

Bulletin of the  
All India Federation  
of ~~Markes~~ printers.  
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# Bulletin

OF THE

ALL INDIA FEDERATION OF MASTER PRINTERS

Volume 7

No. 7

February 1962

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## EDITORIAL

## HIRE-PURCHASE OF MACHINERY

The National Small Scale Industries' Corporation were extending their support to provide the printers in general with printing machinery on hire-purchase basis. In furtherance of the resolution passed at the All India Printers' Conference at Baroda, they were kind enough to raise the limit from Rs. 50,000/- to Rs. 52,000/- and the Federation has been representing that the printing industry also may be treated on a par with the other industries and the maximum limit should be increased on the same level as that of other industries. It was contended that a Press can be installed with Rs. 52,000/-, but considering the cost of materials and machinery at the present moment it is impossible to equip a press with the said sum. Hence, the request to the Corporation by the Federation to enhance the value limit. Recently, the Federation has received numerous representations from its various affiliated units to the effect that the Corporation are no longer considering applications for import of machinery from printers. This is rather a bolt from the blue.

The printing industry is playing its part in the national development and it is repeatedly stressed by Governors of various States and by Ministers at the various Conferences held annually and they emphasize the need to raise the standard of printing and to bring it in line with that of their counterpart in the West. Of course, every printer is striving to produce good quality, but he is handicapped for want of the latest machinery and equipment. Printing is a handmaid to various other industries and without printing no message can be sent anywhere and with the increasing literacy drive, quite a lot of books and literatures have got to be printed in the Five Year Plans.

In view of the very many plans for the industrial re-generation of our country and in view of the fact that the printing industry will have to play its due role in these plans for educating the people, it is hoped that Government will reconsider the decision of the Corporation and will continue to extend substantial help to the printing industry especially as the quantum of amount earmarked for this industry is far lower than that of any other industry.

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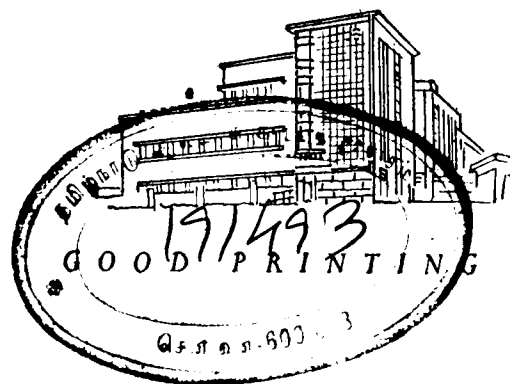
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GOOD PRINTING TELLS A BETTER STORY

## PROOFREADER

### — A Mental Juggler

Contrary to general belief, good proofreading requires imagination and mental agility. The very fact that a reader must devote his entire concentration to his work is proof of this. He is, in a way, a juggler, while he follows the copyholder and watches for typographical errors, he must also be alert for poor grammar, bad punctuation, inconsistencies, and the myriad other errors to which copy and proof are subject. To do this, he must at all times be aware of the sense of what he is reading.

In most types of work, this requirement presents no problem. The reader is usually able to understand normal straight matter unless he allows his attention to stray. However, with technical catalogues, tables, price lists, or similar an all too common tendency among proofreaders to feel that their only responsibility is to see that copy is faithfully reproduced. There is no justification for this attitude. Technical copy is especially subject to error, as it is frequently prepared by specialists in the particular field rather than by professional editors.

Let us assume that a reader is confronted with proofs for a price list of drugs. They may contain items in a form something like this :

|                 | Ret. | Wh. Sle. |
|-----------------|------|----------|
| Aspirin 100s    | .50  | 4.80     |
| 500s            | 2.25 | 20.75    |
| 1000s, ea.      | 4.30 | 3.27     |
| Cold Tabs., 25s | .40  | 3.84     |
| 50s             | .76  | 7.30     |
| 100s ea.        | 1.40 | 13.20    |
| 500s, ea.       | 6.80 | 5.16     |

Before beginning to read such a price list, the proofreader should determine the relationship between the retail and wholesale prices of each item. Obviously, when the

wholesale price is higher than the retail price, the second figure is for a quantity lot, probably one dozen. The abbreviation *ea.* indicates that the price in both columns is for a single item. On this basis it becomes apparent that in the foregoing example, the *ea.* after the 100 quantity under *Cold Tabs.* should be taken out.

Such an error would be caught only by a proofreader who consistently endeavours to comprehend what he is reading. If the relationships of the various symbols in a price list or catalogue are not apparent, the proofreader should ask for an explanation before proceeding. Indentions are particularly important in work of this kind and should be watched carefully. An alert proofreader can usually determine the accuracy of indentions without help from the copyholder. With the followcopy system, indentions must be announced and this is a time-consuming procedure.

The proofreader should also keep an eye on alphabetical order, but not at the expense of his other responsibilities. Alphabetical or numerical order is sometimes juggled because of space requirements. If the proofreader's instructions are to check the sequence of entries, he should do this as a separate operation. Otherwise, sequence should be borne in mind but not given major attention.

Price lists, which are not meant to be obscure, can be understood with a minimum of effort. There are types of work which no proofreader can be expected to comprehend fully — metallurgical stress tables, for example. Nevertheless, the application of commonsense may enable the proofreader to spot

errors in original copy. Suppose a column contains figures in ascending or descending numerical order, if one figure that deviates from the pattern is likely to be incorrect and should be queried.

Similar situations may arise in financial reports. Proofreaders are not expected to verify the accuracy of an accountant's calculations. Most financial reports, however, are printed with appended explanations. The proofreader *should* check the amounts referred to in the notes against the corresponding figures in the financial statement. He should also make sure that the totals of assets and liabilities in a balance sheet are the same. It should be remembered that an accountant's figures may be transcribed onto copy incorrectly. Such an error like any other, may be overlooked until it comes to the proofreader's desk. An alert proofreader *may* catch it, although he cannot be held responsible for missing it.

Unfamiliarity with a subject may actually be an advantage to a proofreader, provided he is able to grasp the general sense of what he is reading. Since he does not know what to expect, he is unlikely to "see" something that is not there. In essence, his attitude must be one of respect of his own intelligence, compounded with irreverence toward whatever he is reading.

There is corollary advantage to this type of approach toward unfamiliar or apparently dull material. The effort to understand the numerical relationships of figures in a table or price list tends to keep the proofreader alert of errors. It is difficult to do good work when one is bored.



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Memorandum of Books, Etc., Printed during the Month of March 1958.  
at **CENTRAL ART PRESS**  
'Acton Lodge', 11 McNichol Road, Chetput, Madras 31

| 1  | 2                                           | 3                                                                                                  | 4            | 5                                                           | 6                                                                               | 7                                                           | 8                                      | 9         | 10                                                | 11                                                  | 12                                           | 13                                                 | 14                                                                                              |
|----|---------------------------------------------|----------------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------|---------------------------------------------------------------------------------|-------------------------------------------------------------|----------------------------------------|-----------|---------------------------------------------------|-----------------------------------------------------|----------------------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------------------------|
|    | The languages in which the book is written. | The name of (a) the Author, (b) the Translator and (c) the Editor of the book or any part thereof. | The Subject. | (a) The place of Printing and (b) the place of Publication. | (a) The name or firm of the Printer and (b) the name for firm of the Publisher. | The date of delivery from the Press and of the Publication. | The number of leaves, sheets or pages. | The size. | The first, second or other number of the edition. | The number of copies of which the edition consists. | Whether the book is printed or lithographed. | The price at which the book is sold to the public. | The name and residence of the Proprietor of the copy-right or of any portion of such copyright. |
| 1  | English, 24                                 | Dr S. S. Ramani, Editor in Chief.                                                                  | Technical.   | Madras.                                                     | Central Art Press, Chetput.                                                     |                                                             |                                        |           |                                                   |                                                     |                                              |                                                    |                                                                                                 |
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April

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| English 24                                                                                                                                                                                                                                                                                                                   |   |   |   |   |   |   |   |    |    |    |    |    |
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II 4/19/58

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| 4                                                                                          | The Subject.                                                                                       |
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| 7                                                                                          | The date of delivery from the Press and of the Publication.                                        |
| 19.5.58                                                                                    |                                                                                                    |
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| 28 pages                                                                                   |                                                                                                    |
| 9                                                                                          | The size.                                                                                          |
| 10 x 8 1/2                                                                                 |                                                                                                    |
| 10                                                                                         | The first, second or other number of the edition.                                                  |
| First                                                                                      |                                                                                                    |
| 11                                                                                         | The number of copies of which the edition consists.                                                |
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| Printed                                                                                    |                                                                                                    |
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The subject.

(a) The place of printing and (b) the place of publication.

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The date of delivery from the press and of the publication.

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The size.

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Bulletin of the All India Federation of Master Printers., Vol.7. No.7, Feb. '62

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LOCATION: Madras.

19.3.1962

Hony. General Secretary  
Publisher.

For THE JUPITER PRESS PRIVATE LTD.

Director.  
Printer.



# THE PRINTING INDUSTRY IN CEYLON

By  
W. D. E. BASTIAN

*The following paper read by Mr. W. D. E. Bastian, President, All Ceylon Printers' Association, Colombo at the Fourth UNESCO Regional Seminar held in Colombo from 27th November to 16th December 1961 describes the state of the Printing Industry in Ceylon.*

EDITOR.

The art of printing was introduced into Ceylon by the V. O. C. (Dutch East India Company) in 1734 during the regime of Governor Van Imhoff.

In 1796 when the British captured the maritime provinces of Ceylon from the Dutch, this printing establishment too was taken over and this formed the nucleus of the present Government Press.

However, it was the Wesleyan Missionaries who improved the Printing Process in the Island in 1814 by replacing wood-blocks with metal types.

Publications in the Dutch and early British era were mainly of a religious nature. It stands to the credit of the Dutch for publishing the first Sinhala Book "The Sinhalese Sebeede" a copy of which is at the Colombo Museum Library. With the advent of the British and the stress given to English education, publications became more secular and the industry too began to thrive under this new impetus given by the British.

The first Sinhala Newspaper to be started in Ceylon was the "Gnanrtha Pratheepaya" published by the Roman Catholic Church. One of the oldest English Newspapers too, the *Ceylon Observer*, founded in 1834 dates back to these early years of British Rule.

The Printing Industry of Ceylon like its counterparts in most South Asian Countries has developed in a very haphazard manner. From its inception in the mid 18th century printing was not recognised as an Industry as such but as something

industry could not be without. The reason for this is both simple and obvious. The Industry from the outset has been run on unscientific lines with a few exceptions. In the smaller Presses the managerial skill was supplied mostly by those of the lower middle class, who had neither an inkling of the know-how nor the wherewithal to finance the industry. Their training was almost nil and their capital assets still less, so that from the word go it was a hand to mouth existence.

Owing to the slow pace of industrial development in Ceylon, Printing by and large has developed as a cottage industry. The capitalist did not as a rule, favour the printing trade as a lucrative field for investment because it did not bring him a quick return.

The demands on the printer too have been small due to neglect of Swabasha, prior to the last war. Most of the literary publications were in English and publications imported. Small units were established to cater to local needs only. It has already been mentioned that paucity of working capital, lack of skilled personnel, want of printing equipment and materials and lack of technical "know-how" have hampered the growth of industry on scientific lines. Furthermore, there are no governmental organisations unlike in the West and India, from which the Printer could obtain financial assistance on easy terms for expansion of the industry. Most of the local presses that are capable of producing books for the neo-literates, are unable to meet

the ever increasing demand for new literature, without expansion of plant and equipment, but want of capital and sufficient encouragement from encouragement in the way of financial aid has stifled its progress.

With a view to rectifying some of these shortcomings and ameliorating those employed in the printing trade itself, two Associations have been formed, namely The Master Printers' Association and All Ceylon Printers' Association". The former started in about 1941 consists of the eight leading printing companies in Colombo, who have up to now been mainly pre-occupied with establishing a national wage structure for the Printing Trade, and labour disputes concerning their members.

The All Ceylon Printers' Association is a combine of several small printers and is of more recent standing. It was formed in 1956, but from small beginnings it now embraces more than 100 members, drawn from the various Printing Houses throughout the Island. This group is not only the more representative of the two associations but is also the more vociferous. This union of the members of the Printing fraternity shows the growing awareness among them that they too have a Mission to fulfil in the new structure of an independent Ceylon. This Association has succeeded in bringing together in common fellowship not only the enrolled members, but even a few non-member printers, paper merchants, printing machinery dealers

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and all those associated with the printing trade.

Programme of activities of the All Ceylon Printers' Association is as follows :—

- (a) To organize a Panel of Technical Experts in the Printing Trade who will give free advice on technical matters to Print-shops with a staff of less than ten workers and to others at concession rates.
- (b) To hold an Exhibition of printers' specimens and to give awards to the best three of each section, as an encouragement for quality work.
- (c) To award certificates specially to the workmen of outstanding ability in small print shops, after on-the-spot practical Tests.
- (d) To organize a Library of Books and Magazines pertaining to the Trade.
- (e) To compile a Glossary of Technical Terms in Sinhala and Tamil for the Printing Trade.
- (f) To assist in publishing in Swabasha a Hand-book on Printing.
- (g) To organize a short term training course for Small Print-shop Managers.
- (h) To provide in the Associa-

tions' Bulletin more articles of a technical nature.

- (i) To promote more co-operation and friendship among Printers—big and small, and employees.
- (j) To award bursaries to persons of higher educational standard to be trained under fully equipped Colombo Printing Houses, under the management of qualified Printers.
- (k) To prevail on the authorities to improve the present inadequate Training facilities so that those possessing higher educational qualifications could qualify locally in every branch of Printing and those of lower educational standard could qualify as Printers' Apprentices/Tradesmen.

The Printing Industry in Ceylon is one of the few industries that has not been given its due place in this country, as is done in other parts of the world. In the Western countries this industry is considered as one of the best revenue earners, adding considerably to the national income with the result that it has been given due recognition, and in Britain, it is considered as the third biggest industry.

Unfortunately due to circumstances, Ceylon has been slow in recognising this industry as an im-

portant revenue earner with the result that it has suffered tremendously and no progress has been made in this field, and Ceylon is being left far behind other countries. Today we are confined to only a few of the processes used in printing, due to the comparatively small number of copies of each issue or edition printed, while other countries thriving on research and larger editions have advanced far ahead with modern methods, using Photogravure and Photocomposition. In Ceylon, these are mere words in our vocabulary, without any meaning, and only a few will comprehend that it is the latest technique used in the printing industry.

One of the best ways to train personnel and help in the development of the printing industry will be the establishment of a School of Printing Technology and Graphic Arts in Ceylon, in keeping with the dignity of the trade and in line with schools already established in other parts of the world.

This school will not only help to train suitable personnel but will improve the standard of printing in this country. This school could provide facilities for specialization in various processes. If there was a School established in Ceylon, it would afford the necessary facilities for the training of printers and would form the background for

more advanced and intensive training in the future. Hence the establishment of a School is beneficial to the poor who could learn this art in a thorough and comprehensive way. This will give an opportunity to everyone, irrespective of being rich or poor, for learning this trade at one and the same level.

Today about 90% of the printing trade in Ceylon consists of small printers, who could ill afford the time and money of training anyone in their Print-shops. The trade cannot find the time to devote for proper planned teaching of apprentices, and presently training is not carried in the proper manner that is beneficial to the apprentice. Proper training and instruction could only be given through the medium of a School of Printing. This instruction through a school will obviate the primitive methods used today and help its users to benefit more by using precision

instruments, which are necessary for greater output and better standards. The use of more modern instruments is a vital necessity in this sphere and only a School of Instruction could demonstrate this important necessity.

Co-ordination between each department can be stressed more, through a School, than in any other way. Many sub-departments taken together comprise the Printing Trade. This specialization can only be obtained through a School, both practically and theoretically. An apprentice learner can go through a three or four year course at the School, learning all the finer points of the particular branch and thus equipped could venture out into the trade quite safely and confidently.

