

Capsule 32

JAN-MAR 1994

Inauguration of District Science Centre Bardhaman

Bardhaman has always been an important district in West Bengal by virtue of its rich agricultural produce and industrial progress. It is the proud inheritor of a royal and culturally rich heritage. And therefore when the district headquarters had its own Science Centre, some very unique features had to be added.

As the 17th Science Centre under NCSM, apparently, the place is no different from the earlier ones. But wait till you reach the very special sections and galleries. Set up on a lush green 5-acre park, the Centre presents science in all its magnificence. It is within the campus of Bardhaman University and very near to the tourist attraction centre, Krishna Sayar.

On January 9, 1994 Dr Sankar Sen, Hon'ble Minister for Power, Science & Technology dedicated the centre to the people of West

Bengal. Also present on the occasion were Somnath Chatterjee, Member of Parliament, Satya Sadhan Chakraborty, Minister-in-Charge of Higher Education and Mehboob Zahedi, Minister-in-Charge of Animal Resource Development, Minority Affairs, Wakf and Haj.

The Science Centre has been developed on land given by the University of Bardhaman to National Council of Science Museums, free of cost. Industrialists of the district and the Dept of Science & Technology, Govt of West Bengal came forward to share about 50% of the initial capital cost of setting up the centre. The work has been completed in about 30 months and at a total cost of nearly Rs 80 lacs.

Inaugurating the Science Centre, Dr Sankar Sen said, "Primary purpose of Science Centres should be to make people aware of the presence of science in the activities of their

daily life and to remove superstitions from their mind." He also stressed the need for establishment of science centres in every district of West Bengal in near future. Somnath Chatterjee observed that the root cause of ill feelings and hatred among various sections of the people, is due to lack of reasoning power in people. Science Centres will help in developing a scientific temper thereby indirectly helping them to understand each other better so as to live in harmony. Mehboob Zahedi was of the opinion that science centres will be the vehicle to take science to the people in rural areas. Prof Mohit Bhattacharya, Vice Chancellor, University of Bardhaman and Dr Saroj Ghose, Director General, National Council of Science Museums also spoke on the occasion.

If you wish to take out your family to enjoy a holiday or decide to send your students for an educational tour on a school day, you might plan to visit the Bardhaman Science Centre in future to discover that science could be explained through fun to one and all. As one enters the Centre, a gigantic 'Energy Ball' sets in motion the visitors' curiosity. The exhibit is primarily based on the principle of transformation of energy. A dozen of nylon balls gives the exhibit its life. The balls can execute many things transforming part of their potential energy into other forms, e.g. like playing a Xylophone or hitting a



District Science Centre, Bardhaman

INAUGURATION



Dignitaries enjoying Science Demonstration at Bardhaman

gong or generating electricity. It is interesting to note that the manner in which the balls operate wicket gates clearly demonstrates the principle of 'Logic Gates' which are the building blocks of modern day computers.

For the first time in India, a live Bio-Science Section has been introduced in a Science Museum which will certainly be interesting to young and old alike. The exhibits in this section opens up the mysteries of life, how eggs are hatched and chicks come out, how gradually day by day the chicks develop into young ones. Ride a cycle and compete with a human skeleton which will move its joints in synchronism with you. This will reveal how mechanical systems particularly the bone joints works in our body. The host of live animals like lizards, variety of fishes, different types of scorpions, turtles have been kept in their natural habitat which will give an opportunity to observe what they eat, how they move or how all of them together help in balancing our eco-system.

The section on Chemistry explains in a simplified manner the everyday mysteries like how sugar gets dissolved in water without

changing its volume, the process of copper plating or how different liquids separate themselves with respect to their densities. Interacting with the 'Periodic Table' explains the composition of various articles used by us in our daily life.

The section on Mathematics reveals how interesting the subject can be. For example, turn a plate to see how the famous Gaussain Distribution Curve forms right in front of you, whether it is steel balls or liquids doesn't matter. Toss a coin and explore the possibility of your getting a 'head' over 'tail'. Similarly, is it chance or choice that is responsible for the birth of a boy or a girl has been explained in a nearby exhibit. Hit a curve with a striker from anywhere to discover that ultimately the striker will return to point - the focus. Observe for minutes together how a stick passes through a complicated geometrical curve without any obstruction.

