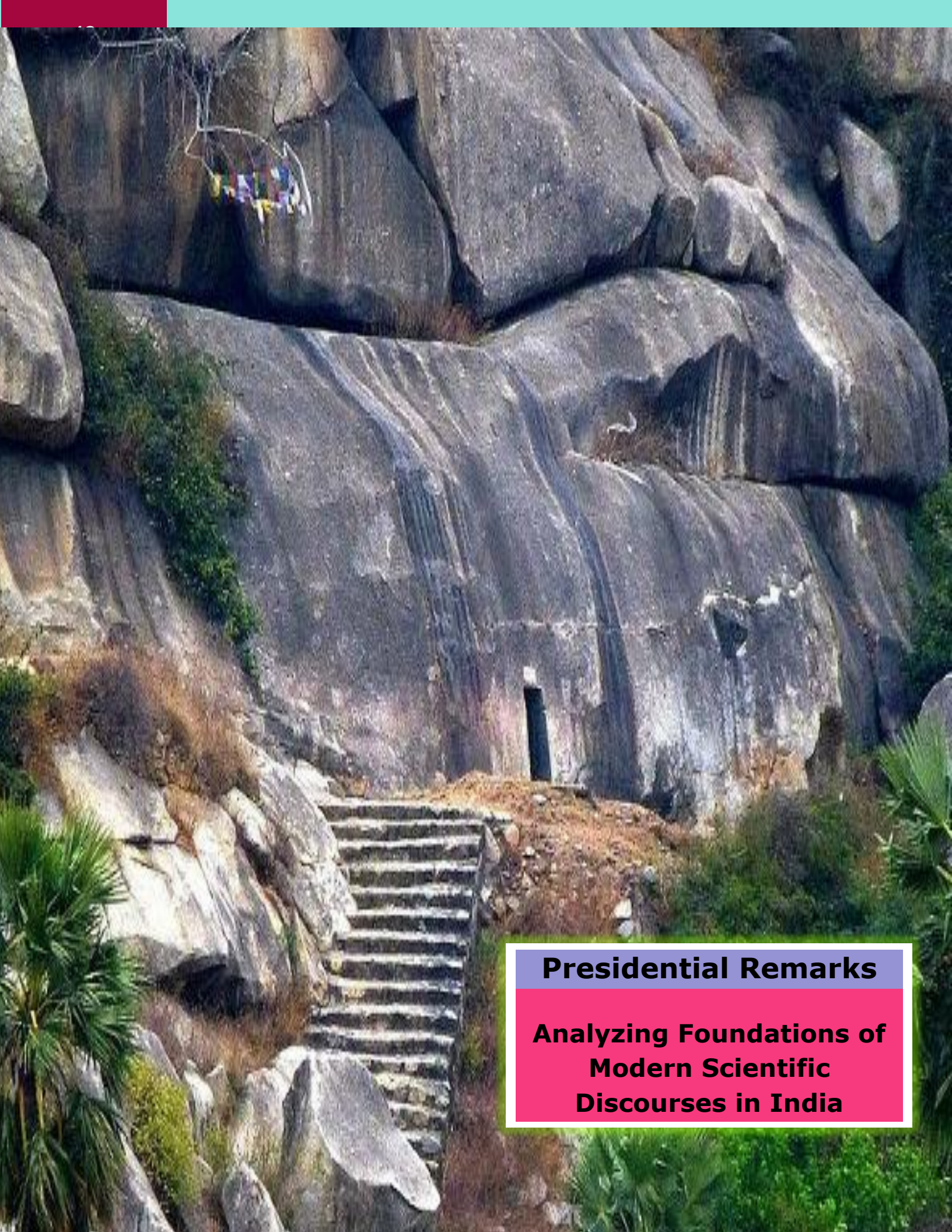
Can we think about a conceptual framework that will help us them to put them in dialogue with each other because they took different positions on science and technology, and modernity? (Dr. Shiju Sam

Varughese to all the panellists)

(Prof. Meera speaks) Ambedkar was in dialogue with Gandhi all the time. They shared the historical times, and they concerned what way India look like. Even the conflicts between Gandhi and Ambedkar especially after Poona Pact and Harijan Sevak Samaj shaped Ambedkar. Ambedkar was also involved in the reform program of Congress party, and thus I think all these thinkers were in dialogue with each other and rejected each other posits for the betterment of the nation.