Understanding the working of each department and its difficulties is of prime importance to all involved in printing. Hence proper co-ordination between all depart-

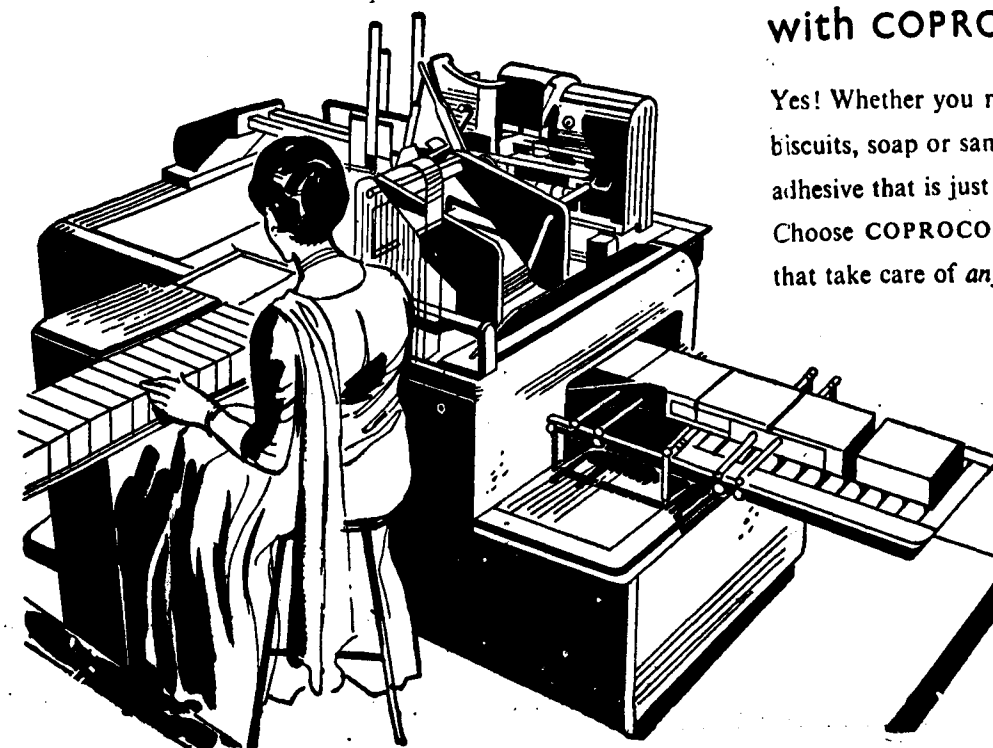
ments is very essential to achieve this object. This could be properly imparted at a School of Printing. The establishment of a School is a sound economic proposition and beneficial to the advancement of this country. It could train technical personnel here, rather than import them from abroad. There are many advantages to be gained in future in Printing, especially with the emphasis now on the language.

There is no gainsaying that the campaign for the eradication of mass illiteracy in the Island by government must fail without an early re-orientation of its policy towards the printing industry in Ceylon. The Government cannot afford to continue with its step-motherly attitude towards the Printing Trade. The least it could do is to follow the Indian example of offering financial assistance through its many sponsored organisations to even the smallest printer, provided reasonable security is offered.

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## NEWS AND NOTES

### MODEL 78 SM LINOTYPE DISPLAYED AT INDIAN INDUSTRIES FAIR—1961

Through the kindness of the Proprietors of *The Statesman*, Linotype and Machinery Ltd., Calcutta, were able to exhibit and demonstrate a Model 78SM Linotype equipped with four main and four side Magazines at the Indian Industries Fair, which was held in New Delhi during November 1961.

The Linotype Stand at the United Kingdom Pavilion was attractively designed and displayed with Type Specimens, Wall Charts and large photographs of the Linotype, Miehle printing machine and Autoplate, flown out from Linotype House, London.

All the V.I.P.'s who visited the United Kingdom Pavilion came to the Linotype Stand and were thrilled to receive a slug bearing their frame in a matter of seconds which was cast on the Model 78SM Linotype.

### DRUPA 1962

The Drupa 1962, the international fair on printing and paper, will be held from 5th to 18th May 1962.

Apart from the practically complete range of printing machines of all types, some 200 mechanical engineering factories will display their latest designs and constructions in machinery for the processing of paper.

The fourth DRUPA which will far surpass its predecessors with its range of exhibits will thus be the event of the year for the paper processing industry throughout the world.

The innovations which are to be expected at the DRUPA 1962 will include — only to mention a few different categories of machines — cardboard box making machines of all types, envelope and bag producing machines as well as the

most varied machines for the cutting of paper in rolls or in sheets, book-binding machines and a thousand other things which are manufactured from cardboard, paper or foils — either printed or unprinted.

The DRUPA calls to the printers of the whole world as well as the paper-makers and processors, it calls to the advertising specialist, the planner of new sales territories and likewise to the manufacturers of cartons and boxes and packings of all kinds.

### PRINTING IN TEXTILES

A Machine for colour printing on textiles, built by a Lancashire firm, comprises two colour units, running in tandem, which can either print in eight colours on both sides of the material (Duplex) or in sixteen colours on one side. Each unit has eight printing stations arranged around a circular bowl 8 ft. (243.84 cm) in diameter and 5 ft. 3 inches (160 cm) in width. Maximum textile width which can be accommodated is 4 ft. 8 inches (142.24 cm).

For Duplex work the material is first printed on the reverse side on one bowl and then on the face side on the other bowl. For 16-colour printing on the face side the material is passed round the two bowls in succession. To convert from one printing style to another the connecting drive between the two units must be adjusted.

Further information can be had from Woods Engineers (Ramsbottom) Ltd., Ramsbottom, Lancashire, England.

## MR. & MRS. GLICK INAUGURATE SEMINAR ON GRAPHIC ARTS IN BOMBAY

A Seminar on Graphic Arts was held at the USIS auditorium, 16, Queen's Road, on 3rd February, at 6 p.m. Mr. and Mrs. M. B. Glick, representatives of the American Institute of Graphic Arts inaugurated the Seminar. Mr. K. M. Munshi presided.

Group Seminars were conducted by Mr. and Mrs. Glick at the Indo-American Society, in Bombay from 5th to 10th of February and they were attended by a large number of printers, publishers and advertisers.

The Seminars were organised by The Bombay Booksellers and Publishers Association, The Bombay Master Printers' Association, Brihan Mumbai Mudrak Sangh (Greater Bombay Printers Association), The Commercial Artists Guild and the United States Information Services.

### Mr. & Mrs. M. B. Glick

Mr. Milton B. Glick was Director of Production and Design for many years at The Viking Press. Recently he has been the Vice-President of The Spiral Press, well-known New York printers. Some 30 books designed by Mr. Glick have been selected for the American Institute of Graphic Arts Fifty Books of the Year exhibitions. He was twice awarded the plaque of *Bookbinding Magazines* for leadership in design and production. He has served the American Institute of Graphic Arts as Vice-President, and Chairman of many Committees. In 1957-58, he was Book Production Consultant to the Southern Languages Book Trust, Madras, on behalf of the Ford Foundation.

Mrs. Evelyn Harter Glick was production assistant on the 14th edition of *The Encyclopedia Britannica*, and has headed production for several book publishers includ-

ing Random House. Some 12 books of her design have been accepted for the Fifty Books of the Year exhibitions. She is author of a book, "Printers as Men of the World."

The American Institute of Graphic Arts, with a nation-wide membership, is dedicated to improving the standards of printing design and craftsmanship through programmes of lectures, seminars and travelling exhibits. For some years the Institute has exchanged exhibitions and information with European nations. It now feels that closer cultural and professional relations with the people of Asia and the Middle East should be invited.

Glicks are visiting Bombay, Poona and Baroda (February 1-17) as representatives of the AIGA, to enlist the interest of Indian specialists who are concerned with communication through printing — publishers, printers, artists, advertising planners, etc. They are invited to participate in a series of seminar-discussions on problems of printing design and production, arranged under the Specialists' Programme of the United States Department of State. The intention of their visit is to share experience with local producers and users of graphic arts, who are invited to bring their pieces of work for discussion with them. They will be prepared with exhibit material, including films on photo-engraving and offset lithography, slides, etc., and introductory talks which should lead to topics of local interest, namely "New Books for New Readers"; "How Can We Make Textbooks Better Tools for Teaching and Learning"; "Illustrations and Ways of Reproducing Them";

"Advertisement and Package Design"; "Cover — Invitation to the Book", etc.

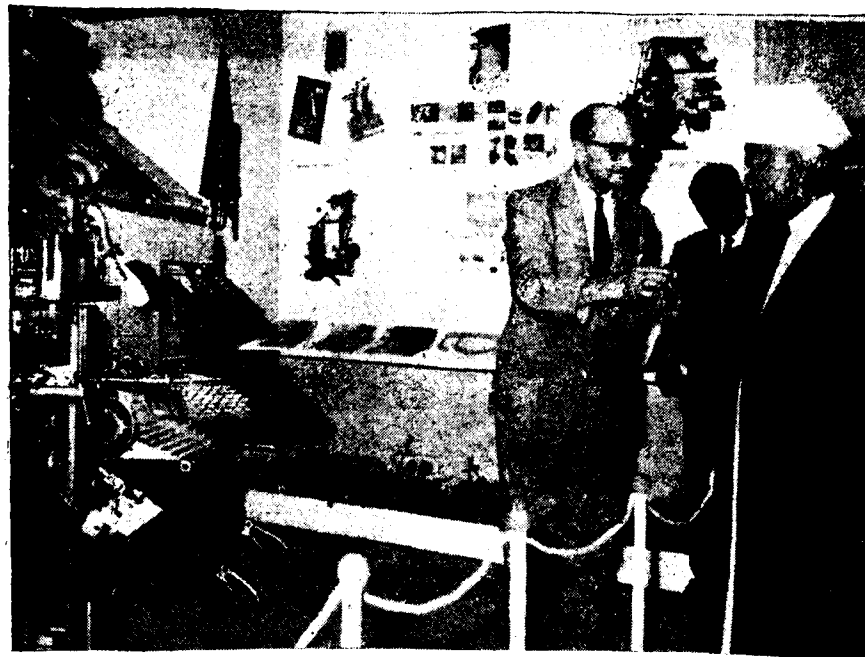
### WATERPROOF PAPER HOUSE

A five-room one family house that was erected on a plot in Huntingdon, Long Island for about 1,000 dollars of paper and cardboard has proved its ability to withstand sun, rain and wind.

The idea came not from big industry, but from a young writer on a Caribbean isle. He acquired building plot, and could not decide whether to buy a pre-fabricated house or to build in the orthodox way. The price of a ready-made house was too high for him, and the transportation of traditional building materials would also have been expensive.

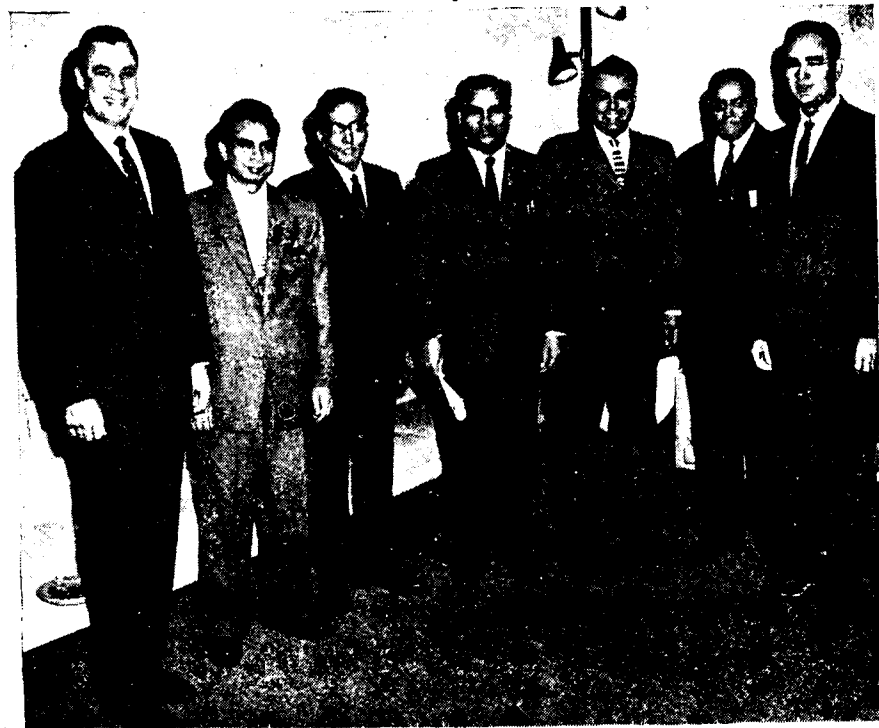
He began experimenting with paper and cardboard. He glued several layers of cardboard together and tested them for their resistance to everything a house is supposed to resist. The results were so successful that his "invention" attracted attention of the American mainland.

The house of paper is said to be ready for any climate. It is fireproof, waterproof, and the construction firm's representative says, "We are sure it can stand up to cold ice and snow. But it seems especially useful, potentially, in developing countries with tropical climates. Our tests upto now indicate it will last indefinitely. — NAFEN



Photograph shows Dr. S. Radhakrishnan, Vice President of India, receiving a slug from Mr. E. T. Martin, Linotype's Chief for India, Burma and Ceylon at the Indian Industries Fair, New Delhi.

## INDIAN PRINTERS AT KODAK PLANTS, ROCHESTER



The Indian Productivity Team visiting the Kodak Plants at Rochester

The Indian Productivity Team on Printing Industry, sponsored and assisted by the Technical Co-operation Mission (TCM) of U.S. Government spent a day at Kodak's Plants in Rochester, New York, U.S.A., learning how new photographic techniques raise productivity in printing plants. Kodak's Graphic Reproduction Technical Centre was of particular interest to the printers. The centre demonstrates ways of increasing output, improving quality, and lowering costs in all segments of the printing industry through the use of photographic products. About 2500 persons from all parts of the world visit the centre each year. Kodak produces a large number of films and chemicals for the graphic arts trade.

Kodak Limited, Bombay made arrangements for the groups' visit to Rochester.

To inform the entire Indian Printing Industry of its observations concerning productivity, team members will prepare a joint report on their trip. The team is expected to make contribution to the achievement of India's industrial development objectives as defined in the Third Plan.

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## THE MADRAS PRINTERS' AND LITHOGRAPHERS' ASSOCIATION

### ANNUAL REPORT

*Extracts from the Annual Report or the period 1st October 1960 to 30th September 1961.*

It will be of interest to know that several of our members who took part in the All India Printers Exhibition 1961 were awarded first prizes and certificates of merit. It is hoped that more and more members would participate in future Exhibitions and bring credit not only to themselves but to the Association as well.

**Sales Tax :** One great achievement of the Association during the year under review was that relating to Sales Tax. This has been elaborately dealt with in our Newsletter No. 1, dated 10-8-1961. As members are aware a deputation waited on the Minister for Industries on 15th March 1961 and explained to him the difficulties experienced by printers in this regard. It is learnt with gratification that instructions had since been issued to assessing officers to finalise printers' assessments until 31st March 1960 on the basis of 2 per cent sales tax on only 70 per cent of the turnover provided the printer concerned had at no time collected sales tax at 2 per cent on the entire turnover.

**Indian Productivity Team on Printing Industry :** With a view to find out how organisational and managerial aspects of productivity are obtaining in foreign countries, the Government of India selected a team of a dozen experts in the printing industry to visit important printing establishments in Germany, U.K., U.S.A. and Japan. The Executive Committee of the Association took advantage of the

visit of the team to Madras and invited them to attend their meeting which was held on 16th June 1961 for exchange of views. The team headed by Shri G. Kapur met the members of the Executive Committee and had discussion about their future programme of work and hoped they might be able to do something tangible to improve productivity in the printing industry in this country on their return from study tour. We take this opportunity of congratulating Shri R. Venkateswaran, one of our Vice-Presidents, on his inclusion as a member of the Team and express our gratitude to the Union Government for giving representation to Madras on the team by including him as a member.

**Visit of Shri N. J. Ardeshir :** Taking advantage of the visit to Madras of Shri N. J. Ardeshir, the President of the All India Federation of Master Printers on his return from Madurai where he presided over the Governing Council meeting of the Federation, the President and members of the Executive Committee of the Association got up a Tea Party at the Woodlands Hotel, Mylapore, on 21st August 1961 to honour the distinguished guest. In a short and interesting speech he made on the occasion, Mr. Ardeshir emphasised the need for strengthening the Federation as well as the local Association and impressed on the members the importance of co-operation and a spirit of give and take if they wanted the printing industry to thrive and prosper.

**Process materials :** In order to help members in getting process materials at controlled rates, the

Association approached the State Trading Corporation of India Ltd. and obtained release orders of Agfa process materials of the c.i.f. value of Rs. 5,000/- and Rs. 28,000/- respectively during the year and distributed them to members who applied for such materials. It is hoped that more and more members would take advantage of such concessions in future.

#### NEWSLETTER :

Another important achievement of the Association during the year was the starting of a monthly *Newsletter*. Realising the need for giving information to our members in regard to various rules, regulations and enactments affecting their business and to bring home to them their duties and responsibilities in the efficient carrying out of their business, it was decided at the last General Body Meeting, to publish a monthly *Newsletter* commencing from August 1961 for the benefit of members. Already two issues of the *Newsletter* came out during the period under report.

#### BOOKS AND PERIODICALS :

The Association subscribed to the following journals and periodicals :

1. Labour Law Journal.
2. The Madras Labour Gazette.
3. Bulletin of the A.I.F.M.P.

Madras-2, P. M. ANTONY,  
14-11-61. Hony. Secretary.