Are you not interested to know how day changes into night, how seasons changes or what is Green House Effect or how an ozone hole is formed or what are its consequences? Visit the section on Geography to learn more about those.

The Science Centre has a beautiful Science Park sprawling

over 3 acres of land. Fitted with 42 participatory exhibits, the Park has caught the attention of a large number of people, young and old. For the people visiting the Park, science is no more an unexplorable subject, instead they enjoy exploring the scientific ideas put forth through the working of the exhibits.

This Centre has facilities for a number of educational activities like Science Demonstration Lecture, Computer Training Programme, Hobby Centres, Astronomy Programme and Teachers' Training Programme throughout the year. In addition, the centre runs a Mobile Science Exhibition unit containing 24 exhibits on the topic 'Planets we live in' which moves almost 9 months a year and takes science to the people in rural areas. This unit also carries with it a set of experiments on the topic 'Science and Superstition' which demonstrates how some of the so called holy-acts could be performed by anyone who really knows the science behind the supernatural.

It is expected that very soon this Science Centre will be the most popular place to visit where learning is no more than fun, a place of enjoyment cum learning for adults and children.



Animalarium at Bardhaman

COMPUTER FAIR

Learning in bits and bytes

Computer Fair 93 was held at Visvesvaraya Industrial & Technological Museum, Bangalore between Nov 18 and 24. The Computer Fair was inaugurated on Nov 18 by Dr M Vidyasagar, Director, Centre for Artificial Intelligence and Robotics, Defence Research and Development Organisation, Ministry of Defence, Bangalore.

Fifty eight students worked on 29 IBM compatible personal computers as part of software development competitions. Students were asked to work on a computer for nearly five days on a selected topic and develop a software which would be used as an aid to class room teaching.

In addition to the software competition, Computer Quiz and extempore talk competitions were held during the week. About 76 students participated in the special computer awareness programme held in the museum as part of the week-long programme.

On Nov 24, Dr V Rajaraman, Chairman, Supercomputer Education and Research Centre, Indian Inst of Science, Bangalore, delivered the valedictory address and distributed prizes to the winners of various competitions.



Computer Fair at VITM

Birla Industrial & Technological Museum, Calcutta organised Computer Fairs on 3-tier basis. The Fairs were organised in the districts, states and at inter-state level during December 1993. The Calcutta District Computer Fair was organised from Dec 18 to 20, where 116 students from 18 schools participated. The students developed 16 different 'softwares' on various branches of science.

The winners from 8 districts i.e. Howrah, Bardhaman, Hooghly, Nadia, Purulia, Midnapore, 24-Parganas (North) and Calcutta participated in the West Bengal State Level Fair which was held from Dec 22 to 24. 105 students developed 14 softwares and participated in various competitive events like - computer quiz, essay writing, extempore talk. The Fair was inaugurated by Prof Sushil Kumar Mukherjee, ex-Vice Chancellor, University of Calcutta and Dr T N Maulik, Principal, Technical Teachers' Training Inst, Calcutta was the Chief Guest.

This year the State Fairs were organised in 5 states i.e. West Bengal, Bihar, Orissa, Assam and Manipur in collaboration with the Education Depts of the respective states. Finalist of each event in state level competition participated in inter-state fair at BITM, Calcutta held between Dec 26-30. Students of the software competition worked in groups of three and used the computers IBM PC or BBC Micro developing interactive educational packages. 78 participants from 22 different schools of Eastern India participated. They developed softwares on topics related to Physics, Chemistry, Biology, Environment,

Energy, Mathematics & Geography. Apart from software they also participated in extempore talk, quiz, and essay competition.

The inter-state fair was inaugurated by Dr Sankar Sen, Minister for Power, Science and Technology, Govt of West Bengal on Dec 26. Dr D K Sinha, Sir Rashbehari Ghosh Professor of Applied Mathematics, University of Calcutta was the Chief Guest. Dr Amal Kumar Das, Addl Director of School Education, Govt of West Bengal delivered valedictory address and gave away prizes to the winners.

During its anniversary week, District Science Centre, Purulia organised District level Computer Fair 93 between Dec 16 & 18. Among the various programmes were software development, computer quiz and extempore talks.

