

'Designing for Children' Workshop

A three week workshop on designing children's books was conducted in IDC by Mr. Kohei Sugiura, graphic designer, from Japan and Mr. Fujio Watanabe, illustrator. Participants in the workshop were from the students and faculty members of IDC and NID, Ahmedabad.

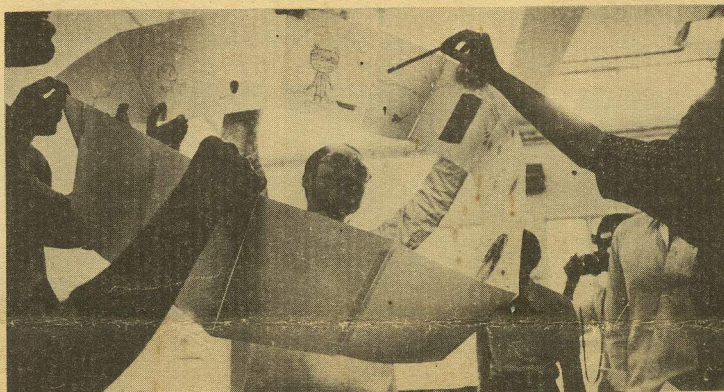
Working within the overall theme of 'Synesthesia: New Experiences through the Five Senses' - the participants explored ways in which a book can make a child's own world more vivid. By awakening the child to the excitement of life perceived through various senses - a book can help sharpen the personal vision of a child - and provide a new way of experiencing life.

The workshop began with a study of children's drawings to understand their perception and imagery. Children from IIT Central School were asked to draw given themes, and the drawings provided useful source of information, ideas and images from the child's world.

The participants then analyzed some interesting children's books from Japan - to understand the structure of these books and the means used in them to create and sustain interest. The insight gained by this analysis opened up the vast range of subjects and approaches possible for children's books, as compared to the usual narration approach. From the ideas generated by various groups - seven were selected and fully developed.

Each of the seven books developed in the workshop provides an exciting new experience. Departing from the usual bound format of the book - the format was changed to suit the theme - resulting into books as moebius strips, circles, scrolls and floor games. Combining images, sounds, textures, activities and points of views, books were created which go beyond being just books - bringing vividness to subjects from everyday life.

Working and interacting with one of the greatest designers in the world today, and sharing with Mr. Sugiura some of his ideas, insights and approaches to designing, was in itself an immensely enriching experience for the participants in the workshop, opening up a whole new world of creative vision for them.



'Designing for Children' Seminar

Publishers of Children's Books, Child Educationists, Artists, Designers and Writers working for children; and design students participated in the 3-day National Seminar on 'Designing for Children' at IDC on 16, 17 & 18 December 1983. The seminar was organised by IDC with a view to understand the various aspects of designing instructional material for children, and to help formulate a course in designing for children as part of its Visual Communication programme starting in August 1984. Mr. Kohei Sugiura, Graphic Designer, and Mr. Fujio Watanabe, Illustrator from Japan, attended the seminar as UNDP experts.

Inaugurating the Seminar, Prof. A.K. De, Director, IIT stressed the need for appropriate design attention for children's books - & their role in shaping a child's personality. Prof. S. Nadkarni, IDC explained the seminar objectives as related to formulation of an educational programme in this area.

The first day's proceedings on 'Text book Designing for Children' - began with a talk by Mr. Jaipal Nangia, Head, Publication Unit, NCERT - in which he explained the various technical and organisational problems involved in designing, printing and supplying text books on a national scale. Dr. R.G. Lagu of Homi Bhabha Centre for Science Education, Bombay presented with case studies their approach to developing science books for children; followed by a critical analysis of visuals and contents of NCERT text books for primary education by Mrs Neelima Talwar of the Dept. of Humanities and Social Sciences, IIT, Bombay.

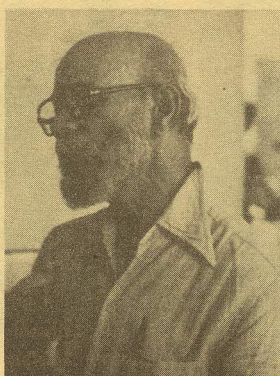
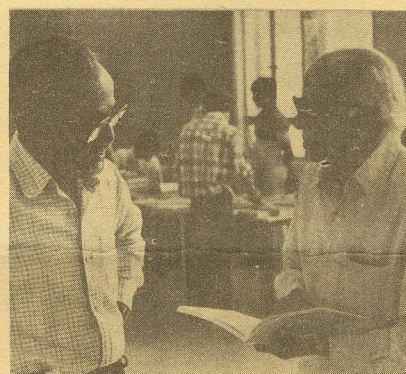
'Children's Book Publishing' was the theme of the second day's discussion. Papers were presented by Shri C.N. Rao, Joint Director, National Book Trust, India; Mrs. Vijaya Ghose, Associate Editor, Children's Books Division, Thomson Press; Miss Shruti Bajpai, Chief Sub-editor, Wall paper; Shri Ratan Bata, Publisher, Children's Books; and Shri Anant Pai, Editor of Amar Chitra Katha. A lively discussion

followed Mr. Pai's talk-centering on the advantages and disadvantages of reading of 'comics' by children.