*Minutes of a meeting of the Executive Committee of the Association held on 23rd January 1962 :*

One of the most important subjects discussed at the meeting was

that relating to the non-availability of printing machinery and other materials. The Secretary explained that in pursuance of the desire of the members at the last annual General Body meeting, the question was taken up at an all India level at the Governing Council meeting of the All India Federation of Master Printers held at Delhi in December last. He stated that as a result of the discussion it was decided to constitute a representative Advisory Committee to draft a memorandum to be presented to the Union Ministry of Commerce and Industry setting forth the various difficulties experienced by printers all over the country and also, if necessary, to wait in depu-

tation on the authorities concerned. Accordingly the President of the Federation drew up two exhaustive and comprehensive memoranda — one dealing with photographic equipment and materials, photographic plates, films, process materials, chemicals and block-makers' requirements etc. and the other dealing with printing machinery, ancillary equipment and spare parts — and presented it to the Union Minister for Information and Broadcasting with a request to forward it to the Ministry of Commerce and Industry.

By way of supplementing the above the Executive Committee passed the following resolution :

Statement required under Rule 8 of the Registration of Newspapers (Central) Rules 1956.

1. Place of publication .. Bombay.
2. Periodicity of its publication .. Monthly.
3. Printer's Name .. T. K. Venkatesan.  
Nationality .. Indian  
Address .. 109-C, Mount Road, Teynampet, Madras-18.
4. Publisher's Name .. R. Venkateswaran on behalf of All India Federation of Master Printers.  
Nationality .. Indian  
Address .. 42, Broadway, Madras-1.
5. Editor's Name .. S. Ramu.  
Nationality .. Indian  
Address .. 34-38, Bank Street, Fort, Bombay-1.
6. Names and addresses of individuals who own the newspaper and partners or shareholders holding more than one per cent of the total capital .. The All India Federation of Master Printers, 42, Broadway, Madras-1

I, R. Venkateswaran, hereby declare that the particulars given above are true to the best of my knowledge and belief.

Dated 15th February, 1962.

R. Venkateswaran,  
Signature of the Publisher.

"The Madras Printers' & Lithographers' Association views with great concern the situation which has arisen consequent on the N.S.I.C. not entertaining applications from printers for import of printing machinery as it is likely to result in starving hundreds of printers for want of quality and fast-producing machines. The Association therefore requests the Union Government to take serious note of the situation and see that applications for printing machinery be also considered by the N.S.I.C. for satisfactory implementation of their policy of expansion of education under the Third Five-Year Plan."

The Committee agreed to forward the above resolution to the Union Government and to the All India Federation of Master Printers.

# WORLD'S FASTEST PRINTING PRESS BEING PRODUCED

A printing press which is believed to be the fastest of its type in the world; capable of printing at speeds up to 2,000 ft (610 m.) of paper per minute, is now being manufactured by the best England firm, Strachan and Henshaw, Ltd.

The 128 pp. single colour, fixed size, rotary perfecting press and folder, prints both sides of the paper simultaneously and has a simple two-roll inking system in conjunction with precision flexible rubber plates. The machine is 60 in. (152 cms.) wide and has a 36½ in (93 cms.) printing circumference.

Two 32 pp. 2/up signatures are produced by each revolution of the press. The drive is from a 100 h.p. variable speed motor, which enables speeds up to 2,000 ft. (610 m.) per minute to be achieved.

## Association of Master Printers Enact Drama in Aid of Building Fund

The Annual Drama in aid of the Building Fund of the Association of Master Printers, West Bengal Limited, Calcutta, was held at the Star Theatre, Calcutta on January 9, 1962.

Shri Tushar Kanti Ghosh, Editor, *Amrita Bazar Patrika* and Chairman of the Commonwealth Press Union (Indian Section) was the Chief Guest on the occasion.

Welcoming the Chief Guest, Shri A. P. Bhargava, President of the Association said :

"I have very great pleasure, Sir, to welcome you and the distinguished galaxy of ladies and gentlemen who have been so kind enough to be present here, this evening, to witness our dramatic performance. I am especially grateful to you, Sir, for accepting the invitation, inspite of the heavy demands upon your time, to inaugurate this little show organised by our Association.

This, I take it, Sir, is indicative of your natural attachment to the printing industry in our State



Shri Tushar Kanti Ghosh with Shri A. P. Bhargava (President), Shri H. K. Dass, (Hony. Secretary) and others

which, in its turn, looks up to you for valuable help and guidance. I should also mention that the Association takes pride in your election as Chairman of the Indian Section of the Commonwealth Press Union which, we feel, is a richly deserved recognition of your long and outstanding contributions to the pro-

gress of India's national newspaper press. You come from a long line of outstanding pioneers whose heroic and painstaking efforts in the cause of the Press during its early infancy in this country will always constitute a memorable chapter in the history of our people and in the country's endeavours towards progress and fullness.

He also thanked the patrons of the Association for donating space in the Souvenir, and the members for the co-operation and observed :

"I would mention in this connection the rather slow progress that is being evinced in building up the corpus of the Fund which, at this rate, will yet take many years before it becomes sufficient for its purpose. May I accordingly suggest, that our members will be generous enough also to think in terms of substantial special donations or contributions to this fund to enable it to grow with the requisite expedition to the level at which it may be considered to

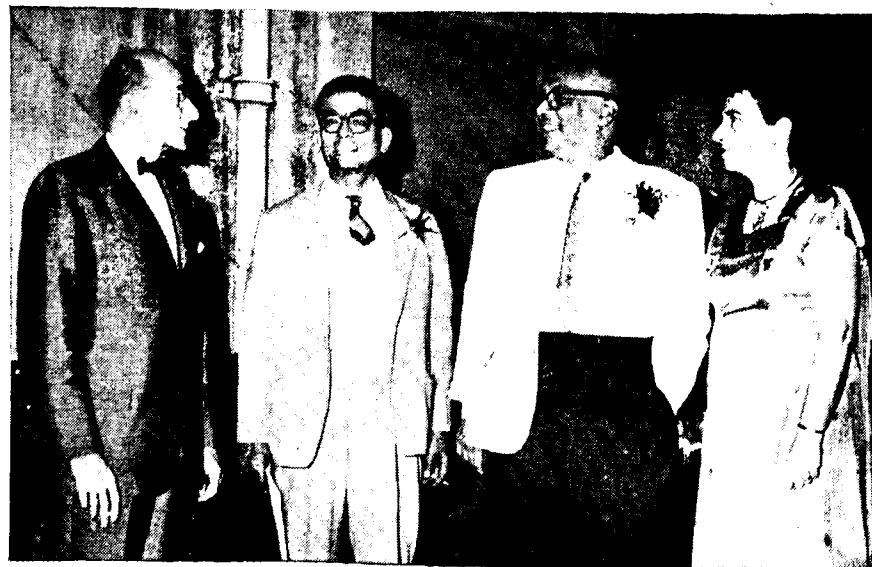


Shri Tushar Kanti Ghosh with the members in make-up

have attained the minimum size requisite for its purpose? It is very necessary that the Association should have its own buildings without any loss of time and to fulfil that object it is equally essential that our fund should be augmented with corresponding speed and expedition. We have also to solve the problem of procuring a suitable site for the building. As you are aware, our approaches to the Corporation of Calcutta for the purpose have proved to be abortive. We would, I feel, explore the possibilities of being able to persuade the Government to donate a suitable piece of land for the purpose. I especially look up to our respected Chief Guest to use his great influence upon the Government on our behalf for the purpose. I am sure, Sir, we shall not be denied this great service.

"I also take this opportunity of thanking members of our Recreation Section without whose untiring efforts and undying enthusiasm it would never have been possible to perform this drama for our Building Fund and, last, but certainly not the least, I must acknowledge with affection and gratitude the outstanding services to the cause of the Association by our Hony. Secretary Shri S. C. Ghose whose unfailing sense of responsibility and untiring work have been mainly responsible for making the function a grand affair.

"Before I conclude, I should, once again, appeal to all our friends and colleagues in printing and allied industries of the State to get increasingly closer together and continue to develop mutual understanding and goodwill. This mutual confidence and goodwill alone can take us ever further forward and enable us to make our appropriate contributions to the making of our New India."



Mr. and Mrs. M. B. Glick of the American Graphic Art Society with Shri H. K. Dass and Shri S. C. Ghose, witnessed the dramatic performance

Shri Ghosh in his reply said that inspite of being rather badly indisposed, he could not disregard the call of the Association because of his long and intimate connections with the fraternity of printers and he was, indeed, glad that he had been able to come and take part in the evening's festivities. It was, he said, a good and respectable gathering got together on a good and legitimate cause, that of raising funds for a building of the Association's own. The Association, which has been doing so much to assist the printing industry of the State, does need to have a place of its own. It was good that with the help of shows such as was being held on the present occasion some considerable funds had already been accumulated for the purpose, but its amount was still far from the requisite minimum and he hoped that all members will cooperate in expediting raising the amount of the fund to that level. As regards a suitable site for housing the proposed building, Government or the Improvement Trust should be approached for the gift of an appropriate piece of

land and he assured the Association that he would, himself, do all that is possible to help in this regard.

The play presented by the members of the Association was Sarat Chandra's immortal composition *Charitraheen*. It was played to a virtually full house and the performance has been in keeping with the usual traditions of the Association's past endeavours in this behalf, eliciting spontaneous appreciation by the rather discriminating audience to whom it was presented. This, indeed, is a tribute to the abilities and efforts of the young members who had so materially contributed to its successful production and presentation.

#### NOTICE

All correspondence intended for the Editor including advertisement matters should be sent to the Editor, "The Bulletin", 34-38 Bank Street, Fort, Bombay-1.

## NEW EQUIPMENT

### NEW MACHINE CUTS LABEL COSTS AND GIVES QUALITY PRINTS

Producers of baked goods, candy and other food products, manufacturers of drugs, chemicals, hardware, and others who package their products, can now overprint die cut roll labels, or labels having photo-registration marks, with the new Markem 158A Machine. It automatically feeds roll stock, prints in register, and rewinds or cuts off and stacks labels, ready for use in packaging equipment, at rates up to 125 per minute.

This in-plant printing method enables users to cut labelling costs and get complete inventory flexibility because basic labels can be purchased in quantity and overprinted with exact and complete legend as required. The problems and costs of label inventories and obsolescence, delays in re-ordering, etc. are virtually eliminated.

Fast change of Markem metal or rubber type allows immediate change in label copy, and even when using small type, the imprints are of high quality. Markem inks are fast-drying and available for a wide variety of label stocks.

Specifications include a maximum imprint of 2"×6" on label sizes from 1" to 10" in width and 1" to 4" in length; maximum diameter of roll stock, 12"; 1/4 HP motor; machine dimensions 21"×20"×55".

For further information on the Model 158A or other machines to mark, label, or decorate parts, products, and packages, contact The Printer's House (Pvt.) Ltd., P. Box 273, New Delhi 1.

### ALPHATYPE

The Alphatype unit utilizes a standard electric typewriter as its keyboard and a separate machine as its exposure unit or caster. The operation of the typewriter keyboard, which is electrically connected to the recorder unit, records on magnetic tape a signal representing each character as it is composed together with its set width, and at the end of each line the necessary justification information.

The recorder operator who runs the typewriter keyboard has primary control over errors and corrections. The operator types a line and when the justification limit of the line is approached, a bell about 60 units from the end of the line warns the operator to avoid recording more characters in the line than the justification length will permit.

Before the operator presses the carriage return on the typewriter, he may scan the paper for errors; if he detects an error, the error button is pressed and the line is killed. Errors detected after the composition has been completed are best corrected by resetting the sentence or paragraph.

The speed of the recorder is more than 60 words per minute. The recorder unit has provision for automatic justification; automatic interjustification; double fount selection (a total of 168 characters on the keyboard); change signals for selecting an unlimited number of alphabets for mixing; positions for seven pi characters; an automatic quad-out key; an automatic quad-centring control; kerning key, which can be actuated at the operator's discretion; an automatic

leader-out control; simple procedure for running leaders between words in a justified line; error key for killing wrong lines; tabular control for figure column work; non-compute control for flush-right margin notation, and a test control for determining measures in unit lengths.

The method of justification which the Alphatype uses is that of varying the size of the word spaces to assure flush-right and flush-left margins. The set width of the characters is expressed in units from 4 to 18, making a total of 15 different set widths available within a given fount. The unit in the Alphatype system is 1/18th of the width of the widest character, usually the cap W.

At present the Alphatype can handle from 6 to 18 point sizes. To accommodate the varying relationship of set widths of characters from one fount to another, the Alphatype set width insert card is placed on in the recorder with each fount change.

The product of the Alphatype recorder is a reel of magnetic tape containing the composition message in inverse order. This reel of tape is brought to the Alphatype exposure unit, a machine 2' wide, 3' long and 14" high. The rear of the exposure unit is inserted in the darkroom wall so that the film carrier operates under light-controlled conditions while the remainder of the machine is in full room light view. The exposure unit operator loads the reel of recorded tape and inserts the proper fount. He then dials the proper line feed in half-points and, after mounting the sensitized paper or film on the carrier, he pushes the 'run' but-

ton and the exposure unit begins to read the magnetic tape and photographically compose. When the job is completed, a buzzer sounds, and the operator enters the dark room, removes the sensitized material from the carrier, and develops it in the usual manner.

The Alphatype fount is a plastic negative mounted on a 4"x7" aluminium frame and contains two alphabets of 84 characters each. There is a separate fount for each size, and these founts are interchanged quickly.

The largest sheet size of sensitized material the exposure unit can accommodate is 10½"x12", and the maximum justified line length that can be composed is 60 picas. The depth of the galley is limited to 12"

Further information from Colyer & Southey Ltd., 17-18 Took's Court, Britain. EC.

#### NEW TECHNIQUE ELIMINATES BURNING-IN

A new technique of printing-down for use in the preparation of powderless etched rigid and wrap-around rotary letterpress plates, the Positive Resist Process, has been developed by Sidney R. Littlejohn & Co., Ltd., Great Britain. The PRP process eliminates burning-in and work is done from positives. The use of positives which brings the process into line with offset-litho practice, has three main advantages. First, it facilitates layout planning and imposition in colour sets. Secondly, if positive filmset material is used it can be printed on to metal directly without intermediate conversion to negative form. Thirdly using a positive enables dot correction to be achieved where required, because only a minute amount of local etching correction can be done on this type of finished plate.

The PRP coating can be applied direct to the metal, after normal cleaning, in the usual type of coating machine. When dry the plate is wiped over with releasing agent to assist the release of the resist in the non-image areas during final development. The prepared positive is exposed to the coated metal in a printing frame and arc lamp or special curved printing unit. The arc lamps must be 30 amps or above in power. The edges of the positives are then stopped out with masking solution. The exposed area darkens with the action of light, giving a good visible printing image for inspection and painting out.

After development the printing image is blacked with key solution and black base and the plate is then wiped with cleaning solution. The plate is then returned to the coating machine and the PRP resist applied in the normal coating manner. The machine used for this purpose must be modified to include an exhaust fan and the interior can be coated with a plastic material before use so that the machine can be kept clean by periodically stripping off the plastic.

When the resist is thoroughly dry running water is swabbed over the plate with felt until the resist shows signs of breaking down in the non-printing areas. The plate is then immersed in a tank of warm water for about three minutes. Final development is carried out by swabbing under running water and the plate is then dried and descummed ready for etching.

#### FIRST PHOTO-COPIER

A photo-copier known as the Photo-Rite Major, which operates on the diffusion system has been developed by Ellams Duplicator Company Ltd. in Britain. This machine copies not only flat mate-

rials but also pages from books, magazines, etc.

An important feature of the Photo-Rite Major is its compactness. The exposure unit and the developing unit, which is motor-driven are combined in one machine. This takes up a desk space of only 22½"x22½".

Another asset of this machine is the vacuum lid of the exposure unit. This is operated by a hand pump and ensures that the material to be copied and the photographic papers are in good contact. Copies are clear and free from creases. Although the vacuum lid is important for normal copying work, it is essential when making offset-litho masters.

No dark room is necessary and there are no unpleasant fumes. All colours are reproduced in black and the copies, which need no washing, fixing or drying are not sensitive to light.

#### MOULDING PRESS FOR RUBBER PLATES

Equipment for the production of small rubber plates which is manufactured by the American Evatype Corporation is now available in Great Britain from Wells & Taylor Ltd. The Evatype device has a platen size of 6x8 inches and inside chase dimensions 4½x7½ inches. Both upper and lower platens are electrically heated by standard voltage and are thermostatically controlled. Pressure is maintained with compound steel toggles. The press occupies a bench area 26x15 inches and has a packed weight of 90 lbs.

The first stage in the production of rubber plates is the making of a plastic matrix. The type and half-tones are locked up in the type-high chase and placed on the sliding table of the press. Steel bearers of the required height are placed on the sides of the chase

and a sheet of plastic matrix material is placed over the type-matter. This is covered with a thin sheet of metal and the whole assembly is slid into the pre-heated press. When the plastic is thoroughly softened after two minutes, the upper platen is lowered by a hand-wheel to give full pressure. The timer is set and the matrix allowed to cure under pressure for ten minutes to harden it. The platen is then raised and the matrix and type removed.