Srikrishna Science Centre, Patna collaborated with Byte Consultants to hold the Computer Fair 93 between Nov 27 and 30. Dr K V Srinivasan, Professor, Patna University inaugurated the Fair while Dr M Mohiuddin, ex-Vice Chancellor, Patna University gave away the prizes.

Rotary Club and V-DO Advertisers and Consultants assisted the Tirunelveli's District Science Centre, to organize 'Computer World' between Dec 3 and 6. R Jeyaraman, IAS, District Collector inaugurated the Fair. A host of academicians and computer professionals came forward to make the affair a grand success.

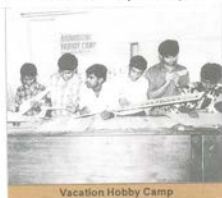
Birsa Industrial & Technological Museum, Calcutta observed Wildlife Week from Oct 5 to 7. Special programmes were arranged where students of different age groups could participate. 'Open House Quiz' on Indian Wildlife was held on Oct 5 for junior and senior school students of Calcutta and neighbourhood. 123 students competed for the 31 prizes. 'Costume Parade' was another special feature where 31 children dressed as Butterfly, Bear, Snake, Lion, Tiger, Monkey, Trees, Planets and Fruits etc. presented their respective characters. Ten prizes were awarded to the winners in this competitive event. In Drama Competition on the themes - 'The Day of the Dinosaur' and 'Killing Us Softly', 35 children performed before a large number of audience. Shri S K Das, Regional Dy Director, Wildlife Preservation, Govt of West Bengal and Shri Jochan Dastidar, actor-director, were present as judges. Selected films on wildlife were screened. About 553 students attended the various shows.



Drama Competition

BITM in collaboration with Sky Watchers' Association, Calcutta organized a special programme to observe the 'Transit of Mercury' through telescope on Nov 6 between 8.36 & 10.16 a.m. Nearly 200 people including a section of school children,

saw planet Mercury drift across the solar disc like a tiny dark spot.



Vacation Hobby Camp

BITM, Calcutta organized Puja Vacation Hobby Camp for the students of classes VIII to X to encourage them to carry out some scientific projects. Between Oct 27 and Nov 12, four camps were conducted on Physics, Chemistry, Life Science, Aero-modelling and Shipbuilding, where 181 students completed 416 projects. At the end of the programme, participants explained their projects as well as narrated their own experiences in working practically.

Eighth Nature Study Camp 93, organised annually by BITM, was held at Matha, Purulia from Nov 6-9. 27 students of classes VII & VIII from schools of Calcutta and suburbs and 9 students of the same classes from Purulia district participated in the camp.

A team of 5 experts including 2 officials from NCSM & BITM accompanied the group. See the Nature - Know the Nature - Serve the Nature : with this idea in mind, Nature Study Camp 93 was formally inaugurated by G D Mukherjee, DFO. In each field trip participants were taught to identify and study trees, birds, insects, rocks & minerals. In the evening, the participants were shown the different stars and constellations in the night sky. The

participants also prepared a "Hands-on" project on Astronomy which was given as a token prize to the successful participants in a quiz that was held on the last day on the subjects they learned during the camp.

How to move in a forest while bird watching was taught in the class on Field Craft. There were classes on first-aid, understanding maps and map-reading. During the Nature Trek to the top of Matha Buru (1900 ft.), along a stretch of 2.5 km, the participants were shown the different plants, insects, birds on the way.

On Nov 20, a sit & draw competition for students of classes I to XII in three groups and for handicapped children in two groups was jointly organised by BITM & Inner Wheel District 329 at the BITM's premises. It was inaugurated by Jugal Srimal, Director Nehru Children's Museum. Three hundred and fifty students participated in the competition.

Between Oct 2 and 4, **Nehru Science Centre, Bombay** was the venue of a three-day conference organised by the Indian National Committee of ICOM & NCSM. 43 professionals from leading museums, universities and academic institutions discussed on 'Twining of Museums', finalising a detailed scheme for the multiculture complex and museum to be set up in Gangtok, Sikkim with the help of Dept of Culture, Ministry of HRD, Govt of India. It was decided that the exhibits for the proposed museum will be developed by various established museums in the country in collaboration with NCSM, INC-ICOM and Indian Museum. The conference was inaugurated by Dr D R Sardesai, President, Asiatic Society, Bombay. Dr Saroj Ghose, President, ICOM and

Dr S S Biswas, Chairman, INC-ICOM also participated in the conference.