Presentations by Shri Vishnu Chinchalkar, Artist - on his work on developing creative imagination in children using natural, everyday objects; and by Mr. Kohei Sugiura - who illustrated a creative approach to children's books through examples of some Japanese children's books were the highlights of the last day's session. Shri Badri Narayan, Artist from Bombay, and Mrs. Kusum Adivarekar talked about their experiments with creative approaches to child education.

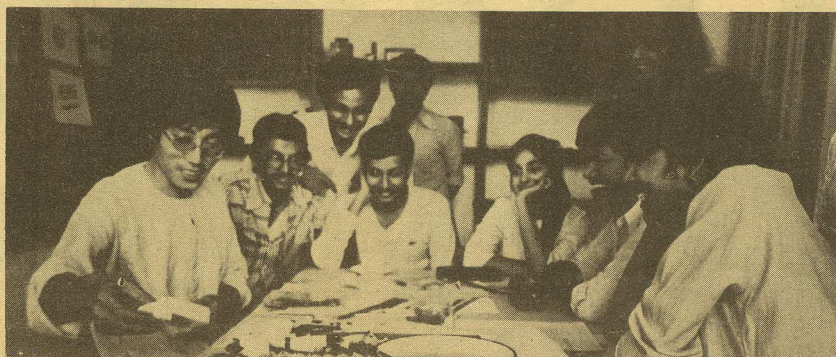
The seminar concluded with an 'open session' to discuss the areas in which IDC's visual communication department could work in future; and the support it would need from other organisations.

An exhibition of Children's Books published in India - with participation of leading publishers; was also held in IDC for the duration of the Seminar.



Fujio Watanabe

Mr. Watanabe, Illustrator from Japan conducted a short workshop in illustration techniques for IDC faculty and students from 18th to 30th December '83. Mr. Watanabe was in IDC as a UNDP expert for the 'Designing for Children' Workshop. Besides demonstrating the use of air-brush in illustration, he advised the workshop participants in planning the illustrations for the books designed by them. Mr. Watanabe also gave a lecture showing examples of his work.





Sori Yanagi

From 14th to 30th November, 1983, the distinguished Japanese designer-philosopher Sori Yanagi was in IDC as a UNDP expert. Mr. Yanagi who is also the Director of Japanese Folk Crafts Museums in Tokyo and Osaka gave a series of talks in IDC about his work and philosophy. A one day seminar on Folk-crafts was arranged on 17th November-with talks by Mr. Yanagi and Mr. Haku Shah, Director, Tribal Crafts Museum. Mr. Yanagi also addressed a gathering of top management

of public utility services from Bombay - to explain his approach to design of products for public utility services.

Speaking about the character of Industrial Design today - Mr. Yanagi expressed deep concern about increasing commercialization of design and designers' attitudes throughout the world. The majority of today's designs bow subserviently to current tastes, but true design consists in challenging the prevailing fashion. Mechanical production must turn from quantity to quality. Design will have to cease its preoccupation with cheap, showy

products encouraging consumerism and turn its attention to articles of quality that will benefit man.

Describing his own process of design - Mr. Yanagi explained how each product evolves out of a method of experiment and reflection, trial and error in the workshop and not as styling ideas on drawing board.

Excerpts from Mr. Yanagi's new book 'Thoughts on Design' were reprinted by IDC in a small booklet for distribution to students. Some copies are still available from IDC.

Roland Fürst, Photo-designer

A two-months course in Advanced Photography was conducted at IDC by Roland Fürst, photo-designer from West Germany, who was in IDC as a UNDP expert for three months from 5th August '83. Four participants from IDC & eight external candidates were selected from over 50 applicants for the course - which was the first advanced course of its kind in India. Through actual assignments, demonstration and discussions, various aspects of studio photography were covered in the course.

Mr. Fürst also advised IDC on setting up of its photographic facilities specially the colour laboratory; and the lighting set up. As photography would form an important core of IDC's visual communication programme - a discussion was also held to decide the objectives and contents of the Photography course at IDC. Mr. Mitter Bedi, Mr. Wilas Bhende, Mr. P.M. Dalwadi - all eminent photographers; and Mr. Arun Kale, Art Director participated in the discussion with Mr. Fürst and IDC faculty. The recommendations of the discussion are being used to formulate IDC's photography programme.