The matrix is placed on the sliding table and the same bearers placed on either side of it. A second set of bearers is then placed on the first of a thickness to give the required depth of rubber plate. A sheet of rubber is placed on the matrix and covered with a piece of Holland cloth and the thin metal

plate. This is all slid into the hot press and heated under pressure for ten minutes. Different thicknesses and grades of rubber can be supplied and plates can be made non-shrink or vulcanised to brass sheets in the press. The finished plate is trimmed and mounted with double-sided adhesive tape.

#### ATOMIC ENERGY USED TO IMPROVE PAPER MANUFACTURING

The Industrial Nucleonics Corporation in the United States has developed a new equipment that controls an important paper-making operation with a small amount of atomic energy. The equipment automatically smooths out paper during the production process, and also regulates its weight.

The new system uses atomic

radiation in a measuring and controlling device. The device moves back and forth above and below the wide sheet of paper as it comes at high speed from a paper-making machine, emitting beta rays from a radioactive isotope of strontium. As the rays pass through the paper they indicate its thickness. At the same time the device automatically smooths out the places where the paper is too thick or too thin by adjusting the valves that spread the pulp.

In addition the device measures the average weight of the paper, and an automatic control regulates the over-all quantity of pulp being fed to the machine.

According to Industrial Nucleonics, the system has already brought large savings to the paper industry.

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JWTC 23

## COLOUR CONTROL MONITOR FOR SHEET-FED OFFSET MACHINES

### INITIAL RESEARCH BY PATRA'S ELECTRONICS UNIT

Fully automatic colour control for offset-litho machines has been developed. Following initial research by the electronics unit of the Printing, Packaging and Allied Trades Research Association, a colour monitor has been developed by J. F. Crosfield Ltd. which detects even the slightest colour changes while the run is in progress. Not only does it do this, but it also adjusts the ink supply to bring the colour back to the pre-set standard.

The monitor, which is now in full commercial production, is normally made either for single or two-colour machines. It can, however, be made to handle any number of colours—there is absolutely no limit—simply by fitting additional control units and scanning heads.

The development of the equipment is undoubtedly one of the most important technological advances witnessed by the trade in recent years, and marks a big step forward in the automation of the printing process. It is an example of preliminary experiments by scientists at PATRA, followed up by a progressive and far-seeing manufacturer, leading to a production aid which can help litho colour printers to improve greatly their colour standards.

The first British installation is now under way at a large Midlands printing factory.

#### **The Inkatron—detects minute variation in reflectance and controls colour density**

The Inkatron will detect a variation of as little as 1/10 per cent change in reflectance and will control to 1/4 per cent in colour density, and for each change in density an automatic unit coupled up to the ink supply adjusts the feed to bring the colour back to the pre-set value. This process continues throughout the run, the equipment quietly and efficiently adjusting the ink supply, thereby providing a degree of colour control that has never been possible before.

Once the minder has adjusted the setting and obtained his pass sheet the Inkatron is set so that it will register any deviations from it, and he can forget all about colour variations. This means that he can devote more time to other factors controlling quality, such as slur, image sharpness, fluffing and damping. If the machines stopped for some reason, so causing a rapid colour variation, the ink control system provides a quick rate of recovery to minimise sheet wastage.

There are five main parts of the equipment—scanning head, ink control mechanism, computer, control panel and a synchronising device. The scanning head, the 'eye' of the Inkatron, is mounted on the press in such a position that the selected scanning area will pass directly underneath (initial tests showed that if the density of only a small portion of the printing of the

printing area could be controlled, then the density across the entire sheet could be controlled to within 2 per cent). A tiny spot of light is projected on to the design or, if this is not suitable, on to a small colour bar located near the gripper edge of the sheet. Light reflected from the design or mark is picked up by a photocell, the resultant signal produced being proportional to the density of the ink.

The head is so designed to allow light to be picked up by the photocell only at the moment when the area to be scanned passes underneath. For every cylinder revolution the signal from the scanning head is passed to the 'brains' of the equipment, an electronic computer which selects from this signal a series of voltages relating to what the scanning 'eye' has seen. The computer analyses and compares the various voltages and shows them as units of colour reflectance percentage indicating the ink density on the printed sheet. The same voltages are used to energise and operate the ink feed adjustment gear.

The Inkatron goes into operation after makeready and when the machine run has started. It is not claimed that this new control will solve all sheet colour difficulties because the minder still has the problems of matching his inks to the desired sample, besides setting up the machine, adjusting the duct keys and bringing the water and ink into balance.

### The Background story of the Inkatron

As a printing run proceeds there are gradual changes in colour, with the inks tending to be printed lighter and lighter. These variations are imperceptible to the eye—even minders with long experience working under good lighting conditions cannot see them. As the eyes become fatigued so the faculty for detecting colour variation decreases; the alteration in colour density being extremely small, it is only noticeable when end-of-run sheets are compared with the pass copy. Then it is too late to do anything except to reprint or to face customer complaints.

It was because of this problem that the need for a colour monitor became urgent. So, some eight years ago, PATRA was asked by several leading printers to develop an automatic method of detecting colour variations that would assist the minder to eliminate colour errors.

It was known that at the same time J. F. Crosfield Ltd. were developing a similar control for gravure printing presses. When PATRA research had progressed to the stage where it was obviously practical to control colour variation on litho presses by electronic means, an agreement was made between PATRA and the Crosfield company for the latter to carry on research and finally to manufacture a control equipment.

Crosfield's research engineers made the first prototype models in 1959. Following a detailed description of the equipment at the third Annual Conference of the Association of Printing Technologists earlier in 1961, considerable interest was evoked by British printers. After experiments with the prototype model, many improve-

ments and design changes were made: So evolved the Inkatron of today. A batch of 40 colour units is now in production for the European and American markets to be mounted on Harris, Miehle, Crabtree and M A N machines. These types of offset presses are suitable for mounting Inkatrons, as they have a convenient cylinder round which the sheet can be carried for scanning by the monitor. Crosfield are also developing a scanning system for types of presses such as Roland and Mann where a suitable cylinder is not available.

### The Inkatron in Action

Late in 1959, an early version of the Inkatron was put on commercial production work at the Montreal Lithographing Company. The monitor was fitted to a two-colour Harris offset press, the automatic control unit for adjusting the ink feed being added later. Says T. E. Bryant, of the Crosfield company's technical staff, who supervised the initial tests: 'A trial run of 100,000 was carried out—during the first half colour was adjusted manually, in the second half it was automatically controlled. Variation during the second half was reduced by more than 75 per cent as compared with the first uncontrolled half. Colour variations were 4 per cent with hand control and less than 1 per cent with automatic control'.

Mr. J. F. Crosfield comments: 'The equipment has even performed very much better than everyone had expected and Montreal Litho are highly delighted with it'.

The Crosfield company wish to contact firms having Crabtree, Harris, M A N or Miehle presses (these machines being suitable for direct application of the Inkatron) and also firms having Mann or Roland machines fitted with slitting cylinders.

### LETTER TO THE EDITOR

#### Non-Availability of Machineries

Sir,

We submit that you may be aware that the recent policy announced by the Government, curbs import of essential printing sundry materials, which are quite necessary for the maintenance of printing, litho and offset printing industries. We moved the Government, many a time for the import of the following litho sundries, on *ad hoc* basis to actual consumers, viz. the printers. But the Government has not taken up the request and has announced the usual policy. The established importers of the above materials, too are having a meagre quota of import and as such the prices are shooting up daily. Litho stones are practically not available from these importers even.

As such, the Sivakasi Master Printers' Association, Sivakasi deems it fit to put up this matter in the Federation for strong move with the Government. Please make a strong plea with the Government praying for import by Industrials on actual consumption and take suitable action in the matter and oblige.

Thanking you,

Yours faithfully,

For The Sivakasi Master Printers' Association,  
K. C. A. D. GNANAGIRI NADAR,  
President.

### REMEMBER

It is the critic's dissatisfaction that helps to raise standards. We welcome criticism for we believe in raising standards.

### LEGAL

## The Madhya Pradesh General Sales Tax Act

*The High Court of Madhya Pradesh has passed the following order on a writ application under the Constitution of India preferred by the petitioner against an order of the Assistant Sales Tax Officer in a matter in which the issue is as to what is a 'book' within the meaning of the Madhya Pradesh General Sales Tax Act and exempted under tax.*

M/s Shubh Chintak Press, Kotwali  
Jabalpur (Petitioner)

versus

1. State of Madhya Pradesh. 2. Assistant Sales Tax Officer III, Cir. II, Jabalpur (Respondents).

Application for issue a writ of certiorari, prohibition etc. u/ Articles 226 and 227 of the Constitution of India—for quashing the order dated 1-11-60 by the Assistant Sales Tax Officer Jabalpur in Assessment Case No. 5/59-60 directing the petitioner to pay Rs. 879-92 nP. as Sales Tax.

### Order

By this petition under Article 226/227 of the Constitution the petitioner challenges the correctness of the order passed by respondent No. 2 Assistant Sales Tax Officer, Jabalpur, holding the petitioner liable for sales tax of Rs. 879.92 nP. for the calendar year 1959.

2. As stated in the petition, the petitioner carries on the business of printing and selling printed articles inclusive of "books, account books, catalogues, tickets books, statements, *panchangs* etc.". His total sales in the year of assessment came to Rs. 76,725/- out of which he claimed Rs. 35,257/- for sale of books which were exempted from tax. The assessing officer held on the statement of the petitioner that 25 per cent of these articles were not books so called and the petitioner was not entitled to claim exemption from sales tax on these sales. Accordingly he assessed the sales of such articles at Rs. 22,000/- and determined the amount of tax payable at Rs. 879.92 nP.

3. The learned Government Advocate raised a preliminary objection that the petition should be rejected, as the petitioner has not exhausted all his remedies under the Sales Tax Act. The existence of an alternative remedy is not an absolute bar to the entertainment

of a petition under Article 226. In the present case, the petitioner could file an appeal against the order of the Assistant Sales Tax Officer only on depositing the full amount of tax. Such a right has been considered to be ineffective and it has been held that the petitioner can file a petition under Article 226 or Article 32 of the Constitution for relief. (See *Himmatlal v. State of Madhya Pradesh*) (A.I.R. 1954 S.C., 403). Further, it has been held in *Kailash Nath vs. State of U.P.* (A.I.R. 1957 S.C., 790) that the right to be exempted from the payment of tax is a fundamental right which comes within the purview of Article 32. The existence of an alternative remedy is not therefore, material.

4. The petitioner contended that all the articles for which exemption was claimed fall within the category of "books" which were exempted from sales under item 2 in Schedule 1 of the Sales Tax Act as it stood before the amendment in 1960.

5. The meaning of "books" as given in the dictionaries is as follows:—

According to Shorter Oxford English Dictionary a book is a (written) narrative, record, list, register. A collection of sheets of paper or other substance, blank written, or printed, fastened together so as to form a material whole; esp. such a collection fastened together at the back, and protected by covers, also a literary composition long enough to make one volume, as distinct from a tract, pamphlet, essay etc.; A main sub-division of a large treatise; A volume in which to keep records of commercial transactions, minutes etc. Also one containing such records.

The Oxford English Dictionary, Vol. I. A-B, pp. 988-989 Book. A written or printed treatise or series of treatises occupying several sheets of paper or other substance fastened together so as to compose a material whole.... Such a treatise occupying numerous sheets or

leaves fastened together at one edge called the back, so as to be opened at any particular place, the whole being protected by binding or covers of some kind.

The material article so made up, without regard to the nature of its contents, even though its pages are occupied otherwise than with writing and printing, or are entirely blank, e.g. a handsome book.....

A literary composition such as would occupy one or more volumes, with regard to the material form or forms in which it actually exists; an intellectual composition, in prose or verse, at least of sufficient extent to make one volume. Webster Dictionary, p. 150—

Book. document, charter, a collection of blank, printed or written sheets or leaves, of paper, or other material, fastened together, and bound in boards, covered with cloth, leather, or paper so as to form a unity or volume. A note book, account book, book of M.S. printed books etc., entries in a record, book of fate. A literary composition, compilation or treatise of any kind, which, when printed and bound, constitutes a book in above sense, a considerable portion, division or section of a literary work.

Bouvier's Law Dictionary, Vol. I, A-K, p. 378—

Book:—A general name given to every literary composition which is printed, but appropriately to a printed composition bound in a volume.

A manuscript may, under some circumstances, be regarded as a 'book'. Cyclopaedic Law Dictionary, 3rd Ed., p. 123—

Book. A general name given to every literary composition which is printed, but appropriately composition bound in a volume.

6. Considering the meaning of 'books' as given in the dictionaries, it appears to us that any collection of sheets of paper, blank or printed, fastened toge-

ther, would form a "book". In this light, account books which are bound in the form of registers and are partly printed and partly used for keeping accounts fall within the category of "books". Similarly, catalogues, ticket books and *panchangs*, if bound, would fall within that category. "Statements" referred to in paragraph I of the petition may not fall within the category "books", as they are presumably of loose sheets.

7. The Assistant Sales Tax Officer relied upon the amendment made in 1960, which runs as follows:—

Books includes almanac, *panchangs* and drawing books, but excludes catalogues, all publications which mainly publicise goods and articles for commercial purposes, race cards, account books, diaries, calendars, and books (not being exercise books) containing space exceeding eight pages for writing.

The language of the amendment has been made more explicit. However, the amendment is of no help, as it was made the year to which the assessment relates.

8. In interpreting items in taxation Acts granting exemptions from taxation, the general principle of interpretation is that the entries should be liberally interpreted in favour of the subject. Accordingly, we hold that several of the items which have been held as taxable by the Assistant Sales Tax Officer fall within the category of "books" and were therefore exempt from taxation.

9. Shri H. K. Khaskalam for the State stated that the order of the Assistant Sales Tax Officer should not be set aside, as the petitioner himself admitted before him that 25 per cent of the sales were articles for commercial use. The statement of the petitioner made before the Assistant Sales Tax Officer is Annexure R-I and contains the following admission:

"We have claimed exemption for sales totalling to Rs. 35,357-3-9 which include printed books, registers, etc. The account is mixed up for articles and it is not possible for us to state what part of this relates to books alone. Out of Rs. 35,357/- the books may be 75 per cent and the remaining 25 per cent is of other registers, etc." This statement was made by the petitioner in circumstances which are stated by the Assistant Sales Tax Officer in his order (Annexure P-I), dated 1-11-1960. He

had held that "All books exclude commercial articles, i.e. account books, calendars, etc." As the assessee was unable to sort out the sale of such articles, he recorded the statement of the assessee and the assessee then stated that 25 per cent of the articles were of commercial use. Obviously, the statement made by the assessee was in reply to the question of the Assistant Sales Tax Officer regarding account books, registers and other articles which were for commercial use. The statement of the assessee cannot, therefore, be considered to amount to an admission that 25 per cent of the articles were liable to sales tax. The answer is to be judged in reply to the question which was put to him on the assumption that account books, calendars, etc. were liable to tax. The answer does not amount to an admission that he waived the exemption.

10. Coming to the question of relief, we find that the assessment is a composite one and it is not possible to separate the items which should have been taxed and which should have been exempted. Under the circumstances, the whole assessment is liable to be set aside in the light of the following observations in *R. N. Sons Ltd. v. Assistant Sales Tax Commissioner* (A.I.R. 1955 S.C. 765):

"There is authority for the proposition that when an assessment consists of a single undivided sum in respect of the totality of the property treated as assessable, the wrong inclusion in it of certain items of property which by virtue of a provision of law were expressly exempted from taxation renders the assessment invalid in total. The Privy Council have observed in *Bennett & White (Calgary) Ltd. v. Municipal District of Saugar City* (No. 5 (1951) A.C. 8786 at p. 816):

"When an assessment is not for an entire sum, but for separate sums, dissected and remarked each of them to a separate assessable item, a court can never cut out one or more along with the sum attributed to it, while affirming the residue. But where the assessment consists of a single undivided sum in respect of the totality of property treated as assessable and when one component (not dismissable as 'de minimis') is on view not assessable and wrongly included, it would seem clear that such a proceure is barred, and the assessment is bad wholly."

11. Shri Khaskalam pointed out that the burden of proving that particular article was exempted from taxation lies on the assessee.

It is true that an assessee claiming an exemption has to prove, that he is entitled to such exemption. However, when the order of the Assistant Sales Tax Officer clearly discloses that he proceeded upon an erroneous assumption as to the meaning of "books" and appreciated the case of the petitioner in that light, the whole assessment is vitiated.

12. In the result, the petition is allowed and the order of the Assistant Sales Tax Officer, dated 1-11-1960, directing the petitioner to pay Rs. 879.92 nP. as sales tax is quashed. The matter will go back to the Assistant Sales Tax Officer for reassessment of the petitioner in accordance with law. The burden of proving the nature of articles sold will be on the petitioner and that he will have to satisfy the assessing officer regarding the extent of sales of such articles as can fall within the category of "books" and are exempted from sales on that account. The respondents shall pay the costs of the petition to the petitioner. Hearing fee is fixed at Rs. 25/-. Only the outstanding amount of the security deposit shall be refunded to the petitioner.

