

CONFERENCES

NISTADS - INSA WORKSHOP ON HISTORY OF SCIENCE RESEARCH IN INDIA

A. N. THAKUR*

A two-day workshop on “History of Science Research In India : Future Directions” was jointly organised by National Institute for Science, Technology and Development Studies (NISTADS) and Indian National Science Academy (INSA) on 17-18 October 2000 in the INSA premises. Attended by noted scholars in the fields of history of science, arts, philosophy and culture from different parts of the country, the workshop included an inaugural session, four invited discourses, and three business sessions.

The inaugural session started with the welcome address by Professor Rajesh Kocchar, Director, NISTADS, which was followed by the address of Professor M. V. S. Valiathan, the Vice-Chairperson, Indian National Commission for History of Science. In his address Professor Valiathan emphasised the need to encourage the university system to take up history of science in the curriculum. He also mentioned that a very large number of manuscripts are still existing in India, the study of which is more important than merely compiling catalogues. Through a number of visuals, Professor Valiathan presented a history of History of Science Division of the Academy down the years since its inception in 1955 under the NISI, the forerunner of present INSA.

The first invited discourse was delivered by Dr. Kapila Vatsyayan, the renowned exponent of Indian art and culture, and the session was chaired

* Head, History of Science Division, Indian National Science Academy.

by Dr. B. V. Subbarayappa, an eminent historian of science and currently President of International Union of History of Science. In her thought-provoking lecture on “Non-Canonical Knowledge Systems,” she dwelt on the measureless and measurable nature of science, and opined that the discipline of history of science is based on the classificatory system which emerged after various distinctions developed therein.

The second invited discourse on the topic “Technology and Craft: Continuity and Change” was delivered by Dr. Jyotindra Jain, Director, Crafts Museum, New Delhi, and the session was chaired by Dr. B. R. Grover, Chairman, ICHR, New Delhi. In his illustrated lecture, Dr. Jain laid stress on the resilience of Indian craft tradition to adapt itself to varying influences and demands.

The third invited discourse was by Professor Saroja Bhate, Head, Department of Sanskrit and Prakrit Languages, University of Poona, on the “Lesser Known Scientific Manuscripts in Sanskrit”. Laying emphasis on the exploration of unpublished Sanskrit manuscripts on exact sciences, she listed several important manuscripts that have not been published or studied. She regretted that, of the thousands of texts available, the number of critically edited texts does not exceed fifty. She also drew attention to the fact that there were also some women writers who composed books on scientific subjects such as Umādevī, Ghanā, Ratnāvalī, Lakṣmīdevī.

The last invited discourse of the workshop was delivered by Professor D. P. Chattopadhyaya, Chairman, Centre for Studies in Civilizations, New Delhi, on the topic “Tradition and Modernity in the Quest of Scientific Knowledge.” In his discourse, Professor Chattopadhyaya highlighted the distinction between pre-Newtonian and post-Newtonian concepts of history and opined that while the available historical accounts of pre-Newtonian phase were causal or non-causal, the post-Newtonian history had three distinct factors like datability, locatibility and causality. However, he advised that for the reconstruction of history of science, our scientists and historians ought to shun the extremes of “theory- intoxication” and “fact-fetishism” and instead embark upon the path of the fidelity of truth and respect for the facts.

The first business session of the workshop, chaired by Professor Valiathan, had presentations by Professors S. R. Sarma, R. C. Gupta and S. M. R. Ansari, all editors of journals devoted to history of science. Professor Valiathan noted the importance of academic journals by remarking that “journals are the heart of any research discipline” and emphasised the need for maintaining high standards. He pointed that due to lack of standards and delay in publication on time, many Indian journals are not indexed abroad. Referring to the role played by Dr. Chandrasekhar in developing the *Journal of American Astronomy*, Professor Valiathan highlighted the role of editors in maintaining the standards of journals.

