

# Meetings

## History of Sciences in India

A symposium on the history of sciences in ancient and medieval India was held on 4 and 5 August 1961 at the Bose Institute, Calcutta, under the auspices of the National Institute of Sciences of India. The symposium was inaugurated by D. M. Bose, director of the Institute. In his opening remarks A. C. Ukil referred to the importance the study of the history of sciences in India had assumed during recent years and the problems that workers face in this field, especially in connection with the source materials. Chronology, he observed, constitutes a serious difficulty. Regarding studies already made, which he termed secondary sources, he stated that in many instances there should be re-examination and re-evaluation of past attitudes and points of view.

Twenty-three papers were read and discussed at the symposium. In his paper on social and international relations in the development of science, R. C. Majumdar pointed out that there is direct evidence that scholars from India visited Western countries and

taught the people of those countries medical science, astrology, astronomy, algebra, and arithmetic, as known in India. European scholars generally hold that in scientific matters India must have borrowed from Western countries, but with advances in our knowledge of history, Majumdar observed, it is difficult to subscribe to this view of one-way traffic. In support of Majumdar's observation, S. N. Sen cited archeological and epigraphic evidence of the flow of knowledge from east to west, and also historical examples, such as that of the transmission of knowledge of the decimal system and of some medical and astronomical ideas.

N. H. Keswani discussed the concepts of generation, reproduction, evolution, and human development found in the writings of ancient and medieval Indian scholars. He noted that the results of their observations, made without the help of microscopes and other modern instruments, approached in accuracy the results of modern workers, especially in the field of embryology. Zoological knowledge in the works of Kālidāsa was the subject of two papers, by C. S. Gupta and B. Rama Rao. S. S. Misra reviewed the development of medical sciences in India.

B. V. Subbarayappa presented a paper on the independent development of the atomic concept of matter in the Hindu, Buddhist, and Jaina literature and discussed the difference between the Indian ideas and those propounded by the Greek scholars headed by Democritus and Leucippus. S. P. Raychaudhuri and A. K. Bhattacharyya described agricultural practices and soil science in ancient India.

The geographical ideas of the Hindus were presented by S. M. Ali. In addition there were discussions of the development of mathematical series in India after Bhāskara II; of Bhāskara's works on differential and integral calculus; of science and society in the Arthaśāstra and the Rāmāyana; and of the general scientific content of the Vedic literature.

S. MITRA

*National Institute of Sciences of India, Calcutta*

## Forthcoming Events

### January

26-29. Man and Civilization: Control of the Mind—II, San Francisco, Calif. (S. M. Farber, Univ. of California San Francisco Medical Center, San Francisco 22)

28-3. American Inst. of Electrical Engineers, New York, N.Y. (R. S. Gardner, AIEE, 33 W. 39 St., New York 18)

28-3. Pan American Assoc. of Ophthalmology, interim congr., Lima, Peru. (J. M. McLean, 525 E. 68 St., New York 21)

29-31. American Soc. of Heating, Refrigerating and Air-Conditioning Engineers, St. Louis, Mo. (R. C. Cross, United Engineering Center, 345 E. 47 St., New York, N.Y.)

29-31. Institute of the Aeronautical Sciences, annual, New York, N.Y. (R. R. Dexter, Institute of the Aeronautical Sciences, 2 E. 64 St., New York 21)

29-1. Instrument Soc. of America, conf. and exhibit, Dallas, Texas. (W. H. Kushnick, ISA, 313 Sixth Ave., Pittsburgh 22, Pa.)

30-1. Military Electronics, 4th winter convention, Institute of Radio Engineers, Los Angeles, Calif. (IRE, 1435 LaCienega Blvd, Los Angeles)

30-2. Society of Plastics Engineers, annual technical conf., Pittsburgh, Pa. (T. A. Bissell, SPE, 65 Prospect St., Stamford, Conn.)

31-2. American Geophysical Union, Pacific Southwest regional, Tucson, Ariz. (A. N. Sayre, U.S. Geological Survey, Washington 25)

### February

1-2. Industrial Management Engineering Conf., Chicago, Ill. (F. A. Judd, Technology Center, Illinois Inst. of Technology, Chicago 18)



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1-3. Congress on Hospital Administration, 5th annual, Chicago, Ill. (American College of Hospital Administrators, 840 N. Lake Shore Dr., Chicago)

4-7. American Inst. of Chemical Engineers, natl., Los Angeles, Calif. (American Petroleum Inst., 1271 Avenue of the Americas, New York 20)

5. World Meteorological Organization, Working Group on Networks of the Commission for Synoptic Meteorology, Geneva, Switzerland. (Secretary, WMO, Geneva)

5-6. Gustav Stern Symp. on Perspectives in Virology—III, New York, N.Y. (M. Pollard, Lobund Inst., Univ. of Notre Dame, Notre Dame, Ind.)