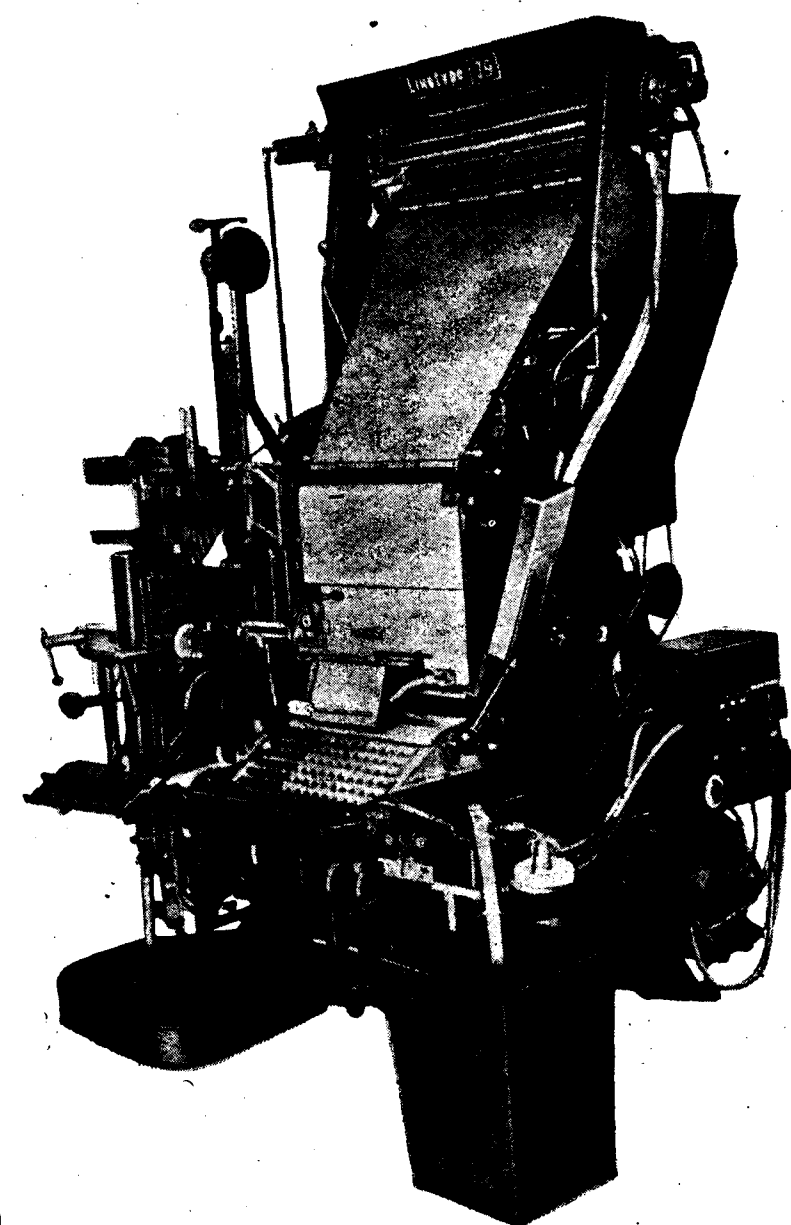
### The Tenth All India Printers' Conference and Exhibition

**Organisers:** Th Association of Master Printers West Bengal Ltd., 32, Acharya Profulla Chandra Road, Calcutta-9.

The organizers have intimated that the last date for submitting printing exhibits for the competition in printing excellence and designing conducted by the All India Federation of Master Printers in Calcutta this year has been extended to 17th March 1962. Similarly, the last date for receiving advertisements for publication in the *Souvenir* to be published by the organisers on the occasion has been extended to 21st March 1962.

Intending competitors may apply to the organisers mentioned above.

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|                                  | NEWSPRINT | GLAZED NEWSPRINT | MACHINE FINISHED (M.F.) | MACHINE GLAZED (M.G.) | BOOK PAPERS | ANTIQUES | SUPER CALENDERED (S.C.) | BONDS AND BANKS | IMITATION ART | ART PAPERS | GREASE PROOF |
|----------------------------------|-----------|------------------|-------------------------|-----------------------|-------------|----------|-------------------------|-----------------|---------------|------------|--------------|
| Standard / Superior News Blacks  | •         | •                | •                       | ⊙                     |             |          |                         |                 |               |            |              |
| F1 - F4 News Blacks              | •         | •                | •                       | •                     |             |          |                         |                 |               |            |              |
| G1 / G2 Jobbing Blacks           |           | •                | •                       | •                     | •           |          |                         |                 |               |            |              |
| G3 Fine Jobbing Black            |           | ⊙                | •                       | •                     | •           | •        | •                       |                 |               |            |              |
| G4 Book Black                    |           |                  | •                       | •                     | •           | •        | ⊙                       |                 |               |            |              |
| G5 Halftone Book Black           |           |                  | •                       | •                     | •           | •        | •                       |                 |               |            |              |
| P.2463 / P.685-A Book Blacks     |           | •                | •                       | •                     | •           | •        | ⊙                       |                 |               |            |              |
| G6 Record Black                  |           |                  | •                       | •                     | •           | •        | •                       | •               |               |            |              |
| G7 / G8 / 1207 Process Blacks    |           |                  |                         |                       |             |          | •                       | •               | •             |            |              |
| P.2631 / P.2476 Process Blacks   |           |                  |                         |                       |             |          |                         | •               | •             |            |              |
| Gloss Black 341                  |           |                  |                         |                       |             |          |                         | ⊙               |               | •          |              |
| Super Gloss Black 1731           |           |                  |                         |                       |             |          |                         | •               | •             | ⊙          |              |
| Bond / Superior Bond Blacks      |           |                  |                         |                       |             |          | •                       | ⊙               |               |            |              |
| P.2580 / P.2782 / S.D.H/T Blacks |           |                  |                         |                       |             |          | ⊙                       | •               | •             |            |              |
| 1983 / 441 Blacks                |           |                  | •                       | •                     |             |          | •                       | •               |               |            |              |
| Carbonizing Black P.2797         |           |                  | •                       | •                     |             |          | •                       |                 |               |            |              |

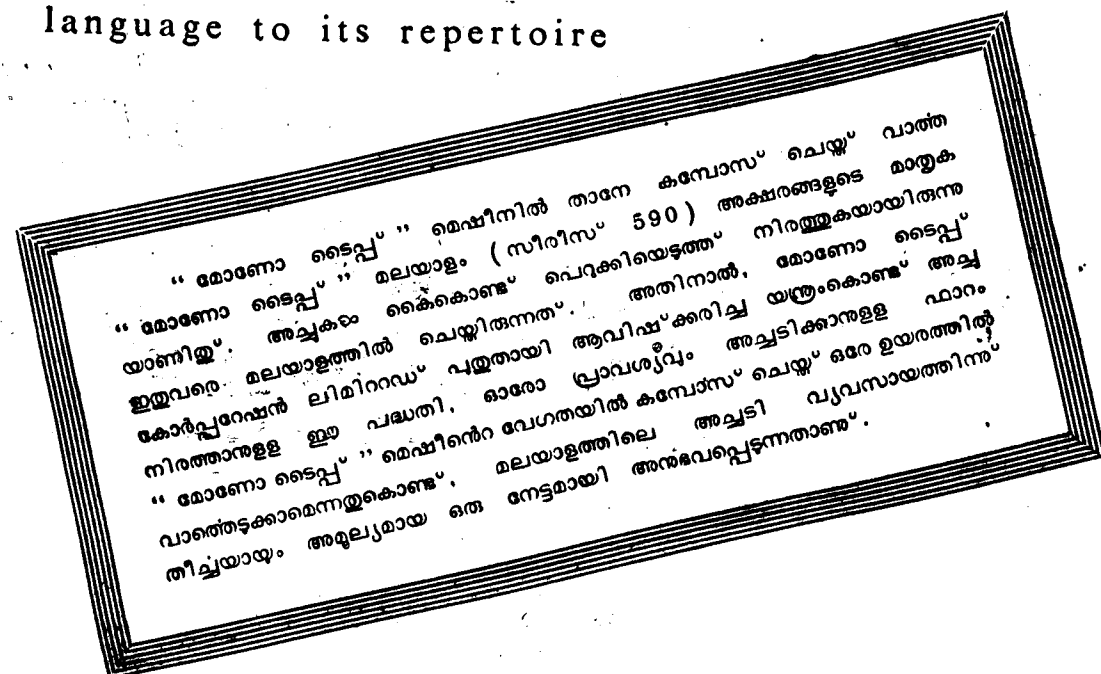
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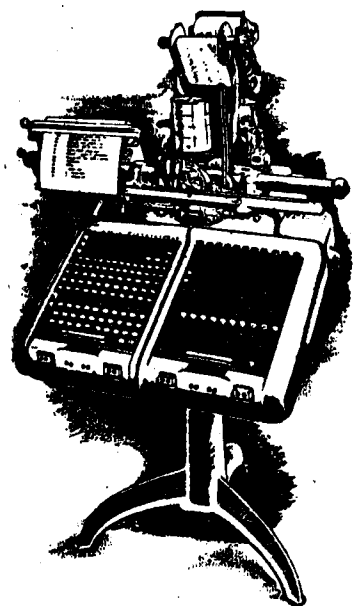
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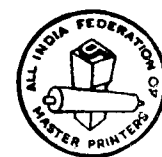
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February 1962

Regd. No. M. 7519



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OF THE

ALL INDIA FEDERATION OF MASTER PRINTERS

Volume 7

No. 8

March 1962

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## NOTICE

20th March, 1962.

Members of the General Body of the All India Federation of Master Printers who may wish to move any resolution at the open session of the All India Printers' Conference to be held at Calcutta about the middle of April 1962 will have to send the resolution to the undersigned not later than the 10th of April 1962 together with the full designation of the mover.

R. VENKATESWARAN,  
Hony. General Secretary,  
All India Federation of Master  
Printers,  
42, Broadway, Madras-1.

## EDITORIAL

## OUR AMERICAN VISITORS

They came, they saw and they conquered. So can be aptly described the tour through India of Mr. and Mrs. M. B. Glick of the American Institute of Graphic Arts. They were not on a sight-seeing tour of this country. They were on a mission here, to discuss and deliberate with the printers and publishers, on the problems of book design and production. America has far advanced in designing and production of all categories of books. And the Glicks thought of sharing their knowledge and experience with us.

The Glicks are not new to us. Mr. Glick was Ford Foundation Consultant on Book Production to the Southern Languages Book Trust, Madras, in 1957-58. And during their stay then of six months in India, they made friends of us all.

Visiting India now as representatives of the American Institute of Graphic Arts, they held seminars in Delhi, Bombay, Calcutta, Madras and other places on various problems of book production and allied topics like New Books for New Readers, how can we make Text Books better Tools for Teaching and Learning, Illustrations and Ways of Reproducing Them, Advertisement and Package Design, Cover-Invitation to the Book, etc. etc. Many members of the Master Printers Federation and of the publishing trade participated in these seminars. The discussions were

always at a high level; and it was a sign of the growing awareness of these problems among all of us, which is but the beginning of growth and development. The talks of the Glicks at these seminars were very enlightening and educative. They brought to bear on them all their experience and knowledge in the field of book design and production.

Viewed against the background of the tempo of our economic development plans and the collateral development in the field of education, book production and design becomes an important problem in our country. Our aim is to achieve complete literacy by 1975. As the number of the schools, colleges and other institutions increases, the number of the educated will rise. And there will be needing not only the text books in various subjects, but also books of general interest. All these will have to be printed and produced. And that has to be attractive production. A book must invite the reader by its very appearance, which means the techniques of lay-out, design and production are important. The design of a text book has to be different from that of fiction; and the design and lay-out of a book for children has certainly to be different from that of a book of prayer. These are special techniques and these have to be learnt and developed in our country. And in these the United States is far advanced. The Glicks

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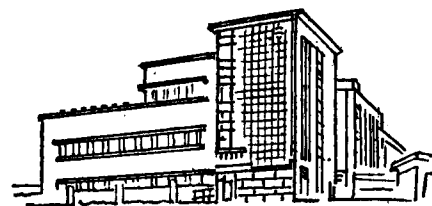
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If, over the last thirty-eight years, we have built up a reputation in the world of printing, it is only because we are constantly striving for printing perfection

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BELGHORIA (24 PARGANAS)



GOOD PRINTING TELLS A BETTER STORY

are specialists in these, with several of their books chosen for the Fifty Books of the Year Exhibitions of the American Institute of Graphic Arts. We are sure that all those who participated in the seminars in various centres benefited from the discussions and from the ideas put out by the two distinguished visitors.

The Glicks visited India as part of their tour of the South and South East Asian countries. We wish them godspeed in the other Asian countries which they will be visiting. Besides their profound knowledge in their special fields, they are a charming couple and wherever they go they not only conquer the minds of those whom they meet but their hearts too.



Mr. & Mrs. M. B. Glick with Mr. S. C. Ghose (left) and other members of the Association of Master Printers, West Bengal Ltd. The photograph was taken on the occasion of the Master Printers' dramatic performance in January.

## COLOMAT PRODUCES BRILLIANT COLOURED IMAGES ON PLASTIC BASE

### Colour Proving with Diazo Films

Colomat is a diazo-sensitized direct positive film which produces brilliant coloured images on a clear, transparent plastic base. It is claimed to be ideal for colour proving in lithography, photo-engraving and gravure, reproducing anything written, drawn, typed, printed, or photographed or transparent or translucent materials. Subdued daylight and normal artificial lighting do not affect Colomat. The film should not, however, be subjected to excessive fluorescent light or prematurely exposed to arc lamp illumination.

After a step wedge is prepared as an exposure guide the following operation should be performed :

Subject the Colomat sheet to a flash exposure.

Expose the flashed Colomat to light through continuous-tone or halftone separation positive.

Develop the exposed Colomat with ammonia.

Superimpose sheets of developed Colomat in register and evaluate the colour proof.

### Step Wedge Preparation

A Colomat step wedge exposure guide should be prepared for each colour. With at least ten steps between clear and solid colour the step wedge will provide an accurate basis for determining the correct flash time for the shade to match your printing. The time increment between exposure steps will depend upon the individual installation. A good start for a 45 to 60 amp. arc light, e.g. might be to use a 10-second exposure for each step, at a distance of 4 feet. To duplicate production conditions as much as possible, insert a sheet of dull black paper underneath the step wedge

and place a clear sheet of the camera film you normally use over the step wedge while exposing it under the glass of your printing frame. Note the accumulated period of exposure for each step. Zero exposure yields the darkest tone. For most accurate results, view proofs and step wedge under identical circumstances.

### Flash Exposure

Using the step wedge as a guide, decide upon the length of exposure required to match the shade of ink to be used. Place an unexposed sheet of the desired colour of Colomat on a dull black background in the printing frame, with the sensitive side toward the light source. As is customary with photographic emulsions, the sensitized side will face upward when the notch is located on the upper right-hand edge. Expose the film.

### Clearing Exposures

Place the separation positive to be duplicated over the flashed Colomat, in emulsion-to-emulsion contact. Expose sufficiently so that the accumulated exposure (flash plus clearing) will equal the time required to produce the clear step on the step wedge guide.

### Development

Colomat is developed through exposure to ammonia solution of fumes. Certain colours such as red, yellow and orange develop more rapidly than others; blue takes the longest time. Development ceases after a certain point. Full development normally requires no more than three minutes.

### Judging the final proof

Each Colomat reproduction is compared with its film positive using magnifying glass, to deter-

mine that all clear areas on the positive are also clear on the Colomat. If there is any colour discernible as a background for the dot pattern in a halftone positive, the exposure was too short. If the dot size appears small or undercut, the exposure was too long. While the overlay of the Colomat transparencies may not match the original copy in perfect detail because of the variations in inks, they will enable the trained eye to recognise the separations requiring correction. Correct as needed and proof once more, making new proofs of only those colours that required correction.

### Continuous-tone positives

The procedure is the same except that exposure should be timed until the strongest highlights normally obtainable in the film positive become clear in the proofs.

The flash time should be established according to the step wedge. The clearance time for highlights depends upon the density of your positive. Once determined it should be related to densitometer readings.

It has been found useful in proving continuous-tone gravure to make three-colour Colomat proofs only, overlay them on the black positive itself and view with transmitted light.

### ERRATUM TO STATEMENT

At page 12 of the February 1962 issue of the 'Bulletin', for 'Bombay' against item 1 of this Statement, please read 'Madras.'

—Editor.

## NEWS AND NOTES

### LECTURE PROGRAMME OF PRINTING IN BOMBAY

A series of lectures under the auspices of the Literary and Cultural Association, School of Printing Technology, Bombay was held at 6 p.m. everyday from 5th to 10th March.