(Prof. Bhaduri comments) I would also say that regular dialogue was held between Tagore and Gandhi. It was because of the dialogues, and how Kumarappa acted as a bridge between Gandhi and Tagore at times that subsequently Tagore was invited to become an advisor of the All India Village Industries Association. I am not aware of the direct communication between Tagore and Malviya, but we do know several persons who acted as a dialogue bridge between Tagore and Malviya. Hazari Prasad Dwivedi, who served both BHU and Vishwa Bharti, was one of them. I have not read much about the dialogues between Tagore and Ambedkar. But, interestingly, like Ambedkar; Tagore too was influenced by Buddhism. Thus, there must be stimulating grounds to understand links between both of them.

(Prof. Dwivedi complements) Malviya was always in dialogue with Ambedkar, Tagore, and Gandhi. Other than Hazari Prasad Dwivedi, Malviya also impressed upon Tagore to convince Radhakrishnan to be the vice-chancellor of BHU after his tenure. Thus, I believe these great leaders were in dialogue with each other to make the nation more prosperous.



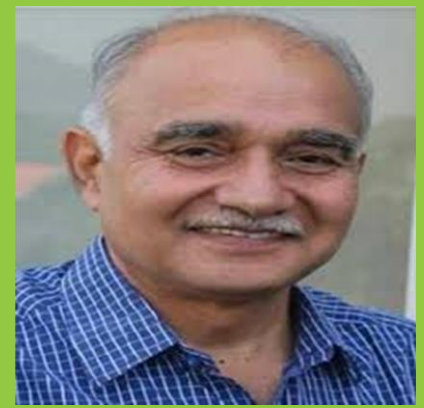
Presidential Remarks

**Analyzing Foundations of
Modern Scientific
Discourses in India**

Analyzing Foundations of Modern Scientific Discourses in India

Science and technology is a prime indicator to judge the progress of a nation. How science and technology have taken shape and for what purpose the particular nation has used science and technology are some of the key parameters to understand this indicator of progress. Today, in this session, we had a very lucid, illuminating, scintillating, and wonderful presentation by Prof. Meera Nanda, Prof. Shambu Prasad, Prof. B.N. Dwivedi and Prof. Saradindu Bhaduri where we discussed the thoughts of the four great personalities of India- *Baba Sahib* Dr Bhim Rao Ambedkar, *Rashtrapita* Mahatma Gandhi, *Bahrat Ratna Mahamana* Pandit Madan Mohan Malviya Ji and Rabindra Nath Tagore Ji in relation to their thinking about the role of science and technology in the development of the nation. These presentations illustrate that their vision, opinion, and thoughts still hold a great relevance especially when we talk about the inclusive industrial, scientific and technological developments in Indian contexts.

As Prof. Meera Nanda has pointed out, modern science has dominated our minds primarily due to our colonial history. However, one cannot deny that India has a great legacy of science and technology. It is a matter of recorded fact that in the eighteenth and nineteenth-



Prof. Rama Shanker
Dubey
Honourable Vice-
Chancellor, Central
University of Gujarat,
Gandhinagar

“...If we intend to produce science for the betterment of the society, engaging with thoughts and philosophies of Ambedkar, Gandhi, Malviya, and Tagore is crucial...”

century- India has contributed twenty to twenty-five per cent in the global economy. And, it cannot be done without the development of science and technology. Unfortunately, the colonization resulted in undermining the Indian temperament of scientific understanding.

However, in 1916 when the Britishers tried to draft the resolution about the Industrial policy of India, he was *Mahamana Malviya* who put a note of disagreement quoting science and technology should not be understood in terms of European milieu rather it must be contextualized as per the socio-historical Indian scenarios and its future requirements. Similarly, Gandhi advocated for the eco-friendly and local sciences which would be innocuous and boost self-sufficiency of the nation extended up to village levels. Wasn't this the foundation for the environmental conservation programs and Sustainable development Goals widely deliberated today?