On Oct 17 & 18, the 36th Jamboree-on-the-Air (JOTA) was organised where scouts and guides with their seniors participated in exchanges through Ham radio, conversing with members from New Delhi & Bhavnagar. They exchanged Diwali greetings, made self-introductions, conducted quizzes, even sharing mimicry and yells. Later the participants at Bombay visited the Science Centre; many were accompanied by parents.



Sit-and-Draw competition held at Bombay

Nov 11 was spent with much fanfare at Nehru Science Centre. It was the 8th anniversary of the Centre and programmes were arranged for both students and general public. There were sit-and-draw competition for students - 'Scene of a Festival' for those upto class VI and 'An Indian Village in 21st Century' for those between class VII and X. An open-house quiz based on science was organised and was participated by students and their parents. There was a demonstration on 'Science & Miracles'. There was also an 'astronomy camp' with portable planetarium shows, slide demonstrations, etc. All the programmes were well-attended and appreciated.

Regional Science Centre, Tirupati joined Andhra Pradesh Forest Dept and Sri Venkateswara National Park, Tirupati to celebrate 39th Vanya Prani Saptah at the

Centre's auditorium on Oct 2. The function was presided over by A V Joseph, IFS, Conservator of Forests, Wildlife Management, Tirupati while T Janardhan Naidu, IAS, Vice-Chairman, Tirupati Urban Development Authority was the Chief guest. An open quiz was organised by the Centre. Other programme highlights included exchange of ideas on wildlife.

Between Oct 28 & 30, Regional Science Centre, Tirupati collaborated with Office of the District Educational Officer, Chittoor to hold the Chittoor District Science Fair and Educational Exhibition 1993-94 at the centre's premises. M Parvathinathan, Director, VITM Bangalore presided over the inauguration while Dr K V Naidu, Director, S V Inst of Medical Sciences, Tirupati was the chief guest. On the final day, J R Anand, District Collector, Chittoor was the chief guest.

On Dec 18, Regional Science Centre, Bhopal organised Annual Quiz Contest and Popular Science Lecture. Prof T C Rao, Director, Regional Research Laboratory presided over the function. Prof M K Srivastava, Head of Dept of Physics, TITI delivered the popular science lecture on 'Physics in Daily Life'.

District Science Centre, Gulbarga joined Nehru Yuvaka Kendra and Priyadarshini Yuvathi & Mahila Mandal to celebrate Children's Day on Nov 14. The valedictory function was presided over by Gayathri Devi Manoli who also gave away the prizes.

DSC Gulbarga in association with Karnataka State Pollution Control Board organised Environmental Awareness Programme between Nov 23 & 25. At the Balabhavan,

a painting competition was held for primary and high school students on the topic 'Women & Environment'. The Science Centre was the venue for demonstration of pollution monitoring equipments and an exhibition on the subject. On the final day, video films were screened on wildlife and environment besides the prize distribution ceremony.

DSC Gulbarga collaborated with Indane, Belgaum to hold a Indane Customers Face to Face Meet on Oct 8, in the Science Centre itself. The programme highlights included a quiz on conservation and safe use of LPG and an open forum on the same subject.

DSC, Gulbarga celebrated the District Level Science Fair 1993 between Dec 9 and 11 in collaboration with Dept of Public Instruction.

District Science Centre, Tirunelveli and Office of the Chief Educational Officer, Tuticorin organised District Science Fair 1993 between Oct 28 & 30 at Spic Nagar Higher Secondary School, Tuticorin. M J Kurien, Chairman, Tuticorin Diravian, Chief Educational Officer was the chief guest at the valedictory function. The fair evoked a warm response and was well attended.

On Nov 7, DSC, Tirunelveli celebrated C V Raman Birth Anniversary at the Centre's auditorium. Dr N Arunachalam, Dept of Physics, M S University delivered a popular lecture on Raman Effect. Selvin Samuel from Dept of Botany, and D Augustine Jebaraj from Dept of Zoology, St John's College, Palayamkottai also delivered special lectures. Two competitions were held for school students - high school students staged plays on Environment while middle school students wrote a poem on Environment.