Exhibitions of Mr. Fürst's photographs were held both at the IDC Gallery; and at the Stuttgart Hall in association with the Maxmüller Bhavan, Bombay. The exhibition generated wide public interest in Mr. Fürst's work.



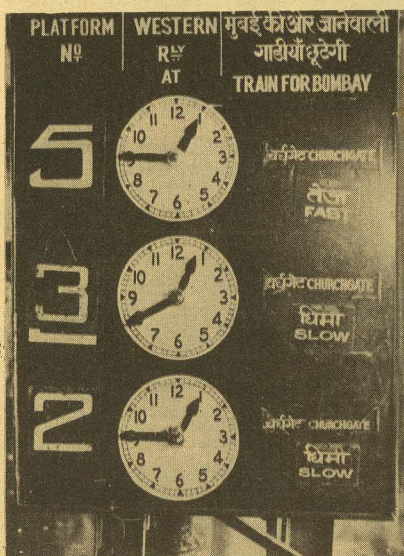
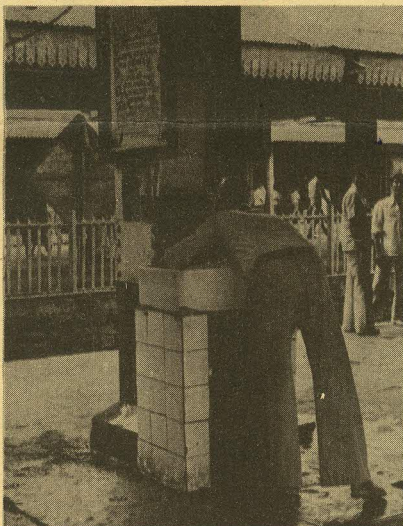
Alain Baillon

Mr. Alain Baillon, Technical Director of Trinome Design Group, Paris, France and Visiting Professor at University de Technologie de Campiegnie was at IDC from 3rd August, 1983 for 5 weeks as UNESCO Consultant. He conducted two short courses in "Product Detailing" and "Material-Product Relationship" for IDC students. He also gave a series of lectures on the methodologies employed for various design projects, particularly for the disabled. He was invited to lecture on Design at Indian Merchants Chamber, Indo-French Technical Association and Society of Industrial Designers of India.



Projects for Railways

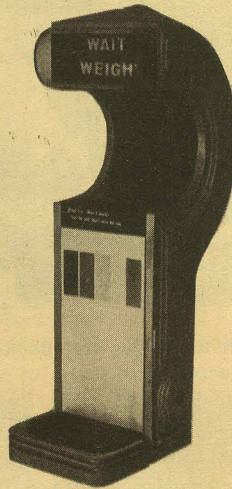
'Designing for Railways' was the theme selected by Senior M.Des students for their first degree Project at IDC. The students concentrated on studying, analysing and improving the various aspects of the services provided by the railways, with special attention to the products on the railway platform. The final proposals were evaluated by the Board of Examiners on 23, 24 and 25 November '83 at the IDC. A number of innovative ideas for improving the railway services have been proposed by the students. Some proposals require more work before they can be adopted, others are practical enough to deserve a trial by the railways. But, all of them have generated much useful information on the existing situation and problems of the selected railway services - which could form the basis of an overall project to improve them.



Ticket Issuing Weighing Machine

Student: Ravi Mokashi

Guide: Kirti Trivedi

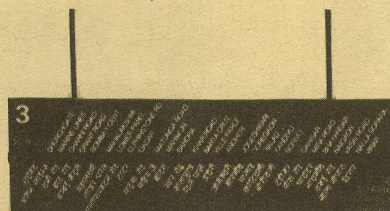


The weighing machine on railway platforms - besides their function of telling weight - have an amusement value by providing a diversion for the passengers waiting on the platform. A new generation of ticket issuing weighing machines is proposed which incorporate a microprocessor controlled programme of weight and personal message display. The display is on a CRT screen; and a print out on a card gives the user a permanent record of the weight. Considerable attention was paid in the project to create an appropriate image for the product - which should be visually dominant, attractive and friendly. In the final proposal, the product takes the form of a giant question mark - prominently visible from all sides. At the same time, the hood of the unit creates a personal space for the user who is weighing himself on the machine. Fibreglass moulded body has been suggested for the unit, which has been designed to be vandal-proof and easy to maintain.