It gives me immense pleasure to rewind my Bhagalpur (a place in the state of Bihar) days where Tagore wrote several verses of his work *Geetanjali*-accumulating the concepts of natural sciences. In a similar fashion, but in a unique manner, Ambedkar intended science to serve the poorest of the poor. Though all of these four philosophers agreed that scientific intervention was necessary for the development of our nation and solving societal problems but at the same time they often encountered differences in their thought process and debates.

Malviya said, "India cannot attain prosperity without the application of science and technology naturalized by the country fellows. He argued in favour of imported technologies which must suit the Indian environment. He also opined that India cannot regain its economic strength only through agriculture practices. According to him, the industrial intrusion was also of great importance. That is why he established Banaras Hindu University which became the centre for excellence ranging from traditional sciences like Ayurveda to modern medicines. Gandhi

supported *swadeshi*. Ambedkar meant *swadeshi* in different terms. And, Tagore saw science through the nature-culture lens illustrated by his visit to Einstein in 1930. They both had a debate on how the matter was related to the universe. With a distinct understanding of science and technology, all of these four leaders shared a common foundation regarding the scientific developments in India which can be synthesized through the following verse of Bhagwat Geeta.

न त्वहं कामये राज्यं न स्वर्गं नापुनर्भवम् ।
 na tvahaṃ kāmāye rājyaṃ na svargaṃ nāpunarbhavam ।
 कामये दुःखतप्तानां प्राणिनाम् आर्तिनाशनम् ॥
 kāmāye duḥkhataptānāṃ prāṇinām ārtināśanam ॥

I do not want sovereignty, nor do I want to attain moksha (salvation). What I desire is the relinquishment of grief, of all beings with pain.

Science is just a path to explore the unexplored nature. Therefore, if we intend to move ahead towards the regime of practicing non-violent biology, sustainable agro-industrial and energy policy; many new things are to be done. The university being the Centre for creation of knowledge, which is later to be used by society, needs innovation in understanding science. To move forward in this direction and to produce science for the betterment of humanity, engaging with the thoughts and philosophies of these great personalities is crucial.

With these words, I stop here and on behalf of the Central University of Gujarat, I profusely thank all the learned speakers for their wonderful presentation. I am very happy today, and I am sure our students would also have benefited a lot from these discussions. I request Dr Hemant and his colleagues to organize similar