Prominent figures in the field of printing participated in the programme. Mr. K. C. Raman of *Times of India* spoke on 'Some Thoughts on Productivity in the Printing Trade'; Mr. J. B. D'Souza of *Industrial Development Board* dealt with the 'Co-ordination in Public Administration'; Mr. R. Subbu of *Commercial Printing Press Ltd.* explained the 'Recent Trends in Printing Technology and the Scope for their Introduction in Indian Printing.' The subject of 'Standardisation as applied to Printing' was taken up by Shri Naik of *Government Printing and Stationery*, while Shri L. S. Wakankar of '*Kromo-Print*' Transfers and Shri P. A. Dhond of *J.J. School of Art* spoke on 'Devanagari Characters as affected by the Printing Age' and 'Principles of Design' respectively.

The programme was largely attended by printing executives and technologists and others who are interested in it.

### INDIAN OFFICIAL ENDS STUDY OF BRITISH PRINTING INDUSTRY

Mr. S. Yegnaraman, Assistant Superintendent of the Government Press in Madras, has just completed a six-month study of the British printing industry under the Colombo Plan.

Mr. Yegnaraman's training began with a survey of the various depart-

ments of Her Majesty's Stationery Office. At the Harrow works he watched the printing of telephone directories, and in London the printing of *Hansard* (the official record of proceedings in the Houses of Parliament), and the *London Gazette*.

He then visited various leading printing works and newspaper offices. One of the most interesting features he found at *The Times* was the teletype-setter putting into type reports direct from the House of Commons.

After attending a two-week production and management course organized by the British Trades Union Congress, Mr. Yegnaraman spent a further two weeks at the Linotype works in Cheshire and then took part in courses at the Linotype and Monotype schools in London. He also made full use of his spare time by attending a management course at the London School of Printing.

Mr. Yegnaraman expects to return to Madras about the middle of March after visiting some European countries.

### NEW MACHINE PRINTS ILLUSTRATION WITH CODES ON BOXES

Manufacturers can now print an illustration of their product on their boxes at the same time they print trade name, stock numbers, size, quantity, colour, etc. with a Markem 105-10 Machine. The print can be made in two or more colours if desired.

A manufacturer of ladies' casual shoes using this method also places an actual swatch of the shoe's material in a "window" on the

box. This firm states that their complete and attractive box identification enables retailers to serve customers rapidly and efficiently.

The 105-10's easily-turned type-wheels print codes and other descriptive legend and its Markem masterplate holds type blocks or etchings which simultaneously print the product illustration.

### NEW UNITIZED PRINTING HEADS

Manufacturers can now incorporate the identification of parts, products, packages or labels with their production or packaging line or machinery, using the new 200 Series Unitized Printing Heads built by Markem Machine Co., 189 Congress St., Keene, N.H., U.S.A. These self-contained units which combine printing head, type, and specialty ink, can be mounted on packaging machines, lines, and dial or other transfer machines to print from the top, a side, or underneath. If operations are not automated, they can be manually fed.

The 200 Series consists of four basic models, similar in design and function, offering this range of maximum imprint areas: Model 200, 1"×2"; Model 202, 2"×3";

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Letter Press Printers  
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Process Block Makers  
Card Board Box Makers  
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### Discriminating Buyers Choose NEBIOLO

The Printing presses manufactured by the renowned House of

### SOCIETA NEBIOLO

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Exhibited sensationally at all Continental Graphic Fairs and acclaimed universally by every progressive Printing House — Manufactured at the most modern and up-to-date factory under the most scientific methods and techniques, and incorporating such features as

ALL MEEHANITE CASTING to offer overall resistance to every day wear and tear—Solid one piece BASE—all STEEL TRACKS—Efficient Automatic Lubrication—Newly Patented Automatic Cylinder lifting and Lowering device—High printing speeds—THE VERY LAST WORD IN THE PRINTING INDUSTRY.

### All Conventional Sizes :

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|---------------------------------------|---------------------------|------------------------------|
| Single Revolution SUPERAUDAX PVCC :   | ATENA RTE                 | Max. Paper 22" × 31"         |
| Max. Paper 12.5/8" × 17.3/8"          | SATURNIA RTU              | Max. Paper 25.5/8" × 38"     |
| REDUCED Stop Cylinder SUPERGERIA RTAF | Two Revolution URANIA DSK | Max. Paper 31.1/2" × 44.1/8" |
| Max. Paper 18" × 23"                  |                           |                              |

Four SATURNIAS and One URANIA have been installed recently at The Commercial Printing Press Ltd., Bombay-1.

For full particulars and details contact :

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Sachdeva Mansions  
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Model 204, 2"×6"; Model 206, 4"×6". Each machine is powered by an integral 110V, 60 cycle motor. Cycling speed depends on size of object printed, size of print, speed of production line or packaging machine, etc. A scraper-type ink reservoir permits the use of Markem fast-drying inks. Printing elements can be solid rubber plates, metal engravings, embossed metal address plates, or quick-change metal or rubber type in various combinations.

### LINING-UP TABLE FOR FORMES

A new lining-up table for formes up to 30×40 inches (76,2×101,6 cm) is now being marketed by a British firm. It has a flat cast-iron imposing surface, measuring 43 inches deep by 58 inches wide (109 cm × 147,3 cm) on which the forme is arranged for locking in the chase.

On either side of the imposing surface there are parallel geared bearers which move on teeth running alongside two side rule scales, each marked with inches and cms. The left-hand scale is fixed and the right hand one is adjustable for various chase thicknesses. A beam, housed in the bearers, runs on a geared track which carries a squaring mechanism for traversing across the width of the table. The bearers and the square all incorporate adjusting screws and locking devices.

The cross beam and the surface of the table are scored with datum lines so that the forme can be centred correctly before being locked to the back stops by adjusting the screws threaded through two locking plates at the front of the table. There are three-back-stops; two are for use with standard chases and the other is specially designed for Heidelberg chases.

### HIGH GLOSS INKS

The important factors of this type of ink are yet not fully realised by printers in our country.

Rainbow Ink and Varnish Manufacturing Company Private Ltd. Bombay have formulated these inks in response to a demand by one of the leading magazine printers whose problem was to print 2,00,000 magazine covers per week in four colours. They wanted the ink to set quickly so that more than one machine could be used for printing to meet delivery schedules and to obtain glossy and bright prints to avoid varnishing.

The Rainbow Research and Development Laboratory, after considerable work and study, were able to satisfy the customer's requests and since the past 18 months the customer is their regular user.

These are very highly concentrated inks, i.e., they contain a much higher percentage of pigment of very high tinctorial value and therefore require a very thin film to print. It not only helps print half-tones with heavy solids much clearer and better but also gives excellent coverage.

Now the Rainbow Ink and Varnish Manufacturing Company Private Ltd. which is regularly printing 2,00,000 magazine covers every week is now able to complete the job in 15 sets in place of 60 sets.

Another important factor of this ink is that it has pretty quick setting properties, i.e., it sets so quick that subsequent colours could be printed immediately and therefore it is found highly suitable for wet-on-wet printing. Wet-on-wet printing is highly important to those printers who have to regularly print large quantities employing more than one machine to cope up with delivery schedules.

Besides, in spite of its quick-setting properties, its trapping properties are such that the subsequent colours would trap well even if printed at an interval of 3 to 5 days.

These inks produce very glossy print on good coated papers. Yellow and Reds have the highest gloss and so if these two colours are printed last the gloss is generally greater. In many cases printers now avoid varnishing the printed job due to excellent gloss of these inks.

Besides, these inks are highly transparent and therefore the sequence of printing could be changed to meet particular requirements of the block and art work. The standard set is for four colour printing i.e., Yellow, Red, Blue and Black, but for three colour printing they have also a three colour Blue.

Further information from Rainbow Ink and Varnish Manufacturing Company Private Ltd., 133-C, Vakola, Santacruz, Bombay-55.

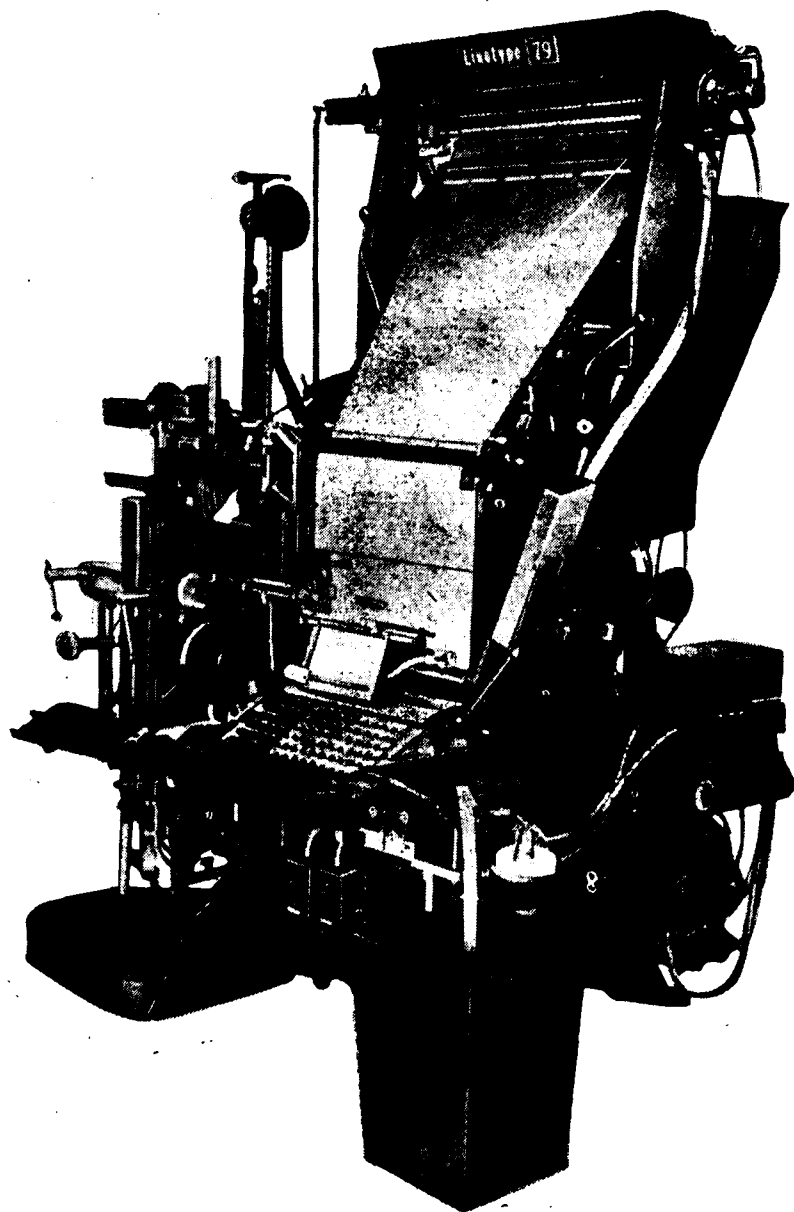
### CHART-PAK TAPE DRAWING SYSTEM AIDS ARTISTS

Two American products manufactured by Chart-Pak for use in the preparation of artwork are now available in Britain from Lawes Rabjohns Ltd. They are Chart-Pak drawing tapes and accessories and Contak shading film.

The Chart-Pak tape drawing system consists of a range of adhesive tapes printed with a wide variety of patterns and symbols. The tapes are suitable for the production of technical illustrations, advertisement borders, charts and graphs, and are particularly valuable in the preparation of artwork for litho reproduction.

To produce a bar chart, for example, reels of tape printed with suitable patterns or colours are selected. A short length of the

# SUPREME FOR HIGH-SPEED COMPOSITION BY TAPE OR KEYBOARD



## MODEL 79 LINOTYPE

Linotype and Machinery Limited  
(Incorporated in England)  
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Its high angle magazine gives the Linotype 79 the edge over other slug machines. It cruises confidently at 12 lines a minute with automatic tape control — and has a super-fast keyboard for manual setting.

Ask your Linotype representative how tape-controlled Linotypes give you faster composition of books, periodicals, newspaper features, classifieds, financial reports, and other solid setting jobs.

first tape is unrolled, the end is placed approximately one inch beyond the starting point of the chart and the tape is laid to the desired length. It is cut with a special cutter which is pressed firmly on to the tape to prevent slipping. Tape can be removed if wrongly positioned by carefully peeling off, if necessary after loosening with a Chart-Pak chisel. It can be replaced without damage or loss to adhesion. The adhesive leaves no marks and there is no danger of any smudging occurring.

Tapes are produced in widths from 1/64 inch upwards to a tolerance of  $\pm 0.002$  inch. The designs are printed in either dense or transparent colours on pressure-sensitive adhesive film which does not shrink or discolour. Besides plain and patterned tapes in numerous widths, colours and designs, there is a series of decorative border tapes designed for newspaper and decorative border work. There are many special patterns for draughtsmen's requirements, printed circuit work, and furniture templates and organisation and flow chart rectangles.

Curved lines can be applied by means of Curve-Line narrow width tapes held in a Tape-Pen. Black and 15 permanent solid colours

are available in narrow widths of 1/64, 1/32 and 1/16 inch as well as ten printed patterns in three widths and seven colour combinations in opaque and four in transparent tapes.

Contak shading film is a Mylar sheet surface-printed with opaque ink in 46 different patterns including standard Ben Day screens. Its reverse side is coated with a water-clear pressure-sensitive adhesive protected by a firmly attached backing sheet. The material is used to give shaded effects on line drawings for any method of reproduction. All patterns are available in black or white on the transparent base, the black being invisible on black areas and the white on white areas. The polyester base is dimensionally stable and the adhesive contains no wax and is heat-resistant. Sheets are manufactured with a tint area 9x12 inches.

The desired pattern of Contak is selected and an area slightly larger than required is scored so that the printed plastic is cut but not the backing sheet. The point of the knife is slid under the film and it is lifted out. It is then pressed firmly on to the copy and the area to be shaded is cut round and the surplus peeled off. The adhesion has a delayed action so that film

can easily be removed for corrections, leaving no residue, but the longer it remains in place the tighter it sticks. No burnishing is necessary, only direct pressure. The surface printing permits vignette effects to be obtained by scraping with a very sharp knife or by the application of alcohol or acetone.

### NOTICE TO ADVERTISERS

Advertisers intending to advertise in the *Bulletin* as well as those who wish to renew their advertisements in the April 1962 issue of the *Bulletin* are requested to forward their advertisement instructions, blocks, etc. direct to this office so as to reach us on or before the 10th April, 1962, when the office of the Federation will close at Madras from 14th to 21st in view of the Tenth All India Printers' Conference to be held at Calcutta.

R. VENKATESWARAN,  
Hony. General Secretary,  
All India Federation of Master  
Printers,  
42, Broadway, Madras-1.

## CALCUTTA PRESS Private LIMITED

1, Wellington Square, CALCUTTA 13

# Bombay School of Printing Technology Celebrates Annual Social Gathering

## The Role of Printing Education in Shaping the Destinies of the Printing Trade Stressed

The First Annual Social Gathering of the Government School of Printing Technology, Bombay was held on the 3rd February in the School Hall. Padma Shri Lt. General S. P. P. Thorat, Chairman of the Maharashtra Public Service Commission was the Chief Guest. Shri S. Ramu, Chairman of the Advisory Committee for the School and the Director of the Commercial Printing Press Ltd., Bombay presided over the function which was largely attended by Government officials, eminent people in the Printing Industry, guardians and students.

Welcoming the Chief Guest, Shri S. Ramu outlined the activities of the School and emphasised the importance of printing education in Bombay. He mentioned the rapid progress the School has made within a short period of five years.

Apart from the three-year full-time diploma course, the School has introduced a four-year part-time diploma course also. The part-time course has been introduced for the benefit of those who are already serving in the trade and who aspire for supervisory and managerial positions. The School has taken a further step by introducing a part-time Costing Course on the British Federation of Master Printers Costing System, which has received good response from the Industry. As a further contribution to printing education the School proposes to arrange two short-term Refresher Courses on Camera Operating, Retouching and Plate making and Costing. Regarding

the relationship of the Printing Industry and the School he made the following important and pertinent observations :

"Printing Technology is on the threshold of a revolutionary epoch. Powderless etching, filmsetting and web-offset printing will sooner or later change the face of the printing industry out of recognition. The immediate impact of these new technological advances on our industry may not be great. None the less, the printers of tomorrow must have an adequate understanding of the new processes, and printing education is bound to play a very decisive role in shaping the destinies of the trade. In point of fact, it must now be recognised by the industry that the organisation for printing education is an integral part of the industry itself. On this

recognition depends the eventual growth and prosperity of the industry.

"The industry as a whole is not as yet aware of the potentialities of printing education. The industry will have to give considerable assistance to the School in various ways, not only by sponsoring students for various courses but also by allowing their experienced technicians and experts to undertake part-time teaching in the School.

"The immediate need for active co-operation between the School and the industry relates to the implementation of the Part-time Diploma Course. The success of this course depends very largely on the co-operation of the sponsoring presses. Principal, Shri S. A. Sapre has already addressed a letter to all

the sponsoring presses requesting them to allow their candidates to do practical work in various departments for 2 hours per day. The proposal may cause some immediate inconvenience but the long term benefits should certainly outweigh the immediate inconvenience. I take this opportunity to impress upon the sponsoring presses, the need to provide all the requisite facilities for their candidates for practical training in their presses.