5-7. American Acad. of Allergy, annual, Denver, Colo. (Scientific Liaison Office, Natl. Research Council, Sussex Dr., Ottawa, Ont., Canada)

5-9. Electroforming Applications, symp., American Soc. for Testing and Materials, Dallas, Tex. (ASTM, 1916 Race St., Philadelphia 3, Pa.)

6-7. Vertebrate Pest Control Conf., Sacramento, Calif. (M. W. Cummings, Univ. of California, Davis)

6-8. Society of the Plastics Industry, Reinforced Plastics Div., Chicago, Ill. (Scientific Liaison Office, Natl. Research Council, Sussex Dr., Ottawa, Ont., Canada)

7-9. Military Electronics, Inst. of Radio Engineers, Los Angeles, Calif. (M. E.

Brady, Space Technology Laboratories, P.O. Box 95001, Los Angeles)

7-10. American College of Radiology, annual, New York, N.Y. (ACR, 20 N. Wacker Dr., Chicago 6, Ill.)

8. Problems in Food Processing, Assoc. of Vitamin Chemists, Chicago, Ill. (H. S. Perdue, Abbott Laboratories, North Chicago, Ill.)

8. Tissue Homotransplantation, 5th biennial conf., New York, N.Y. (W. Dameshek, New England Center Hospital, 171 Harrison Ave., Boston 11, Mass.)

9-11. National Open Hearth and Blast Furnace Conf., American Inst. of Mining, Metallurgical, and Petroleum Engineers, Detroit, Mich. (E. O. Kirkendall, AIME, 29 W. 39 St., New York 17)

12-16. Management of Science Information Centers, Inst. on Information Storage and Retrieval, 4th, Washington, D.C. (L. H. Hattery, Center for Technology and Administration, American Univ., 1901 F St., NW, Washington 6)

12-23. Latin American Seminar on Irrigation, 2nd, Panama City, Panama. (J. Melendez, Jefe, Depto. de Ingenieria, Ministerio de Agricultura, Comercio e Industrias, Panama City)

13-14. Sanitary Engineering, 4th conf., Urbana, Ill. (B. B. Ewing, Dept. of Sanitary Engineering, Univ. of Illinois, Urbana)

14-16. Biophysical Soc., 6th annual, Washington, D.C. (D. Cowie, Dept. of Terrestrial Magnetism, Carnegie Institution of Washington, 5241 Broad Branch Rd., NW, Washington 15)

14-16. Solid State Circuits, intern. conf., Philadelphia, Pa. (L. Winner, 152 W. 42 St., New York 36)

14-17. National Soc. of College Teachers of Education, Chicago, Ill. (E. J. Clark, Indiana State College, Terre Haute)

16-18. Medical Congr. in Honor of the Centennial of Bretonneau, Tours, France. (Directeur, École Nationale de Médecine, Tours)

17-24. Pan American Medical Women's Alliance, 8th congr., Manizales, Colombia. (C. Carthers, 1661 Riverside Ave., Suite B, Jacksonville, Fla.)

18-22. American Inst. of Mining, Metallurgical, and Petroleum Engineers, annual, New York, N.Y. (E. O. Kirkendall, AIME, 29 W. 39 St., New York 17)

18-22. Technical Assoc. of the Pulp and Paper Industry, annual, New York, N.Y. (TAPPI, 360 Lexington Ave., New York 17)

19-21. American Educational Research Assoc., Atlantic City, N.J. (G. T. Buswell, 1201 16 St., NW, Washington 6)

19-21. Tracking and Command of Aerospace Vehicles, Inst. of the Aerospace Sciences, San Francisco, Calif. (IAS, 2 E. 64 St., New York 21)

19-22. American Concrete Inst., annual, Denver, Colo. (W. A. Maples, 22400 W. Seven Mile Rd., P.O. Box 4754, Redford Station, Detroit 19, Mich.)

19-22. Industrial Ventilation Conf., E. Lansing, Mich. (Engineering Dept., Michigan State Univ., E. Lansing)

19-23. American Soc. of Civil Engineers, Houston, Tex. (W. H. Wisely, 345 E. 47 St., New York 17)

(See 22 December issue for comprehensive list)

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