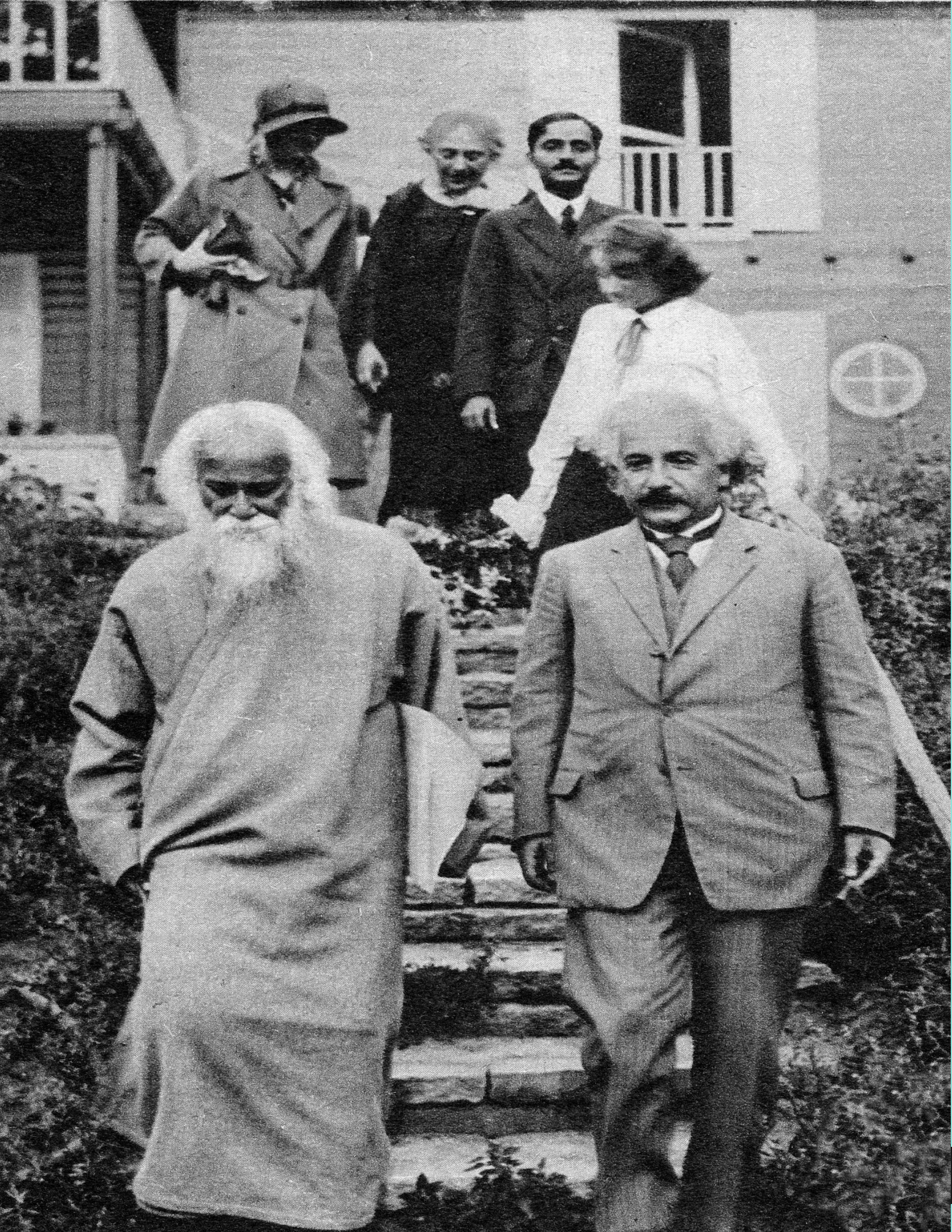
programs in future too. These discourses will generate a lot of new thoughts and encourage youngsters to ponder over these ideas.

Thank you.



Rapporteur: Kumar Gaurav

Kumar is a food lover, and a research trainee at CSSTIP, SSS, CUG, Gandhinagar.



Vote of Thanks

On behalf of the organizing team and centre, I would like to express our sincere thanks to Our Hon'ble Vice-Chancellor Prof. RS Dubey for his interest and guidance in organizing this webinar. I must congratulate him for suggesting the theme of the webinar and this shows he is a well-read scholar and have the knowledge about the field of science, technology and society studies and history of science and technology. This shows that we are in safe hands and it will boost our morale to develop this centre further. Thank you, Sir, !!! and we would like to have your guidance in future too.

We are also grateful to our Registrar Prof Alok Gupta, who has been a guiding source for years to this centre. Whenever we contact him, he is readily available and helpful in shorting out administrative matters with ease.

The centre is also thankful to Prof. Sarita Agrawal, Dean School of Social Sciences. She is always approachable and encourages us to have a vibrant academic culture in the school and centre. We are also grateful to our speakers, who without any hesitation accepted our invitation on very short notice. Prof. Meera Nanda has happily agreed to deliver the talk from the United States when it is 6 in the morning there. Thank you, Ma'am. Prof. Shambu Prasad to whom I have been troubling for the last two months for the talk, despite that he kindly agreed and helped us in structuring the talk. Prof. B.N. Dwivedi was excited with the offer and at this age, without any complaint, he agreed. Prof. Saradindu Bhaduri, I always take leverage of him and despite his busy schedule, he also agreed immediately and we are grateful to him.

We would like you all to engage with our centre and students in future too.

Thank you all.

