

CONFERENCE

12th World Sanskrit Conference - A Report

The 12th World Sanskrit Conference (WSC) was hosted by the Helsinki University, Finland on 13-18 July, 2003 under the able guidance of Local Organizing Committee : Asko Parpola (President), Petteri Koskikallio (Secretary) et al., and the International Association of Sanskrit Studies : Ram Karan Sharma, India (President), John Brockington, UK (Secretary General), Bruno Dagens, France (Treasurer).

The conference had 14 major sections : Veda, Epics, Purāṇas, Āgamas and Tantras, Vyākaraṇa, Linguistics, Poetry & Drama and Aesthetics, Scientific Literature, Buddhist Studies, Jaina Studies, Philosophy, History and Epigraphy, Law and Society, Art and Archaeology, which were started in parallel sessions after the Opening addresses. About 265 participants attended the conference, the distribution being Argentina-2, Australia-4, Austria-6, Belgium-7, Bulgaria-2, Canada-11, Denmark-1, Finland-12, France-18, Germany-17, Hungary-2, India-48, Iran-1, Israel-2, Italy-12, Japan-23, Luxemburg-1, Nepal-1, Netherland-9, Norway-3, Poland-6, Romania-2, Russia-8, Scotland-2, Sri Lanka-2, Sweden-6, Switzerland-6, Taiwan-1, UK-12, Ukraine-1, USA-37.

In the Opening Session, Mikko Pyhala (Counsellor, Ministry of Foreign Affairs, Government of Finland) welcomed all the participants on behalf of his country. Martin Meinander (Deputy Mayor, City of Helsinki) gave the historical account of the growth of the City and expressed his satisfaction for the conference. Fred Karlsson (Dean, Faculty of Humanities, University of Helsinki) expressed happiness for being the active host of the Conference. He said that his is the earliest University in Europe which introduced Sanskrit in the Curriculum along with other ancient languages - Latin and Greeks, in order to search for the roots of the Finnish peoples. O.P.Gupta (Ambassador of India) raised various issues relating to the antiquity of the Vedas, and expressed the culture of India and its people as *vasudeva kuṭumbakam*. V.R.

Panchamukhi (Chairman, ICSSR, New Delhi) emphasized on the need for more respect for Sanskrit studies and Sanskrit scholars, more intellectual interest for its holistic approach to life, more facilities to network analysis, preservation of manuscripts, and facilities for exchange of scholars. Rajib Jain (Motilal Banarsidass Publishers, Delhi) expressed his happiness and thanks for giving responsibilities to publish the proceedings of the Conference, and announced some rewards for the Sanskrit scholars, this being the Centenary year of the organization. Ram Karan Sharma (President, IASS) gave a history of the organization of IASS from its inception at Delhi in 1972 and expressed his desire for the success of the Conference. Stephanie Jamison, originally from Harvard and shifted to UCLA, Los Angeles, California who is well known for her translation of Ṛgvedic project gave a key note address on Animals and (Wo)men, followed by: Festival of Veda recitation in Kerala, a film by Cezary Galewicz, which were found to be quite interesting.

A few sessions on Veda, Vyākaraṇa, Scientific literature, and philosophy were found to be interesting. The purpose of preserving vedic sacrifices, vedic recitation including *sāma* chanting through audio and video, exploration of tradition and manuscripts of Vādhula and Jaiminiya schools, assessing differences of Ṛgvedic religion of *asuras* and *devas*, utility of Pāṇinian grammar in the construction of words but not sentences, the relationship between *Bhelasamhitā* and the Ātreya school of ayurveda, change and creativity in early Indian medical thought, pattern of Sanskrit tradition in geometry, latest programme on Indian *pancāṅga* providing useful reference to dating of Sanskrit manuscripts and inscriptions, importance of *Nyāya-Vaiśeṣika* literature in the context of early knowledge of philosophy and science, nature of science in Jain literature, scientific knowledge in Kālidāsa besides other are some of the few topics which attracted my attention.

