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Programme: M.A. History (Integrated)

**Course Title : Science, Technology
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Unit-IV

Scientific Temper

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- Natural humanism and natural rationalism
- Theory of creation and impact of faith on independent thinking
- Mental enslavement and sufferings from irrational human life
- Logic, realism and rationalism as liberators of human from the domination of the human mind
- Conflict between faith and religion



- Rabindranath Tagore - “Where knowledge is free; Where the world has not been broken up into fragments by narrow domestic walls”.
- Theory of creation arrested the mind and knowledge generation on the real and materialistic world.
- After the end of classical civilisation, Age of Faith (with the emergence of Christianity as an organised religion) started that has dominated the public life and continue to do so till 10th century AD-at what time –the emergence of towns and expansion resulted in the emergence of *secular society*



- **is this expansion of secular society that has brought Faith and Reason into conflict by 12th century AD-that conflict resulted bringing human into the centre of analysis and HUMANISM and REALSIM became the foundations of the RENAISSANCE.**
- **From 12th century onwards, Western society's scientific community was in continuous engagement with reason, logic and rationalism- that resulted in SCIENTIFIC REVOLUTION and ENLIGHTENMENT.**
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- **Whereas India's engagement with reason, logic and rationalism is episodic and Periodic.**



- Scientific or rational society is not a society that believes that reason and logic are forte of scientific community. It is a society in which every member of the society display scientific attitude in dealing with day to day public life.
- The role of reason is to apply scientific knowledge to problems, to grapple with them through the method of scientific inquiry and to work for social transformation inspired by Scientific Temper.
- When the social structure and stratification prevent the application of rational and scientifically proven solutions, the role of Scientific Temper is to lay bare the anatomy of such social barriers



- **INDIA**
- ***STATE, SOCIETY, SCIENTIFIC TEMPER***
- **Government as a rational set up suppose to maintain necessary distance from religion**
- **But Nehru, though claimed to rationalist but agnostist in actuality has utterly failed to promote rationalism as a national philosophy unlike Mustafa Kemal Pashas' Kemalism**
- **Kemal has attacked religion with full courage and authority-went to the extent of de-religionising the public space.**
- **After Nehru, not single politician has ever displayed interest in even talking about the scientific temper as a public necessity (social and national necessity)**
- **Is it essential for common citizen to be scientific? What the constitution of India says about Scientific Temper or the cultivation of rational outlook.**



- in the early 1930s, Bertrand Russell (1872-1970), was a British philosopher, mathematician, historian and social critic, reflected a wariness about science as it changed from a discipline of “love of knowledge” to become one of “power over knowledge”.
- In his *The Scientific Outlook* (first published in 1931), he traced the “first impulse to scientific knowledge” to those who, like Heraclitus and the Ionian philosophers, were “in love with the world” and “felt the strange beauty of the world almost like a madness in the blood.”
- They were men of Titanic passionate intellect, and from the intensity of their intellectual passion the whole movement of the modern world has sprung.
- But step by step as science developed, the impulse of love which gave it birth has been thwarted, while the impulse of power, which was at first a mere camp follower, has gradually usurped command in virtue of its unforeseen success”.
- In this process of “love-knowledge” being replaced by “power-knowledge”, science “tends more and more to become sadistic”. “This is the fundamental reason,” says Russell, “why the prospect of a scientific society must be viewed with apprehension.”



- Jawaharlal Nehru coined the term ‘scientific temper’ in his book *The Discovery of India*, which was published in 1946.
- Jawaharlal Nehru evoked scientific temper in the context of making science and technology a key input in national development.
- For him, scientific temper was not an esoteric or elitist concept as critics are trying to make it out. He saw it more as, “a way of life, a process of thinking, a method of acting and associating with life, a method of acting and associating with our fellowmen”.
- He was also the President of the Association of Scientific Workers of India (ASWI), which was registered as a Trade Union, and with which I was closely associated with in the 1940s and the early 1950s.
- One of the objectives of ASWI was to propagate scientific temper. It was very active in the beginning, but fizzled out by the 1960s as the bulk of scientists in the country, including many who were occupying high positions, were themselves not committed to scientific temper which calls for rationality, reason and lack of belief in any dogma, superstition or manifest falsehood.



- Satish Dhawan= our very own scientists — who would be expected to be leaders in the development of scientific temper — did not possess scientific temper themselves and were just as superstitious as any other group was supported by another incident in 1964
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- P.M. Bharaghava, famous Biologist, Pushpa M. Bhargava is the founder-director of the Centre for Cellular and Molecular Biology at Hyderabad, and chairman of the Southern Regional Centre of Council for Social Development who are returned his award after the killing of Mahammad acqulaq, with Abdur Rehaman history of science, started The Society for Scientific Temper, in January 1964, the founding members of which included distinguished scientists like Francis Crick, a Nobel Prize winner



- **Citizenship Act, 1955.**
- **The 42nd Amendment inserted Part IVA consisted of one article. It comes of under the Directive Principles of State Policy Part-IV**
- **51A- says “ it shall be the duty of every citizen of India to develop the scientific temper, humanism and the spirit of inquiry and reform”.**
- **Preamble of the constitution amended in 1975 included socialism and SECULARISM as the prime constitutional ideals of india.**
- **Therefore, for emergence of secular society, rationalisation of mind and thought are important which takes place through the adoption of scientific temper (attitude)**
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- **A Statement on Scientific Temper, Nehru Centre, Bombay, 1981 enlisted following premises:**
- **Method of science provides a viable method of acquiring knowledge**
- **The human problems can be understood and solved in terms of knowledge gained through the application of the methods of science.**
- **The fullest use of the method of science in everyday life and in every aspect of human endeavour from ethics to politics and economics is essential for ensuring human survival and progress**
- **One should accept knowledge gained through the application of method of science as the closest approximation of truth at that time and question what is incompatible with such knowledge and that one should from time to time re-examine the basic foundations of contemporary knowledge.**