We would also extend our thanks to Prof. Manish, ICT Chairperson, CUG and his team Krishna, Mayur, Jayesh, Rajesh, Shrikant and Haresh for providing all the possible support to make it a successful event. This successful webinar was greatly contributed by my colleague Dr Parvathi K Iyer who moderated this session. Thank you, Dr Parvathi! Last but not the least, we would like to thank all the students, especially Kumar Gaurav who helped us in designing the brochure, Priyanka, Jyoti, Gaurav Kumar Talsaniya and Dhritiman for rapporteuring and participants who joined us on Facebook live. We hope this discussion will stimulate some of you to choose a research topic on these thinkers.

Once again Thank you all and stay safe!!!

Hemant Kumar, Ph.D.

Coordinator, CSSTIP

Gandhinagar

12 October 2020

Webinar Organizing Committee



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Assistant Professor, CSSTIP,
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Dr. Kunal Sinha

Assistant Professor, CSSTIP,
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Dr. Hemant Kumar

Convener of the webinar
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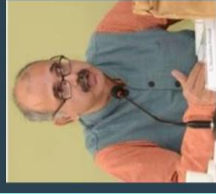


Speakers



Dr. B. R. Ambedkar

Prof. Meera Nanda, IISER-
Mohali, Punjab



M.K. Gandhi

Prof. Shambu Prasad
IRMA- Anand, Gujarat



Mahamana Pt. M.M. Malviya

Prof. (Rtd.) B.N. Dwivedi
BHU, Varanasi, Uttar Pradesh



Rabindranath Tagore

Prof. Saradindu Bhaduri
CSSP, JNU, New Delhi



Moderator

Dr. Parvathi K Iyer
CSSTIP, CUG

Organising Team

Dr Parvathi K Iyer, Dr Shiju Sam
Varughese, Dr Kunal Sinha and
Dr Hemant Kumar

Programme Chair



Prof. Rama Shanker Dubey
Hon'ble VC, CUG

Introductory Remarks



Prof. Alok Gupta
Registrar, CUG

Welcome Address



Prof. Sarita Agrawal
Dean, SSS

Introduction to the Webinar by
Dr. Hemant Kumar, Coordinator, CSSTIP

A National Webinar on

**Science and Technology in
Modern Indian Thought:
Conversations on Ambedkar,
Gandhi, Malviya, and Tagore**

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October 12, 2020



3:30-5:30 PM

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**Science and Technology in Modern Indian Thought:
Conversations on Ambedkar, Gandhi, Malviya and Tagore**

On

Date: October 12, 2020 Time:3:30-5:30 PM

Programme Schedule

3:30-3:35PM	Invocation of Kulgeet
3:35-3:40PM	Introduction to the Webinar: Dr Hemant Kumar, Coordinator, CSSTIP
3:40-3:45PM	Welcome Address: Prof. Sarita Agrawal, Dean, SSS
3:45-3:50PM	Introductory Remarks: Prof. Alok Gupta, Registrar, CUG
3:50-4:10PM	Dr. B.R. Ambedkar: Prof. Meera Nanda, IISER-Mohali, Punjab
4:10-4:30PM	M.K. Gandhi: Prof. Shambu Prasad, IRMA, Anand, Gujarat
4:30-4:50PM	Bharat Ratna Mahamana Malaviyaji's vision of science and technology: Prof. (Rtd.) B.N. Dwivedi, BHU, Varansi, Uttar Pradesh
4:50-5:10PM	Rabindranath Tagore: Prof. Saradindu Bhaduri, CSSP, JNU, New Delhi
5:10-5:20PM	Discussion
5:20-5:30PM	Presidential Remarks: Prof. Rama Shanker Dubey, Honourable Vice Chancellor, CUG
5:30PM	Vote of Thanks: Dr. Hemant Kumar, Coordinator, CSSTIP

Convener: Dr Hemant Kumar

Moderator: Dr Parvathi K Iyer

Organising team: Dr Parvathi K Iyer, Dr Shiju Sam Varughese, Dr Kunal Sinha and Dr Hemant Kumar

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