"The challenge before the printing industry in India is twofold. On the one hand it must keep itself abreast of the rapid technological advances and on the other India has still to make her own contribution to international print and to develop an indigenous style of her own. This two-fold challenge can be adequately met only if the industry prepares itself to use and absorb the attributes of science and tech-

From R to L :  
1. Shri Ramu,  
2. Padmashri  
Lt. Genl.  
Thorat,  
3. A Student,  
4. Smt. Thorat  
and others.



nology and if design for printing is integrated with our ancient traditions of design in other fields. Printing education is being re-oriented to meet these exacting requirements and it is up to the industry to support printing education in every possible manner. That way alone can Bombay remain and develop as a centre of fine printing in India."

The Chief Guest Lt. Gen. Thorat dealt most lucidly with the requirements for securing a job through the Commission. The requirement : "Not a string of degrees, but sound general knowledge."

He said that the knowledge of most present-day graduates was "Shallow only skin-deep."

(Continued on page 17)

## Leading Printers from All over India agree . . .



Shri Kenkre, Dy. Director, Technical Education ; Sri S. Ramu, Chairman Advisory Committee of the School ; Shri Limaye, Lecturer of the School ; Smt. Thorat ; Padmashri Lt. Genl. Thorat ; Principal Sapre and others.

**Rainbow has the finest Printing  
Ink Research Laboratory in India.**

**RAINBOW INK & VARNISH MFG. CO. PRIVATE LTD.**

133C, VAKOLA, SANTACRUZ (EAST)

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are cordially invited to visit  
us and see what Rainbow is  
doing and can do for you . . .

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arrangement of your visit.

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34-38, BANK STREET, FORT  
BOMBAY ONE

## The Coimbatore Printers' Association President Entertained

'It is proposed to start a factory very soon in Coimbatore for the manufacture of printing machinery in collaboration with a U.S. firm on an outlay of a crore and also to establish a school of printing to train up workers engaged in the printing industry' said Sri P. R. Ramakrishnan, M.P., on the occasion of a delightful function got up in his honour by the leading printer-magnates of Coimbatore on the eve of his election to Parliament.

Sri P. R. Ramakrishnan, M.P. further said: Recognising the importance of the printing industry, the Union Government would issue necessary licences for import of printing machinery from abroad. Industrial establishments are proceeding apace in big cities and as it would be difficult for them to get on without printing, it is hoped the

printing industry is destined to have bright prospects.

The Coimbatore & Nilgiris Districts Master Printers' Association at Coimbatore got up recently a party to felicitate Sri P. R. Ramakrishnan, M.P., and President of the Association on his election to the Parliament as the Congress representative of Coimbatore and presented him with an address on the occasion read by Sri Srinivasan.

Sri R. Venkateswaran, Honorary General Secretary, All India Federation of Master Printers presided on the occasion. He referred to his recent visit to Europe, America and Japan, in the West as a member of the Indian Printing Productivity Team and spoke on the rapid strides the printing industry was making in those countries. He said that in America and in Japan, the major factories engaged in the

manufacture of printing machinery are turning out machines to suit both the smaller as well as the bigger printing units. And owing to the paucity of personnel in those countries, automation in every department has gained ground. He further appealed to the authorities to help solve the printers' problems, to permit the import from abroad of machines which are not manufactured in India and to alleviate the hardships faced by the printers to up-grade the quality in production.

Sri S. Ramaswamy, Honorary Secretary of the Coimbatore and Nilgiris Districts Master Printers' Association and Managing Director, Kalaivani Press, Coimbatore, in a neat speech proposed a hearty vote of thanks.

The meeting terminated with a nice Dinner Party.



*Sri R. Venkateswaran having discussion with Sri P. R. Ramakrishnan and Sri S. Ramaswamy looks on.*

## Productivity Team on Printing Industry

The National Productivity Council sponsored a Printing Team to visit various countries abroad and to study the productivity trends there and report on their observations for the benefit of the printing industry in India with the aid of the Technical Co-operation Mission of U.S.A. The Team consisted of eleven members representing various sections of the trade in the country including one labour member. The terms of reference was to study factory administration, organisation, methods of production, operational conditions, layout, labour relations and the technical developments in the printing industry and to make such recommendations as the Team considers necessary to raise the level of productivity of the printing industry in India.

The Team visited in England six printing presses, a Research Centre and a Machinery Manufacturer. In U.S.A. nine printing presses, an ink manufacturing company, an Envelope Manufacturer, five machinery manufacturers, a photo material



*The reception accorded to the Indian Productivity Team by the Japanese Printers' Association at Tokyo.*

manufacturer, an educational institution and two associations of labour and printing. In Japan the Team visited eleven printing presses, a camera equipment company, two machinery manufacturers, an ink manufacturer and an association of Printers.

It is worthwhile mentioning here that on account of limited time at their disposal and the number of units visited being large, it was only possible to get a broad view of the methods and techniques followed in the three countries and the observations are recorded in this perspective.

The members of the Team met at Nagpur recently to discuss the Report pertaining to their visit abroad and it would be finalised very shortly and submitted to the National Productivity Council. The final report would be available to the printers thereafter from the National Productivity Council.



*U.S. Government Printing Press Senator Honourable James L. Harrison welcoming the Indian Productivity Team.*

### EXPENSIVE PRINTING

No businessman can afford to buy poor printing, not even a millionaire.

—M. H. Mac Donald

## Purity and Brilliancy of Printing Inks

The production of coloured printing inks which are outstanding by such special qualities as purity of colour shade, high brilliancy and colour intensity, even today creates problems which have not yet been completely solved. It must be admitted, however, that some printing jobs do not always require the optimal purity of colour shade from the printing inks or in the printed image. On the other side it is a fact that in the past years the chemical industry has produced a number of high-grade and brilliant pigments, some of them being even almost special-clear, and that most of these pigments are used for the production of printing inks. It is regrettable that the ink maker, in order to comply with the requests of the designer of printed matter, is compelled very often to artificially dull such pigments because a brilliant colour effect is not wanted. In the advertising business, however, one is likely to meet just the opposite demand. The widely used daylight fluorescent inks which are almost unsurpassable in brilliancy give ample proof of it. In outdoor advertisements it sometimes can be found that far more than half of the printed area of a poster is printed with daylight fluorescent inks which maintain their long distance effect even in cloudy weather. If posters printed with standard type coloured inks are placed side by side with these, the latter will appear dull and brownish, whereas, when regarded alone they also present an effect of brilliancy.

### A wide range of ink pigments

The brilliancy of the fluorescent colour print results from a high rate of light reflection which is effected by the fluorescent ink pigment. Daylight fluorescent inks are capable of converting the ultra-violet light con-

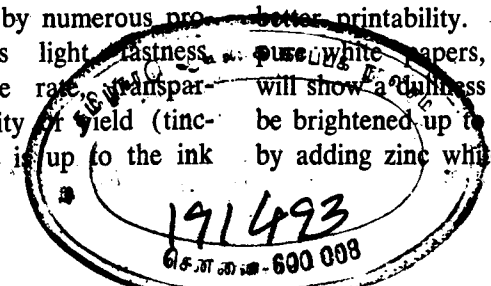
tained in the daylight spectral range, and which is invisible to the naked eye, into visible rays and to add these to the reflection of normal light. This is the explanation why prints made with fluorescent inks appear much more brilliant, sometimes even rather over-suggestive in all such cases where the use of fluorescent inks is exaggerated and where the design holds strong contrasts. The fluorescent effect can be intensified by using artificial ultra-violet light (quartz lamps) as an additional light source for illuminating such posters; in shop window displays very attractive effects may be obtained by this method. It must be admitted, however, that in a design with sharp contrasts also pure printing inks of the conventional type can produce a brilliant effect without becoming a pain to the eye.

Which of these ways is preferred by the designer of artwork depends to some degree on the designated purpose of the printed matter concerned, whether it should have conspicuous features or whether it should appeal to the observer in an unobtrusive manner.

A variety of pigments and dyes is used today for the production of printing inks. The assortment includes about 300 different pigments (30,000 different kinds of colouring bodies are known or being manufactured) and it contains inorganic pigments (so-called mineral dyes) as well as synthetic pigments and lacquerized pigments deriving from the coal tar refining process. The pigments of this group differ from each other by numerous properties such as light fastness, opacity, coverage rate, transparency, and intensity of yield (tintorial power). It is up to the ink

maker to select the pigments in accordance with requirements, this selection becoming very often a complicated matter by all the different demands made by the customer which are sometimes difficult to reconcile. Ink pigments of a high brilliancy often do not have the high degree of light fastness demanded or other qualities which are essential if, for instance, it is intended to varnish a job or the like, so that in many instances certain allowances will have to be made. This leads to the impression that here and there are gaps in the development which should be closed as soon as possible.

The colour shades of most of the inorganic or mineral dyes are duller than those of the organic aniline dyes. Sometimes it is unavoidable to use for the production of printing inks inorganic pigments in spite of their inferior brilliancy. These pigments are particularly preferred on account of their favourable price and partly due to their better coverage ability. The high degree of light fastness owned by these pigments also plays an important role. However, many other properties which would lead to undesirable effects especially in halftone printing are the reason that some inorganic pigments are much less in demand nowadays, whereas some years ago large quantities of these were used for the production of printing inks; today they are gradually being replaced by aniline dyes. These aniline dyes have a more brilliant colour effect, they are more transparent, they have a higher yield value and they are of a better printability. On other than pure white papers, however, they will show a dullness which can only be brightened up to a minor degree by adding zinc white to the ink.



19143002, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

#### Dullness provoked by paper surface condition

Just like the paper's degree of whiteness influences the brilliancy and cleanness of colour reproduction, the quality of the paper surface, in particular its absorption capacity, becomes noticeable as well. Natural paper with a higher absorptive capacity and a low degree of sizing as well as uncoated super-calendered paper and cardboard will absorb on the average 30 to 50 per cent more ink than surface-sized paper or coated stock (enamel or chrome paper). In addition some types of paper show a cloudy surface texture (for example cellulose paper and some imitation chromo boards) which can be improved only partially by calendering; they lack, therefore, the property of a uniform absorption over the entire surface. The result is a varying receptivity of printing ink which becomes noticeable by differences in the reproduction of colour shades. An uneven appearance is

brought about in printed solids due to the ink being absorbed more readily by the recessed paper areas which have not been fully compressed by the calender; at the same time the colour shade becomes deeper there and somewhat dulled. This effect is increased by the fact that the more absorptive recesses (not the frequently observed "holes") will accept the ink more readily and more completely from the forme. The consequences of such unevennesses in the surface can be demonstrated very impressively by the so-called doctor blade test, using a special ink for this. The test can be carried out by means of a simple device. The printing ink applied to the paper by the doctor blade is more intensively absorbed by the recessed areas; thus a clearly defined image of the structure of the paper surface is obtained by this method.

With some practice not only the texture of the paper surface can be readily determined, but also the

overall absorptive capacity, and consequently the amount of printing ink required for the paper in question may be estimated with some certainty.

Of the demonstrated cardboard categories the high-gloss cardboard shows the smoothest surface and also a much lower absorptive capacity than the other types of board and thus requires the smallest quantity of ink in printing. If such cardboards are printed with transparent printing inks, only a minimum rate of dullness will be experienced, particularly in such cases where the printing inks are a high concentration, i.e. where no diluent was added.

High-gloss papers and cardboards are not only used in letterpress and offset printing. Nowadays rotogravure is also being employed for packaging printing and in this process, too, high-gloss paper and cardboard are frequently used. It proved that the purity of colours obtained in gravure printing is often

superior to that in prints of similar nature produced by a different printing process. This has two reasons which are mainly associated to the drying property and the clarity (colourlessness) of the ink vehicles to be used in this process. Due to its fast drying property only a small amount of ink penetrates into the paper surface; most of the ink dries already on the surface coating of the paper and for this reason presents a high degree of brilliancy.

#### Dullness caused by drying agents

In the flexographic process mostly pigment-free inks are used which contain soluble dyes. On pure white paper they produce colour shades of a high brilliancy. Unfortunately the light fastness of the soluble dyes is relatively low so that they can only be employed for printed matter which does not have to meet special claims in this regard.

Certain components of printing inks often affect the brilliancy and purity of colours in an unfavourable way. The binding agents used for printing inks which dry by oxidation (letterpress and offset inks) are by no means colourless. Such kinds of printing oils and varnishes are all of a more or less yellowish or brownish appearance. Following the addition of mostly dark-coloured cobalt, manganese or other driers which are to expedite the drying process, the ink will be further dulled which might impair the brilliancy and clearness of colour shades. Elimination of such unfavourable influences should, therefore, be endeavoured wherever possible. This can be achieved by the use of highly concentrated inks, for in this case the desired colour intensity already will be obtained by a reduced rate of inking. The share of binding agents to be absorbed is somewhat higher and consequently there is less of dulling effect. More

brilliant colour effects are also attainable by the use of flushed inks. The modern semi-glossy and high-gloss inks which find preference today in letterpress as well as in offset, are much favoured for this very reason and ink makers pay special regard to this when manufacturing their inks. In some instances these inks do not require the otherwise customary addition of driers, to that any loss in brilliancy from this source is also avoided.

It is a known fact that the four-colour print calls for maximum purity of colour shades in order to keep any dulling of colours in overprinting as low as possible. For this reason the inkmaker has to pay particular attention to the selection of colour pigments and binding agents to be used for the production of standardized inks, the properties of which are laid down in Specifications of Standards as to their optical appearance. These pigments are of the highest purity possible, furthermore they have a high grade of transparency and are almost spectral-clear. Unfortunately the producers of pigments have not yet been able to produce all three pigments required for the abovementioned sets of standardized inks to have equal properties of light fastness; in other words, the light fastness of the standard blue rates at 8, whereas red and yellow only reach 6. There are similar differences in the rate of varnishability and the resistance against alkalines, acids, etc.

The blending of different colour pigments or a blending of ready-made inks will frequently lead to considerable losses in brilliancy through dullness. The larger the distance between components within the spectrum, the higher the resulting degree of dullness will be. This blending is often done deliberately

in cases where a printing ink shall be dulled without adding black.

Lacquer coatings and overprinting of varnish sometimes cause coloured inks to become dull. Most of the spirit varnishes and nitro lacquers are colourless and do not bring about the above described effects, whereas the high-gloss overprint varnishes (which dry by oxidation) have a more pronounced negative effect on the purity of colour shades. Specifically bluish red shades and light blue shades yield to this influence and show the highest degree of loss in brilliancy. A film coat presents the same appearance as a nitro lacquer coating and practically without bringing about any disadvantages.

*Export Polygraph International.*

*(Continued from page 11)*

He took the aspirants for Public Service Commission jobs into his confidence when he observed: "You may have the required qualifications, but unless you display your wares you will not be selected."

He said that all young men and women were not meant for university education. If the level of education had fallen, it was because the youths only bothered to "mug guides" to pass the examinations. Such education would not carry them far; it only amounted to wasting their time and energy and their parents' money.

Shri Thorat summed up the whole thing admirably by saying that what the selectors looked for was a reasonably well-trained technician, a potential administrator, and a gentleman.

The school building was beautifully illuminated on the occasion. The students gave a performance of a well-known Marathi play on the same night. The next day, there was a lunch for students, members of the staff and guests.

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## Sales Tax Officers' Power to Enter Premises to Inspect Accounts — Defined

### The Madras General Sales Tax Act IX, 1939

(FROM OUR CORRESPONDENT)

The Madras High Court in April last year has defined the extent of the powers of Sales Tax Officers under the Act to enter premises to inspect accounts. The facts of the case are evident from the judgment which is reproduced below :—

Anantanarayanan, J. : This appeal possesses a considerable degree of interest, from the point of view of the citizen and of the rights of the general public in relation to departmental officers, such as officers entrusted with the implementation of the provisions of the Madras General Sales Tax Act, (Madras Act IX of 1939). What has actually happened in this case is that the learned Sub-divisional Magistrate of Dindigul tried the two respondents upon the following charges : that on 21st July, 1958, at Dindigul, they used criminal force to Thangiah (P.W.1), the Special Assistant Commercial Tax Officer of Dindigul, with intent to prevent or deter him from discharging his duties as a public servant and thereby committed an offence under section 353, Indian Penal Code, and that the same accused (the respondents) obstructed the inspection of accounts by the aforesaid Shri Thangiah (P.W.1) and thereby committed an offence punishable under section 15 (2) (b) of the Madras General Sales Tax Act. The learned Sub-divisional Magistrate dealt with the facts of the evidence in an elaborate judgment. He was of the view that not merely were the offences not established in the evidence for prosecution, which he was not inclined to believe, but that when it was not shown that the respondents were "dealers" the entry of the officers into the house was "nothing short of trespass on a residential house".

The State has filed the appeal from the acquittals of the respondents under section 353 of the Indian Penal Code and section 15 (2) (b) of the Madras General Sales Tax Act.