Professor Sarma, editor of the *Indian Journal of History of Science*, while tracing the history of IJHS since its inception in 1966, recalled how the UNESCO sponsored conference on History of Science in 1950 gave impetus to the setting up of three research units at Calcutta and Mysore in the early sixties. At that time, it was envisaged that soon some universities would start courses in HS. This did not happen and consequently historiography of science in India did not develop the academic rigour normally expected of university disciplines. Professor Sarma dwelt on the need to focus on primary sources in Sanskrit, Persian and Arabic and also in regional languages. He suggested that a bibliography of secondary sources should be compiled and handbooks accessible to college students on various aspects of HS in India should be prepared. He also stressed the importance of establishing a core library for HS.

Professor R. C. Gupta, editor of *Gaṇita Bhāratī*, traced the evolution of the journal since 1979 when the Indian Society for History of Mathematics published the first issue following a seminar to mark the occasion of the 1500 birth centenary of Āryabhaṭa. Since then 21 volumes have been published. He observed that for good research, a solid foundation is necessary and hence the study of sources is essential in order to avoid sweeping generalizations. Recalling the Committee for Chronology formed by the NISI in 1950, he suggested that its recommendations should be broadly adhered to. He also suggested that, in addition to projects formulated by individuals, INSA and other organizations should promote

institutional projects either separately or jointly and involve large number of people on specific areas. Pointing out that Newton's laws were not only qualitative but also quantitative, Professor Gupta criticized the tendency of some scholars to make fantastic claims with regard to antiquity and scientific contents of the Veda.

Professor S. M. R. Ansari, editor of the *Studies in History of Medicine and Science* said that the journal was founded by Hakeem Abdul Hamid and since 1985 seven volumes have been published. He noted that SHMS is indexed by ISIS and *Periodica Islamica* as also by IJHS. In order to take any journal to international standards, Professor Ansari opined that innovative inputs from the editor, adherence to scientific style and the observance of rigor are essential. For the latter he emphasised that highly speculative and too general articles should be discouraged and priority should be given to articles based on primary manuscript sources.

In the discussion that ensued, Professor H. S. Virk (Amritsar) pleaded that the panel on HS set up in 1975 by INSA and UGC should be revived. To motivate the student towards science, courses in HS should be incorporated in the school curricula. Professor Saroja Bhate stressed the need for interaction between traditional Sanskrit Scholars and scientists for editing and publishing the manuscripts. Dr. Satpal Sangwan (NISTADS) noted that history of science is essentially "HS in context" and not only scientists but also scholars from other disciplines have an important role in HS research. Professor M. S. Sriram (Chennai) regretted that there is lack of standard books on Indian mathematics, astronomy etc. at the college level which is one of the prime impediments in the development of the field. He also stressed the need for setting up of chairs in HS in universities.

Dr. V. Jha (New Delhi) emphasised upon having correlation between researchers and editors. He cautioned about opening up of new institutions and insisted that the causes of deterioration of the existing institutions should be examined and remedied first. Dr. Jha noted that often HS is regarded as HS of ancient period and argued that adequate emphasis should be given to medieval and modern periods as well.

While the first business session highlighted the journals, the second and third sessions were devoted to reports from institutions engaged in research and teaching in the area of HS. Dr. Dhruv Raina (NISTADS) decried attempts by some persons who consider HS as an instrument of making priority claims and argued that HS studies should bring out the cross-cultural exchanges in the spread and growth of knowledge. He explained that NISTADS has been involved in the research work on the philosophy of science, social theory, social epistemology, history of ecology etc. In the area of philosophy of science, specific focus has been given to quantum logic, philosophy of quantum mechanics, contemporary physics, cognitive science, language and traditional medicinal systems. In the area of HS, pioneering work was undertaken by Professors D. P. Chattopadhyay and A Rahuman. Studies on administrative and institutional aspects of HS in colonial India have been undertaken along with history of botanical research and popularization of science. Cultural assimilation of modern science in colonial India and mode of transmission of scientific knowledge have formed the core research areas under social theory and social epistemology in NISTADS. For HS studies to flourish in India as a rigorous discipline, Dr. Raina suggested that it should come out of the prison of priority claims as well as grow out of antiquarian studies.