Train Indicator

Student: Jayesh Panchal

Guide: V.P. Bapat



The information about next train's arrival time, destination, stops and type (fast/slow) is one of the most essential for the commuter. Most existing train indicators display only the names of stations where train will not stop - making

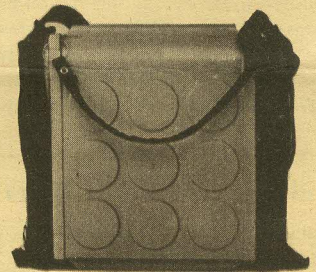
the system unsuitable for new users. There are also problems of legibility from a distance; & some confusion in case of back-lit train indicator in daytime - when both lit & un-lit information is visible.

These problems have been solved in the new design - which also considerably simplifies the mechanical and electrical construction of the indicator unit. All the station names are given in large, legible letters - and a row of bulbs below indicate by lighting the stoppages of a train. The simpler construction, & the corresponding lower cost will enable more of these units to be put on the platform as required, to make the information available throughout the length of the platform. The clock and the speaker of the audio announcing system has also been integrated in the proposed design.

Baby Carrier for Train Travellers

Student : Indrani Sen

Guide: U.A. Athavankar



A new product has been proposed aimed at fulfilling the needs of carrying a baby in second class 3-tier compartments during long distance journeys. The proposed product is a collapsible, light weight unit carried on the shoulders which when opened out can be hung in between the berths to provide an additional sleeping space for the baby. The unit can also be used to keep the baby harnessed when the baby has to be left alone unattended for short periods during the course of the journey.

Aids for Refreshment Stall

Student: Sudhakar Devgupta

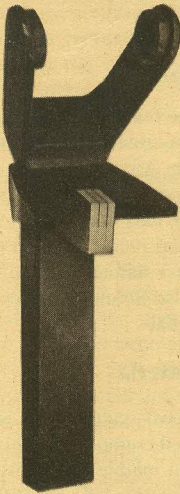
Guide: S. Nadkarni

A detailed activity analysis of the workers serving in railway platform refreshment stalls indicated 'tea-making' as the busiest and the most tiring activity. The new design provides all the tea making, serving and cleaning equipments arranged within easy reach of the tea-vendor; to eliminate unnecessary movements and to simplify the task of tea-making. The tea-making unit layout as proposed can either be incorporated in existing stalls or used independently in new stalls.

Public Telephone System for Railways

Student: Sandeep Mistry

Guide: K. Munshi



A public telephone unit for use on a busy and noisy environment like that of a railway station - has to be simple & easy to use; rugged and vandal-proof; and provide adequate shielding from ambient noise. In addition, space for telephone directory and some writing surface has to be provided.

From the finding that most public telephones go out of order due to loose handset receiver units; the new design proposes a fixed unidirectional micro-phone with angle adjustment for speaking; and dual speakers for listening. The configuration has been designed for comfortable use posture. Features like lean-board with directory holder, scribbling board, push button dialling, detachable noise cover etc. are suggested.

The design uses existing components available in India. Modular assembly would allow technological updating in future.

Facility Poles for Railway Platforms

Student: K.V.N. Rao

Guide: Kirti Trivedi

At present, the various facilities existing on the railway platforms like drinking water, dustbins, public phones, time tables, clocks, posters etc. are found to be located randomly without much thought to their most appropriate location according to the needs of the users.

It is proposed to create a series of facility clusters built around existing structural poles/columns on the platforms to be called 'facility poles' - most common platform facilities could be located on a frame built around these poles. Modular fittings enable the facilities to be located as required; after consideration of ergonomic factors like visibility and reach. Appropriate graphics and due consideration to compatibility of facilities grouped together was given before finalising the proposals.

System for Railway Catering Services

Student: S.C. Parikh

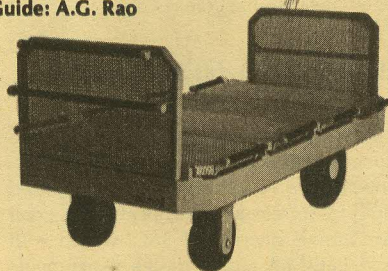
Guide: A.G. Rao

Of the various products used in the railway catering system, the food tray and container were taken up for re-design. The proposed design has the following features: prevents the food getting mixed in the tray during transit; keeps the food warm; has clean, hygienic looks; is light weight and stackable and so easily transportable. An identity for the product has also been created by incorporating appropriate railway symbols in the product itself.