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MISCELLANEOUS PROGRAMME

Vigyan Parishad (Baifadila branch) from Bastar, Madhya Pradesh celebrated Wildlife Conservation Week between Oct 7 & 12. Participated by school students, the highlights of the week were the various competitions in the areas like essay writing, drawing, poem writing and quiz. An exhibition was held of the drawing and painting competitions. BIOP Jr High School, Kailash Nagar, Kirandul stood first in the quiz competition. The celebration evoked an enthusiastic participation from local school and college students.

Basaveshwar Pre-university College, Bagalkot held a science seminar on 'Extra-terrestrial Intelligence' & 'Are We Alone in the Universe' on Oct 2.

Saha Institute of Nuclear Physics (Bidhannagar) Calcutta observed birth centenary of Prof Meghnad Saha on Oct 8. Hon'ble Vice-President of India, K R Narayanan was the Chief Guest and unveiled the bust of the professor along with the release of the fourth volume of the Collected Works of Dr Saha and the Commemoration Volume. Hon'ble Governor of West Bengal, K V Raghunatha Reddy presided over the function. Dr P K Iyengar, Member Atomic Energy Commission addressed the centenary function.

Town School, Calcutta celebrated its centenary on Nov 21. Once included among the premier institutions of the city, the school's contribution was remembered by all present - guests of honour, teachers, past & present students.

Archaeological Survey of India (Calcutta circle) organised an exhibition on Monumental Heritage of India at Hazarduari Palace, Murshidabad on Nov 19. This was part of the World Heritage Week celebration.

World Wide Fund for Nature, Karnataka Branch organised WILPEX '93 (Wildlife Philatelic Exhibition) as part of Wildlife Week Celebration. Inaugurated on Oct 9, a philatelic exhibition was held on Oct 9 and 10, philately and wildlife quiz on Oct 9 and a philately workshop on Oct 10. The venue was VITM, Bangalore.

MASTER'S DEGREE PROGRAMME

Reinwardt Academy, Amsterdam School of the Arts offers a Master's Degree Programme. The course starts in September 1994.

The Master's Degree Programme is characterized by a high academic level combined with practical skills.

The programme is based on theoretical and practical experience of students, lectures and museum staff.

The programme consists of six basic courses dealing with the four fields of museum work : Operational Management, Collection Management, Research and Communication.

The six basic courses are :

- * Management
- * Registration and Documentation of Collections
- * Conservation
- * Visitor Surveys
- * Education (Communication)
- * Exhibition design

There are two coordinating and integrating courses; theoretical museology and methodology. They are the Leitmotive of the whole programme.

Each of the courses mentioned above has a course load of 200 hours, which brings the total number of hours in the first year to 1600 hours.

The final stage of the Master's Degree Programme is writing a

thesis, which will require about 800 hours.

The Master's Degree Programme is in principle open to post-graduates of all universities, polytechnics and higher vocational school throughout the world.

There is a full-time and a part-time study programme, starting in September 1994 and in February 1995.

For more information, brochure and enrolment form, write to :

Reinwardt Academy
Paul Berghuis, 315 Dapperstraat
1093 BS Amsterdam
The Netherlands
Phone : 31 20 6926338
Fax : 31 20 6925762

INTERNATIONAL NEWS

Remember the SCIENCENTRE at Brisbane, Australia?

This beautiful science centre at Brisbane, a modern city by the side of the blue Pacific, was opened to the public by the Premier of



An NCSM exhibit in SCIENCENTRE, Brisbane

Queensland on Sept 13, 1992. More than a year from its opening, this SCIENCENTRE at the corner of Stephens Lane and George Street, still attracts curious people and students to its wonderful exposition

of interactives. This science centre started with 33 interactives purchased from NCSM in the beginning. These interactives regularly draw a large crowd who play with them and learn science in the process.

During subsequent visits of NCSM personnel to Australia on other collaborative programmes, these exhibits at SCIENCENTRE, Brisbane, taken from NCSM, have been referred to by many Australian science museum professionals and science enthusiasts. The collaboration between NCSM and Australian science museums appears to have created an impact on the bi-lateral relationship. In the pictures, two of the interesting interactives made by NCSM for SCIENCENTRE at Brisbane have been shown.