Dr. A K Bag was specially invited by the organiser sponsored by ICSSR to present a paper on the technical literature section. His presentation on the 'Solution of Second Degree Indeterminate Equations as per Sanskrit texts' was found to be innovative and showed geniusness of Indian scholars in the field of mathematics. It started with Brahmagupta, a great mathematician of the 7th century AD whose definition of *ācārya* in algebra was associated with the expertise in the solutions of various equations including solutions of first degree: $by = ax \pm c$ and second degree : $Nx^2 + k = y^2$, where a,b,c are integers, N is a non-square positive integer, $k = kṣepa$ (selected by choice) and x,y are variables. For the first degree Brahmagupta introduced

a method of *kuṭṭaka*, alternate division method of b/a in the H.C.F. process, following Āryabhata-I, and calculated successive convergents from the partial quotients in a ingenious way which leads to the solution. As regards second degree, Brahmagupta approximated the value of \sqrt{N} , first by one (a, b) , or two arbitrary choice of roots (a_1, b_1) (a_2, b_2) by applying *tulya bhāvanā* on one set, or *samāsa* or *viśleṣa bhāvanā* on two sets (here *bhāvanā* means multiplication) by the method of cross multiplication process, which gives a series of convergents for \sqrt{N} from which the solutions of the problem is obtained when $k = \pm 1, \pm 2, \pm 4$. Jaideva (11th century) followed by *Bhāskara II* (12 century) introduced a method of *cakravāla*, based on Brahmagupta's *bhāvanā*, which gives a generalized method of approximating the convergents in the form of *Kuṭṭaka*. There was no arbitrariness, and it runs as follows:

If (a, b, k) is a set of solution of $Nx^2 + k = y^2$ then $(a_1, b_1$ and $k_1)$, is another set of solution where $a_1 = (am + b)/k$, $b_1 = (Na + bm)/k$ and $k_1 = |(m^2 - n)/k|$ and so on. Jayadeva says a_1, b_1 and k_1 are integers and the value of m should be so selected that the new *kṣepa* k_1 should also be an integer as small as possible. Obviously $\sqrt{N} = b/a$, b_1/a_1 and so on. The solutions of the equation usually be obtained when $k = \pm 1, \pm 2$ and ± 4 .

The paper then showed the results of \sqrt{N} with examples obtained from the regular and irregular expansion of Euler (1764) and Lagrange (1768) and compared them with the *cakravāla* method. The convergents that are obtained, for example for $\sqrt{58}$ in the 14th step in the regular expansion method, 10th step in the half regular method, the same convergent was obtained in the 6th step by the *cakravāla* method. In the same way what *cakravāla* obtained for $\sqrt{97}$ in the 6th step, the regular technique obtains it in the 11th step. It was concluded that *cakravāla* follows neither a regular nor a half regular expansion but corresponds possibly a new algorithm of minimal length having deep minimization properties.

The Concluding Session was marked by presentation of new publications on Sanskrit literature, recitation of self composed Sanskrit poems, declaration of the name of Edinburg as the next host University for 13 WSC conference.

The 12th WSC was indeed a well organized and neatly managed conference in a beautiful surroundings of the University. All the sessions, specially the vedic, vyākaraṇa, epic, and scientific literature sections, were lively, scholarly and interactive. Foreign scholars took disciplined and active interest. Most of them are involved with either collection of audio and video of untapped manuscript collection and their

interpretation, or visual recordings of Indian heritage and their interpretations. The Indian scholars on the other hand are disjoint, individual and less active in finding new manuscript materials though their analysis appears to be interesting. What is needed in the present moment is an organized effort from all the concerned institutions in India in the form of support to younger scholars, train them properly under good guidance and through exchange facilities, involve them with search for new materials and preparations of critical editions and translations of unpublished texts and commentaries, facilities for presentation of new materials in different forums, along with due recognition of their merit. Older generation of erudite scholarship in Sanskrit are vanishing quickly, and unless new generations are properly trained, a vacuum will soon be created which will be difficult to fill, and a time will come when the great Indian tree of knowledge may not bear any Indian fruit and go beyond recognition.

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