Luggage Handling Trolley

Student: Pradyumna Vyas

Guide: A.G. Rao

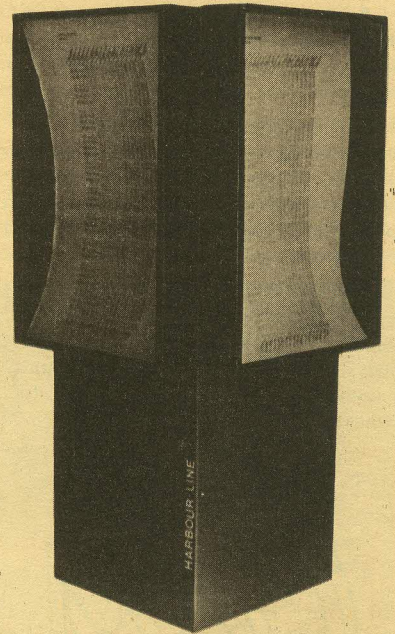


The problems of transferring luggage from the booking office to the break-van were studied in detail, before suggesting the design of a new heavy-duty luggage handling trolley. Main consideration in redesign was the ease of use and comfort to the porters. The shape of hand grips, proper height of handle, handle diameter etc. were determined after ergonomic tests. The height of the top surface of the trolley was increased slightly to match the break van floor height - so that luggage could be just slid inside the van. To facilitate this a sliding tray arrangement has been suggested. Apart from this the movement of the trolley over the generally crowded platform was also considered while deciding the size of the trolley.

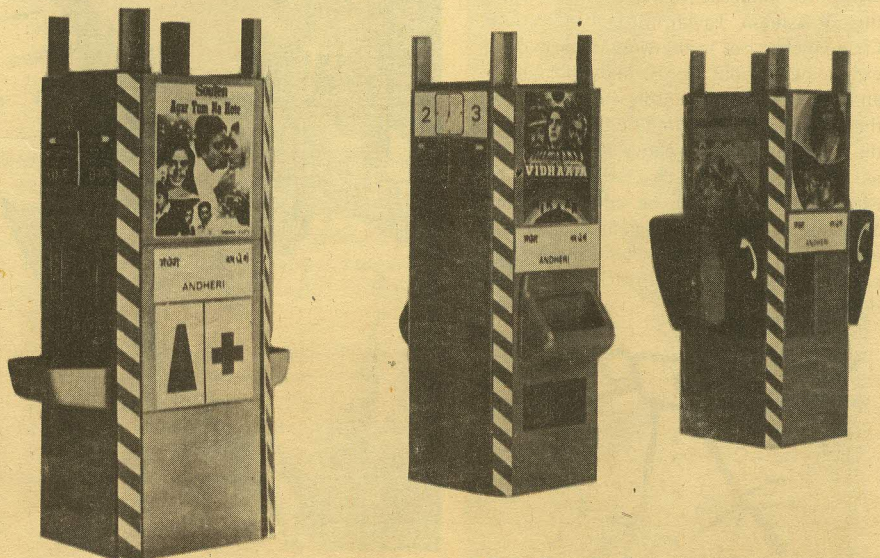
Display System for Railway Time-Table

Student: Subhashish Ghosh

Guide: Ravi Pooviah



Railway time-tables are normally printed as a large poster to be pasted on the display board on the platform. To include all the information in one sheet and still keep the time table legible - is a difficult typographical task. The design proposed aims at better legibility in the time chart design by incorporating various graphic solutions. The typefaces and sizes; and the overall layout were determined by carrying out field tests. A modular display unit has also been designed for the time table. The time table is pasted on a curved surface designed to ensure good visibility at all points. Through colours and prominent graphics - a separate identity has been given to the unit.

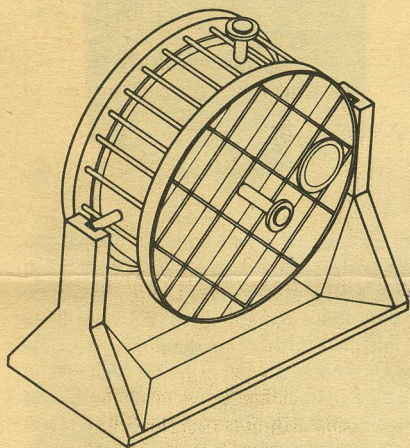


Exterior Design of Heat Exchanger for L & T

Prof. S. Nadkarni has completed an assignment on exterior designing of an heat exchanger unit, manufactured by Larsen & Toubro Ltd. The product which uses a new system for fabricating internal tubular coiling developed by L & T, will be on display at the Hannover Fair this year. Due to its compactness and portability - a good market is expected for the product.

The main problem in the existing unit was the robust & heavy look created by structural complexity of the construction - which was inconsistent with its portable quality. Visual problems also existed with the stand, and the flanges on the unit.

The new design proposed by IDC, softened the harshness - by use of a geometrical pattern, integration of main forms; and a subdued colour scheme. A circular window with lighting for inspecting inner coil structure was also provided.



COMMUNITY SOLAR COOKER

A Community Solar Cooker is being developed at IDC with the collaborated efforts of Mech Engg Dept. The design aims at meeting the cooking needs of less privileged communities. The absorber units are designed to be installed in courtyards or open spaces and focus on economy in construction, ease of handling and maintenance.

