

From Religious Books:

*Bacon And Scientific Method: An Aspect Of European Thought*¹

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The Jain concept of rationalism entails that we study various philosophical concepts without any preconceived notions and accept those that conform to our experience and common sense. This excerpt is being presented in this spirit.

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Francis Bacon, who felt the inadequacy of the old Aristotelian method of intellectual discipline, proposed a new method suitable for modern scientific research, in his book called 'Novum Organon' – The New Instrument. ... [Bacon suggested that the method for securing information] should neither be purely imaginary as the spider's web spun out of its own body nor should it be merely mechanical collection of facts by observations like the ant. Scientific method must adopt the way of the honeybee, which collects materials from various sources and transforms them into useful honey. Such an intellectual transformation of observed facts will ultimately unlock the secrets of nature for the benefit of man. According to Bacon, such a discovery of nature's secrets for the purpose of utilizing them for social reconstruction ought to be the ideal of science. In order to successfully apply such a scientific method, Bacon prescribes certain conditions as a necessary intellectual preparation. Generally the mind of a scientist may be crammed with certain traditional beliefs and superstitions. Such preconceived notions, which Bacon calls 'idola' (illusions), should be entirely discarded and the student should approach nature with an unbiased open mind which alone will give a correct insight into the laws of nature.²

This experimental method prescribed by Bacon if adopted by a student of science will give inductive generalizations relating to the constitution of nature and its laws, generalizations which would be of a certain amount of high probability. Though the inductive generalizations arrived at by scientific research do not have the absolute certainty, characteristic of

¹ An excerpt from the Introduction of SAMAYASAAR, published by Bharatiya Jnanpith, New Delhi, India, Third Edition, 1989.

² This is similar to the Jain concept of rational perception.

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mathematical propositions, they were considered by Bacon to be of great practical value for the benefit of mankind. The attitude has been perfectly justified by the development of modern science with the practical application of scientific generalizations which have transformed the life of man in the modern world. Such a reconstruction of human society based upon scientific achievements was foreseen by Bacon in his essay on the New Atlantis. The new experimental approach to nature has conquered for science, realm after realm, departments of nature as astronomy, physics, chemistry, geology, etc. This successful conquest of the realms of nature by science resulted in complete elimination of mind of man as a factor for interpretation of natural events.³ This elimination of consciousness, completely, from the field of research ultimately resulted in scientific reconstruction of nature as a huge mechanical system in which the law of causation was the only principle of operation. In this mechanical system all events are guided by necessary causal conditions. There is no scope of intellectual interference either to modify or to suppress the occurrence of natural events according to the desires of man.⁴ The old thought which entertained the possibility of interference with the natural events by supernatural agencies was completely discredited as a pure mythology having no place in the realm of nature, whose constitution is revealed to the student of science.

This inductive method adopted by modern science finally resulted in the generalization of conservation of mass and energy as the basis of nature and in the relegation of consciousness to an extremely subordinate place as a sort of a byproduct in the operation of natural events. Such a generalization suggested by the physical science was also adopted by Charles Darwin to explain the phenomena relating to the animal kingdom. He also fell in with the general trend of physical science and formulated his famous law of evolution, based upon natural selection and survival of the fittest. This principle of explanation of the origin of species also relegated consciousness as an unnecessary factor not required for the explanation of life phenomena which he considered to be quite intelligible on the same principle of mechanical law of causation. This intellectual attitude which attempted to explain both the organic and inorganic

³ This implies that a scientist conducts scientific research and interprets the experimental finding without any bias or personal preference. - DCJ

⁴ According to Jainism, all events and transformations in nature follow the intrinsic attributes of the entities involved without the interference of a human or superhuman entity. - DCJ

realms of nature purely on the principle of mechanical law of causation was designated naturalism as contrasted with pre-scientific thought which introduced supernaturalism.

Such was the state of modern thought at the end of the 19th century. But this thought of naturalism was openly challenged in the beginning of the 20th century especially by biologists and psychologists who exposed the inadequacy of the naturalistic method of interpretation in dealing with biological and psychological phenomena. This open challenge to naturalism which started in the beginning of the present (20th) century had led to the recognition of consciousness as an important factor in the evolution process of both biological and psychological phenomena and restored consciousness to its own status of dignity and importance.