SCIENCENTRE is a part of the larger Queensland Museum complex where one can see beautiful artefacts on Australian history.



Children enjoying NCSM exhibit prepared for SCIENCENTRE

The Queensland Museum SCIENCENTRE is now housed in the restored Old Government Printing Building.

Science Quest in Singapore

A pearl-drop of a country dreaming big dreams, Singapore is moving urgently towards the fast lane. And the catalyst in the thought process is the Singapore Science Centre. With existing and state-of-the-art tools and techniques, Singapore Science Centre is working with a proselyte's zeal. Geared to inculcate among the youth a deeper insight into science and technology, the Centre has been building up an impressive array of popularisation



programs. May be, a mention of some (not in any particular order) would be a better tribute to the activities of the Centre.

At the entrance of the Centre is the 'Pirate's Cove and Magic Forest' where visitors escape into the hide-away of notorious pirates and catch a glimpse of their stolen treasures. Then stroll through a magic forest inhabited by giant insects and be enchanted by the secrets of the Forest.

Held annually in the 'Discovery Week' during the fall vacation to encourage children to learn about science through self-discovery and exploration, an informal learning experience.

'Starseekers' is the thirtyfive minute planetarium show where the visitor becomes a star-seeker, identifying and enjoying the beautiful stars and other celestial objects found in the night sky.

There are occasional workshops aimed to update teachers, from secondary schools to pre-university, by providing practical experience on lab techniques through hands-on activities.

Tackling problems that are commonly encountered in everyday life, life in Singapore is a peaceful co-existence of tradition with contemporary mores. And given its present trendsetting efforts, there is no telling how Singapore Science Centre can grow.



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World Diabetes Day was celebrated on Nov 14 by DSC, Tirunelveli in collaboration with Get well Hospital, Tirunelveli. Dr S. Shanmugam delivered a special



District Science Fair 1993 at Spic Nagar Higher Sec. School

lecture on 'Healthy Living even with Diabetes' which was followed by a very interesting session of questions and answers.

District Science Centre, Dharampur, Environment Awareness Club of South Gujarat, Dharampur and Dept of Forest and Dept of Tourism from Silvassa, Dadar & Nagar Haveli, between Nov 27 & 29. The camp included many aspects of environmental education and nature study. Popular Lectures were delivered by A D Nikam, ACF, (DNH-South) on Ecology of Dadra & Nagar Haveli and by S B Shetty, ACF, (Vyara Div.) water ecosystem at Dudhani as well as its birdlife, study & identification of bio-species in the area were part of the studies during nature trails, screening of video films on wildlife, slide shows on solar system and sky observation programmes were the other highlights. On the final day, participants took part in a discussion and submitted their reports on the camp. Cultural programmes were presented by the campers.

Between Oct 17 and Dec 26, DSC Dharampur, Dr Kumud Pravin Mehta

Charitable Trust, Bombay and District Panchayat, Valsad organised several health education camps covering many aspects of disease and health. Participants were drawn from several rural stations and also students. Medical attention and medicines were made available free of cost. Besides direct benefits, participants were also made aware of basic and specialised health care through demonstrations, slides, etc.

The Community Science Programmes being held since early 1993 continued till the end of the year with untiring efforts put in by the Science Centre, collaborating agencies and eager participants. Between Oct and Dec, in collaboration with District Rural Development Agency, Valsad, 16 tribal housewives and 15 tribal youths received training in the development of nursery for indoor and outdoor decorative plants; 17 participants were trained in the basics

of black and white photography; in collaboration with Women's Finance Development Corporation, Gandhinagar, Gujarat and Nehru Yuva Kendra, Valsad, 25 members of the economically backward class received training in computers.

District Science Centre, Purulia observed its anniversary week celebration between Dec 15 & 21.

On Oct 28, Shrikrishna Science Centre, Patna celebrated the birth anniversary of Dr Shrikrishna Singh, first Chief Minister of Bihar. Governor Dr A R Kidwai was the chief guest and gave away prizes to the winners of Science Quiz and Science Write-Up Contest, 1993.



Published by:
National Council of Science Museums
Block GN, Sector V, Bidhan Nagar,
Calcutta 700091, INDIA