L & T

Larsen and Toubro Ltd, Bombay has retained Prof. K. Munshi as consultant industrial designer for a further period of six months for the development of new range of products in their switchgear division. Prof. Munshi has already completed one year of retainership programme with the company.

5 day-Workshop for SAC engineers

As a follow-up of an introductory course to engineers of Space Application Centre (SAC), Ahmedabad a 5-day workshop was organized at IDC, for six selected participants. The group from various division of SAC worked with IDC faculty on recent design assignments tackled by their organization. The designing task was support by lecture/discussion sessions in ergonomics, design process and also discussions on potentials of new materials and processes. Role of creativity and use of new methods was explained directly through SAC assignments as well as through specially designed tasks. The Workshop concluded by discussing the role of product planning and design, in typical technology transfer problems of SAC.

Lectures

Shri Ratan Parimoo

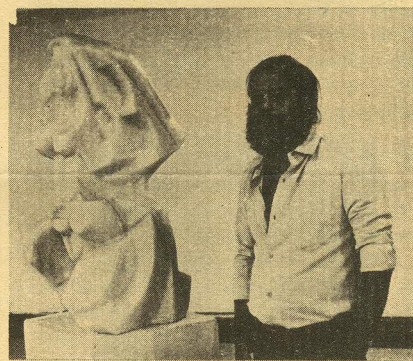
Shri Ratan Parimoo, Head, Department of Art History, M.S. University of Baroda; gave a series of talks on History of Indian & Western Art (Painting & Sculpture) at the IDC on 14 & 15 October 1983.

Dr. P.P. Apte

A talk on 'The Mandala Diagrams of Paushkar Samhita - Structure & Colours' was given by Dr. P.P. Apte, Assistant Editor, Sanskrit Dictionary Project, Deccan College, Pune; on 12th October 1983 at the IDC. An exhibition of 25 mandalas recreated from the Paushkar Samhita text - dating back to 3rd Century A.D. - was also arranged in the IDC Gallery on the same day.

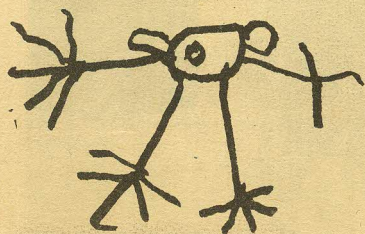
Ramesh Pateria

The well-known sculptor and artist Ramesh Pateria showed examples from his recent work (sculptures in marble) and talked about his philosophy, at the IDC on 15th November 1983. A lively discussion with the students on the issues raised by Pateria, followed the talk.



Creativity Workshop at Kumar Mandir, Tavlai

Prof. A.G. Rao, Kirti Trivedi & Sandeep Mistry of IDC along with Mr. M.S.G. Rajan conducted a 3-day workshop in creativity for the village school children at Kumar Mandir, Gram Bharati Ashram, Tavlai in Madhya Pradesh. Creative exercises in drawing, mask making, expressing without words, body-movements and dance were immensely successful with the children. The children's enthusiasm, and the freshness of their creative vision as reflected in their drawings - far exceeded the original expectations. IDC will be advising Kumar Mandir in formulating a programme of creative education for its students. Plans for starting a craft centre with IDC's help at Tavlai are also being worked out.



Dr. R.H. Harding

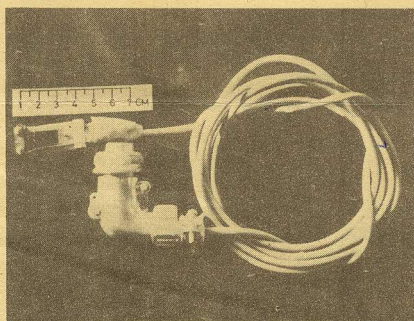
Dr. Harding of the Human Sciences Department, University of Technology, Loughborough, U.K., was in IDC as a UNDP consultant from 3rd November to 5th December 1983. His main assignment here was to advise IDC in selecting a computer suitable for real time data acquisition for biomedical laboratory, and also to suggest the various software & hardware specifications for it. IDC shall be acquiring a micro PDP 11/23 - Plus Computer with real time data acquisition facility.

Dr. Harding, a specialist in electromyography, has also given to IDC software for real time EMG analysis.

A miniature accelerometer was designed and fabricated to measure the peak acceleration of different body segments; under Dr. Harding's guidance. The accelerometer can be tied on any body segment. A simple electrical device was also made to determine the angular changes at different body segmental joints.

Dr. Harding shall be visiting IDC again in September 1984, for hooking up and testing the computer with different biomedical instruments.