The report from Centre for Studies in Civilization, New Delhi, delineated about their Project on History of Indian Science, Philosophy and Culture (PHISPC) under which ten volumes (in thirty parts) are envisaged. Out of the ten, some volumes have already been published while the rest are in different stages of preparation.

Professor Hakim Altaf Ahmad Azmi reported about the activities carried out in the Department of History of Medicine and Science at Jamia Hamdard, New Delhi, established in 1983. So far three monographs on Unani medicine have been published. Exchanges between Ayurveda and Unani is also another focus of study of this Department.

On behalf of Jawaharlal Nehru University, New Delhi, Professor Harbans Mukhia informed that there are twelve M. Phil. and ten Ph.D. students in the Centre for Studies in Science Policy. One of the faculty member edits

an international journal *Science, Technology and Society*. The areas in which the studies are currently taken up are mainly history of medicine, science in colonial India, history of science education, history of agriculture, history of technology and history of ecology.

Dr. P. K. Dasgupta, the General Secretary of the Asiatic Society Calcutta reported that the 216 year old institution offers short and long term courses on HS and also runs an M. Phil. programme. Dr. K. N. Sharma (IGNOU) mentioned in his report that in the foundation course in Science and Technology there is a big component of HS and about 2 million students take the course every year. Further he reported that a one year PG Diploma Programme on Science and Technology in Society is under preparation.

The report from Indian Institute of Advanced Studies, Shimla, was read by Dr. A. N. Thakur. The report mentioned that the IAS has initiated projects to study symmetry, ancient Indian mathematics, history of agriculture and ecological history.

This session was followed by general discussion which provided a platform for the participants to express their views on different aspects of the future of HS. Professor Valiathan suggested that regional level workshops may be held to motivate young scholars. Dr. P. Hymavathi (Warangal) suggested that systematic efforts should be made to make available original sources in English translation and stressed the need to study sources in regional languages of India.

Dr. A. K. Bag (New Delhi) remarked that society gets science in the way it deserves, needs and expects. He stressed the need of active involvement of scholars from different fields and expected a focussed research programme from them through which the study of the roots of non-European Sciences could be highlighted. He proposed that young scholars be supported adequately with five year project grant in order to give them a chance to develop fully. Dr. Bag also stressed the need of good library where source books could be made available for research.

Professor M. S. Sriram (Chennai) suggested that a workshop of two to three weeks should be conducted to provide inputs and to enthuse young scholars to take up HS.

Dr. T. V. Venkateswaran (Trivandrum) suggested that at least one nodal library or centre for HS research should be set up where all relevant books and journals on HS are available. He criticised the localization of history of science and suggested that this trend must be discouraged by developing a peer group and an innovative pan-Indian research programme in History of Science.

Professor R. J. Vasavada (Ahmedabad) agreed with the idea of nodal centre and exhorted that besides supporting research, INSA should also serve as a resource centre. He also noted that there is an urgent need to pay attention towards collection and recording of oral history and techniques.

Professor R. K. Dube (Kanpur) opined that all the major aspects of history of science should be included in the text books in order to make the students familiar with the stream. Professor Harkishan Singh (Chandigarh) highlighted the need of setting up of a digitised data base source material archives on History of Science.

Dr. Satpal Sangwan (NISTADS) supported the idea of summer schools and elaborated that they could be organised at student level and teacher level. For the latter, he suggested that UGC and universities could be associated. Furthermore he suggested that bibliography of History of Science and Technology and text books should be published and a newsletter should be brought out.

At the end, Professor Valiathan thanked all the participants of the Workshop and the Workshop was declared concluded by Professor Kocchar with a hope that such workshops in future shall gather increased support from the academicians and historians of science in India.