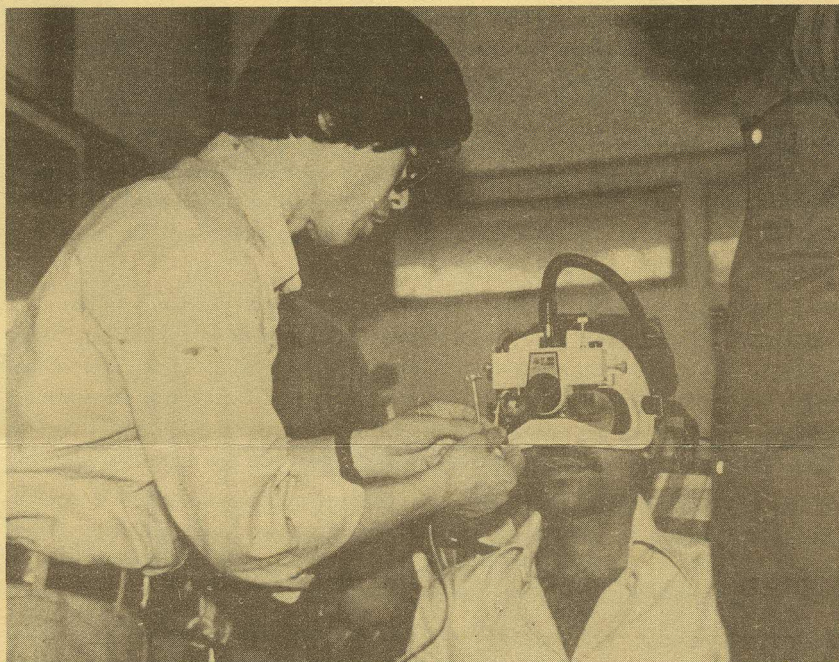
Miniature accelerometer designed and fabricated with Dr. Harding.



John Kreifeldt

Prof. John G. Kreifeldt of the Department of Engineering Design, Tufts University, Boston, USA was in IDC as a UNDP expert from 7th December to 24th December 1983. Prof. Kreifeldt conducted a series of seminars for the IDC faculty and students on the use of Multidimensional and Individual Differences Scaling Techniques as a tool in Ergonomics & Product Design. The software on INDSCAL, PREFMAP and KYST are now available at IDC.

A one-day discussion with IDC faculty & students on Ergonomics and Product Design was also held at IDC during Prof. Kreifeldt's visit. The proceedings of the discussion will be published by IDC.



Takeo Iida

Mr. Takeo Iida, from the Industrial Products Research Institute, Tsukuba, Japan conducted a series of seminars and workshops in IDC from 23 October to 19th November 1983 - as a UNDP consultant in Product Ergonomics. The seminar topics covered methods of pair comparison with case studies; methods of rank order, rating scale with case studies; the sensory effects of colour and psychological effects of colour; & the methods of adjustment, limits and constant stimuli.

Mr. Iida conducted Workshop on use of eye movement recorder; eye movement analysis and evaluation of school furniture by movement analysis for the staff of the ergonomics division of IDC and for IDC faculty & students.

Ergonomics Research Projects at IDC

Biomechanics of Machine Control Design

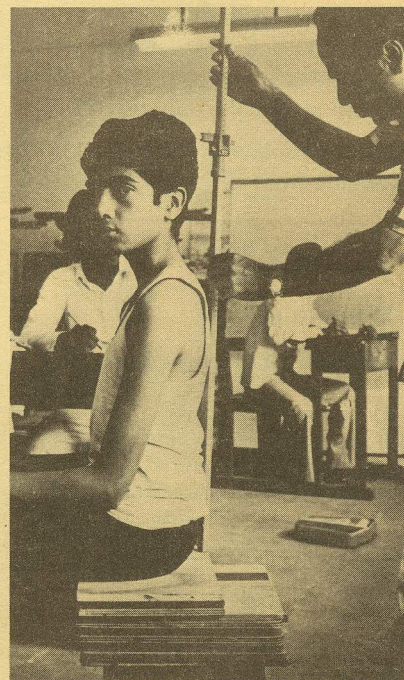
From the view point of control positioning, operation and design, it is essential to find out the relationship between the maximum static force developed by different body segments and the angles sustained between them. A research project has been initiated by the Ergonomics Laboratory, to meet the urgent need for data in this area. The aims of the project are to study the range of joint motions of different joints; relationship between the angular changes between two adjacent segments and the force developed by them; & the relationship between the maximum strength developed and endurance.

The project is being conducted by Dr. Gaur G. Ray, with the assistance of Mr. N.S. Sadhu and Ms. M. De of the Ergonomics laboratory. The compiled data is expected to be published in graphical form for use by designers.

Ergonomic Data Generation on Indian School Children for School Furniture Design

In view of the complete lack of anthropometric data on Indian children in the age group 5 - 18 years - and the importance of such data for designing school furniture; a research project and study has been initiated by the ergonomics division of IDC. The aims of the study are: to generate an anthropometric data bank for Indian children between the age group 5-18 years; to publish children's body dimensions in an easily understandable format for designers; and to study body composition and biomechanical characteristics of Indian children.

The research project is being guided by Dr. Gaur G. Ray, In-charge, Ergonomics Division at IDC. The first phase of the project has started with the training of 10 school-teachers in taking about 160 different anthropometric measurements of the student. So far 180 students of different age groups have been studied from one school. The field study is expected to be completed by April 1984.



Master's Degree Programme in Visual Communication

IDC will begin offering a two-years Master of Design (M.Des) degree course in Visual Communication from the academic year 1984-85, in addition to the present M.Des. programme in Industrial Design.

Though a large number of undergraduate programmes in graphic design are run in India, most of them do not go beyond teaching the technical skills of graphic communication. The visual communication programme at IDC will be at an advanced level to create graduates with greater analytical and problem solving capabilities. The objective will be to produce creative problem solvers who can effectively use design methods, rather than skilled intuitive designers. Centre's location at IIT, and close interaction with the parallel discipline of Industrial Design - would help in realising these goals.

Besides education, the centre will also be involved in research and actual assignments. Research projects in Devnagari Typography, Audio-Visual Communications, Signage for Public Utilities have already started. The emphasis in selecting project areas will be on their social relevance in the context of India's unmet communication needs. Designing for Public Utilities, Educational and Instructional Material, Typography in Indian Scripts, Environmental Graphics, Ergonomical studies in legibility and communication Design, Graphic Information Processing and Computer Aided Design, Audio-visual Programmes, etc. are some of the project areas identified. The emphasis will be on communication & not on advertising.

IDC has already acquired through the UNDP assistance programme some of equipment required for the Visual Communication course. This includes facilities for Offset Printing, Phototypesetting, Slide Projection System for Audio Visual Programmes, Studio Photography and Darkroom Equipment, Video-cameras, Monitors and recorders etc. An automatic plain paper copier, video-editing facility; and computer graphics terminal are expected soon.

Mr. R.K. Joshi, the well-known graphic designer and typographer; and Prof. S.S. Sathaye of Sir J.J. School of Applied Art, Bombay have been appointed Visiting Professors at IDC to help in curriculum planning and development. More faculty members are expected to be appointed soon.

The initial intake of students for the VC programme will be limited to 10. The admission will be open to students with diverse backgrounds - minimum qualification being a basic degree in Engineering, Architecture, Applied Arts; and the corresponding level of degree in Science or the Arts; with at least 60% marks in the qualifying examination. Final selection will be on the basis of an entrance test and interview. Selected candidates will be eligible for a stipend of Rs. 600/- per month.

Further details and application forms for admission to the programme will be available from IDC from April 1984.

M.Des. Degree Projects

The following projects have been taken up by IDC students for their final Master of Design degree work:

Chandravalee Sengupta

Redesign of Sewing Machine

Indrani Sen

Exploration of Flexible Material Products

Jayesh Panchal

Design of Mini City Car

Vasant Mehar

Portable X-ray Unit

Sudhakar Devgupta

Work-Station for Alphacomp Phototypesetting Machine

Kodali V.N. Rao

Redesign of Side Loader Truck

R. Theleban

Redesign of Welding Machine

Ravi Mokashi

Exploration of Spun Products

M.A. Munshi

Microcomputer Module for L & T

Subhashish Ghosh

Design of Garbage Collector

Sandeep Mistry

Furniture in Integral Foam

Sunil Parikh

Redesign of Concrete Mixer

Pradyumna Vyas

Exploration of Visual Possibilities of Turned Wood Forms

French Students at IDC

Christophe Monnet and Antoine Schoen, final year design students at the University de Technologie de Campiegn, France are at IDC for 6 months to work on a product design/development project with Prof. K. Munshi. The projects are: Design of a Passenger seat for long distance travel; and Aid for Computer Terminal Operator.

'Abhikalpa'

Journal of Design from IDC

IDC will start publishing a six-monthly Journal of Design called 'Abhikalpa'. The journal will reflect the various concerns of IDC in the areas of Industrial Design, Visual Communication and Ergonomics. Aimed at designers and design educators - the journal will provide an additional forum for discussing design issues & reporting research results.

The first issue of 'Abhikalpa' is expected to be published by the end of January 1984. Contributions are welcome for future issues.

अभिकल्प

Editor: Kirti Trivedi

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IDC News
Industrial Design Centre
Indian Institute of Technology
Powai, Bombay 400 076
India