I think that this case illustrates, very acutely, the danger of the action of

departmental officers, who imperfectly apprehend their powers and duties. There may be some excuse for a layman to be ignorant concerning the precise demarcation of his legal rights in relation to governmental agencies. But there is no such excuse for departmental officers entrusted with the implementation of a comparatively short enactment, like the Madras General Sales Tax Act (Madras Act IX of 1939). Democracy cannot function with health and safety, if governmental agencies do not realise that, where they act in exercise of any statutory power, they must strictly keep within the bounds of that power, and respect the rights of the citizen to the extent compatible with the exercise of such powers. In the present case, I do not propose to proceed into the facts of the evidence at any great length. I do not wish to comment upon the appreciation of the evidence by the Magistrate, or upon the grounds assigned by him for holding that the prosecution witnesses were not precisely angels of truth, and that there was a great deal to be said for the testimonies of P.Ws. 1 and 2 to the effect that this was really an intrusion upon domestic premises, with very little justification for it. On the contrary, I shall assume that the officers, and P.Ws. 1 and 2 in particular, were satisfied on information received that the two respondents were carrying on business as "dealers", were "burking" such transactions by not bringing them to the notice of the Commercial Tax Authorities, were escaping assessment altogether, and maintaining secret accounts. Even assuming all this, and assuming that the officers were acting *bona fide*, I still think it can be easily shown that their behaviour upon the relevant occasion was injudicious and unsupported by law, and hence that the charges against the respondents cannot be successfully sustained.

As a glance at section 15 (2) (b) of the Act will show, what is punishable under this sub-section is the prevention

or obstruction of an inspection or entry by any officer acting as empowered under section 14, in contravention of the terms of section 14. But we must notice that section 14 does not invest the officers of the department with the powers of police officers, or with general and indiscriminate powers of entry into all places, or powers of conducting a search as such. What section 14 (1) states is that the empowered officer might require any dealer carrying on any business to produce before him accounts and other documents, and furnish information relating to such business. The learned Magistrate has held upon the merits of the evidence, that the respondents (accused) were not "dealers" as defined in the Act, and that the prosecution failed to prove that they were conducting business as such. I shall assume for the moment, that the officers (P.Ws. 1 and 2) were under the *bona fide* belief that the respondents were such "dealers", and were engaged in an investigation whether the respondents were escaping assessment under the General Sales Tax Act. Since the department was not having formal relationship with the respondents, at least for some considerable period prior to this incident, one would have thought that the normal and natural step for the officers would have been to issue a notice under section 14 (1) of the Act. This was not done. In any event, the officers had a right to inspect the accounts and registers as enacted under section 14 (2) of the Act. But the officers did not proceed to the business premises to inspect such accounts or registers; in fact, there is nothing to prove that any such business premises existed. Under section 14 (3), the officers "shall have power to enter for the purposes referred to in sub-section (2) any office, shop, godowns ..... or any other place in which business is done". It has to be carefully noticed that the terms of this sub-section are very restricted in scope and

effect. The officer does not get a power, by means of this sub-section, to enter domestic premises, merely because he suspects that some business is being carried on there. He may enter any place ostensibly used for the conduct of business as such, as an office, shop, godown etc. But if he is going to enter a private house and to intrude on the privacy of strangers, he must be thoroughly satisfied that he could prove that this was a place in which business was being actually conducted. Unless he was in this position, his entry into a private house will not be authorised under section 14 (3), and may well constitute civil trespass; the learned Magistrate was perfectly correct in pointing this out.

In the present case, without any prior formal relationship or history of assessment, preceding the incident, we find these officers forcing an entry into the private house of the first respondent, and attempting to seize some note books, on the allegation that they were accounts of the business. This is totally outside the purview of the powers vesting in such officers, under section 14 (3) of the Act. If the officers so desired, under circumstances of that kind, they could have moved the police authorities

for a search of the premises, or for obtaining a search warrant. The record does not even show either (i) that the respondents really carried on business as "dealers" anywhere, or (ii) that there was no other place where the business was being carried on, as official premises. Since the information was to the effect that business was being carried on in paddy and rice, large scale business as P.W. 1 has deposed, it is difficult to believe that the business itself was being transacted in living rooms in a private house. On the whole, there can be no doubt that the entry of these officers into the private house of the respondents was not merely unfortunate, but was unauthorised and illegal, in the absence of evidence to show that this was a place of business. This entry did constitute trespass.

Apart from the reliability of the evidence, concerning which I propose to say nothing, since the learned Magistrate, who had the advantage of seeing and hearing the witnesses for prosecution, was not prepared to believe them, it is clear enough that, upon the facts of this character, the charge under section 15 (2) (b) could not be sustained. It is equally clear that, as the learned Magistrate has rightly stressed, the charge

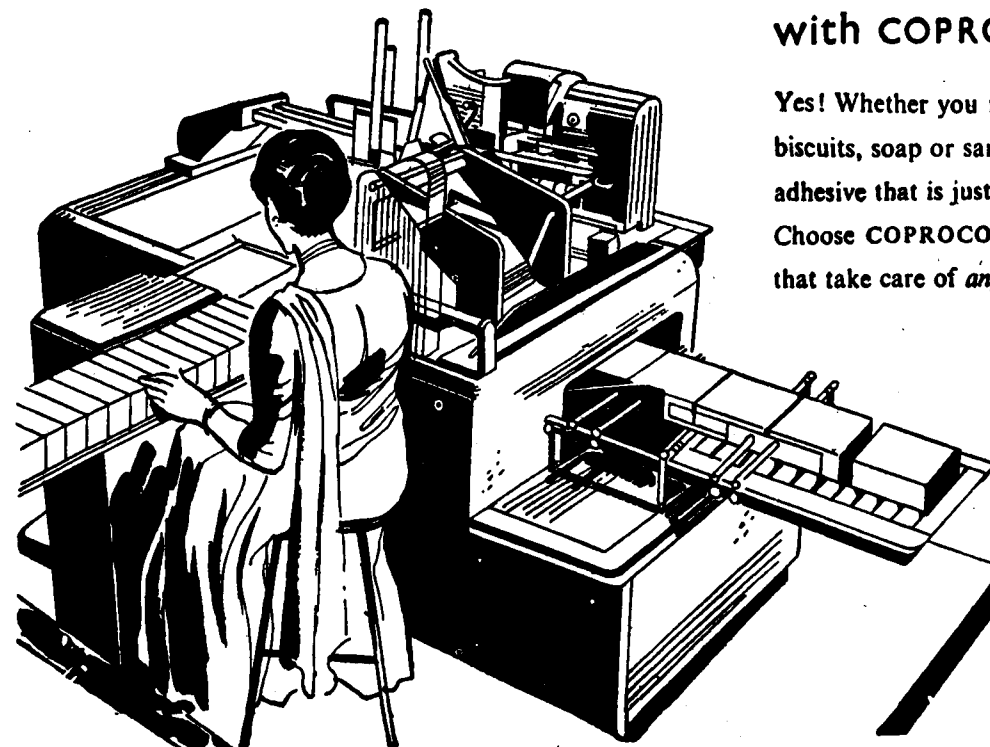
under section 353, Indian Penal Code, could not stand. For, once we concede that the entry of these officers was an unwarranted intrusion, the respondents had a perfect right to ask the officers to get out of the house, and the officers could not be held protected by the colour of their duties as public servants. As the learned Magistrate observes "what is meant by good faith is due care and attention. P.Ws. 1 and 2 entered accused 1's house on some information. That information was not verified. Nor was any attempt made to find out if it were correct, and if it could be relied upon and acted upon".

I hold that there is not the slightest warrant for interference with the acquittals of the respondents, with reference to the charges against them. I further hope that these observations will be duly noted by the concerned authorities, as what happens frequently in these cases is not a wilful abuse or perversion of power, but an insufficient realisation of the fact that governmental agencies have a special responsibility to determine and verify the ambit of their powers, particularly with regard to private citizens before acting upon them. The appeal is dismissed.

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To him there came, one day, a thoughtful man with a question in mind and he asked of the Rishi, "Of all things on this earth what takes the longest to grow?"

Suka mused awhile then answered: "Confidence. Whatever is tried and tested in the crucible of time and found to give complete satisfaction—only then does confidence come to be reposed in it! That is the touchstone of its success".

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## Letterpress Black Printability Chart

PAPERSURFACES

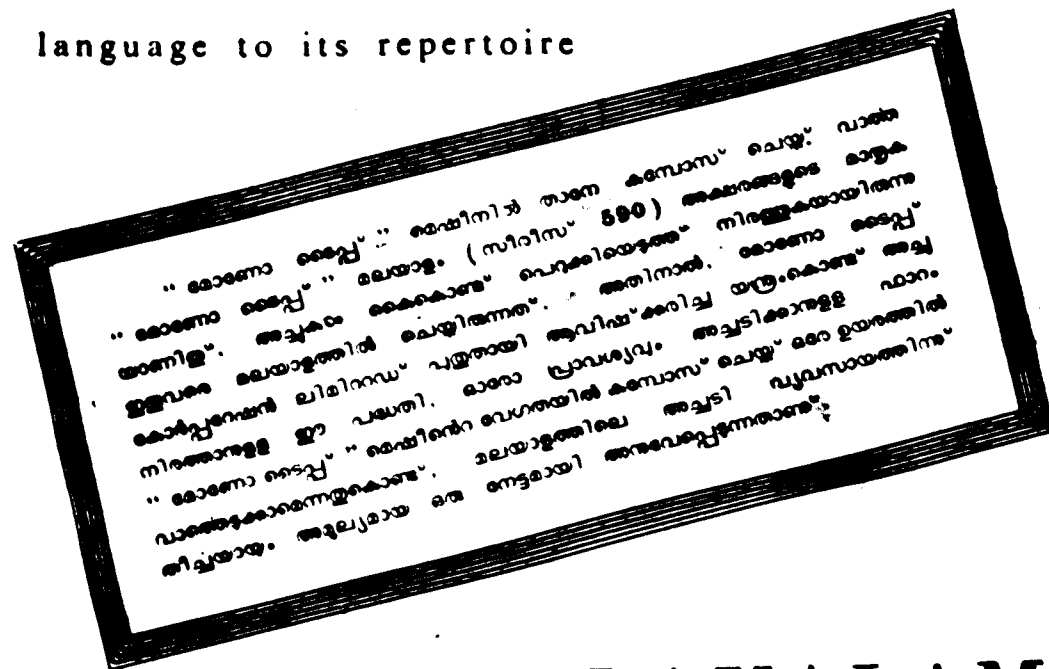
|                                  | NEWSPRINT | GLAZED NEWSPRINT | MACHINE FINISHED (M.F.) | MACHINE GLAZED (M.G.) | BOOK PAPERS | ANTIQUES | SUPER CALENDERED (S.C.) | BONDS AND BANKS | IMITATION ART | ART PAPERS | GREASE PROOF |
|----------------------------------|-----------|------------------|-------------------------|-----------------------|-------------|----------|-------------------------|-----------------|---------------|------------|--------------|
| Standard / Superior News Blacks  | ●         | ●                | ●                       | ⊙                     |             |          |                         |                 |               |            |              |
| F1 - F4 News Blacks              | ●         | ●                | ●                       | ●                     |             |          |                         |                 |               |            |              |
| G1 / G2 Jobbing Blacks           |           | ●                | ●                       | ●                     | ●           |          |                         |                 |               |            |              |
| G3 Fine Jobbing Black            |           | ⊙                | ●                       | ●                     | ●           | ●        |                         |                 |               |            |              |
| G4 Book Black                    |           |                  | ●                       | ●                     | ●           | ●        | ⊙                       |                 |               |            |              |
| G5 Halftone Book Black           |           |                  | ●                       | ●                     | ●           | ●        | ●                       |                 |               |            |              |
| P.2463 / P.685-A Book Blacks     |           | ●                | ●                       | ●                     | ●           | ●        | ⊙                       |                 |               |            |              |
| G6 Record Black                  |           |                  | ●                       | ●                     | ●           | ●        | ●                       | ●               |               |            |              |
| G7 / G8 / 1207 Process Blacks    |           |                  |                         |                       |             | ●        |                         | ●               | ●             |            |              |
| P.2631 / P.2476 Process Blacks   |           |                  |                         |                       |             |          |                         | ●               | ●             |            |              |
| Gloss Black 341                  |           |                  |                         |                       |             |          |                         | ⊙               |               | ●          |              |
| Super Gloss Black 1731           |           |                  |                         |                       |             |          |                         | ●               | ●             | ⊙          |              |
| Bond / Superior Bond Blacks      |           |                  |                         |                       |             |          | ●                       | ⊙               |               |            |              |
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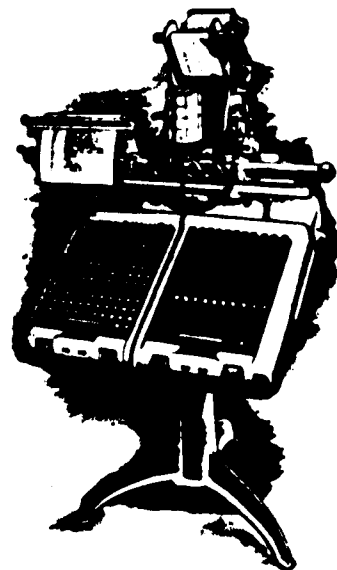
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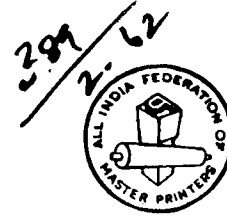
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# Bulletin

OF THE

ALL INDIA FEDERATION OF MASTER PRINTERS

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Volume 7

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April 1962

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## NOTICE

As the office of the All India Federation of Master Printers functioning till now at 42, Broadway, Madras-1, is proposed to be shifted to Bombay, all future correspondence relating to Federation shall be made to:

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## EDITORIAL

## PRINTERS' NEEDS

It is almost an established practice now for V.I.P.'s to sympathise with the difficulties of industry at inaugural functions. But when the import policy is announced, it becomes the same old story of shortage of foreign exchange and therefore the need to tailor our demands to suit the conditions. Our leaders have still to realise that for a developing economy this shortage of foreign exchange has to be a sort of an eternal problem and that that should not be an excuse to stop development and stagnate. We have referred to this here because it is our considered feeling that we printers are not yet having the fair deal due to us in the matter of importing our requirements to put our industry on the world map.

Our paper production has increased rapidly. It is at about 420,000 tons now. It is envisaged that it will rise to about 750 to 800 thousand tons by the end of the Third Plan period. What is to be done with all this paper? We are sure it is not intended to stack and store them in the godowns of the mills and traders and be just satisfied that we too have produced so many tons of paper. We have to utilise all this paper to print and produce the varied and variegated printed materials that our public require. With the expansion of education in the country, the people are becoming more reading-minded and are demanding a variety of reading materials. Besides, the expanding industries are increasing their demands on the printing presses. There is very great need therefore to expand and develop our printing industry to be able to

meet this rising demand. Certainly we should not wait to develop our printing industry until all paper is produced and stacked in the godowns. Development of the printing industry should be planned simultaneously with the setting of targets for paper production.

A lot of printed advertising material was being imported before. On our persistent representation this was banned. But we find that a lot of these are still coming in under the euphemistic label of 'free gifts'. The declared value of these 'free gifts' amounts to nearly Rs. 57 lakhs. Those who make these 'free gifts' must be realising this value by some other means; because they are not certainly so altruistic and more certainly they are not of the Moral Rearmament group. Again, in some cases, printed sheets are imported and bound into books in the country. The Government should go into these questions and consider ways of stopping them, lest our printing presses turn into mere binding shops.

We refer to these because we are anxious to emphasize that all our printed requirements should be met by our printing industry; and to that end, the industry should be developed. If more machines are required, they should be imported; and shortage of foreign exchange should not be an excuse. Because we are certain there will never be enough and to spare of it in the near future, for a rapidly developing economy like ours. As printing is the handmaid of economic development, the industry should get a fair deal.

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## WAVINESS AND CURLING OF PRINTING PAPER UNDER THE INFLUENCE OF HUMIDITY AND TEMPERATURE

Changes in the sheet size and inherently the tendency to waviness and curling is primarily caused by the influence of humidity and temperature. For a better understanding of the technological meaning of moisture effects in printing papers and the influence of climate in storage and printing plant rooms, it is essential to explain the sources and subsequent effects of the hygroscopic reaction of paper.

All vegetable fibres which present the main raw material of all papers are hygroscopic, i.e. they consist of such substances which, owing to their dependency on the moisture content of the surrounding air, either absorb or discharge moisture. This hygroscopic reaction is due to the chemical cohesion of water to the hydrophilic molecular clusters of the cellulose to the absorption of water by the tiny capillaries of the fibres and to the accumulation of water in the pores of the paper structure. The water content of a paper sheet in its dependency on the air humidity does not show an even course. The water content increases at extremely low, and still more increases at extremely high air humidity rates than it does at medium rates. It shows furthermore that it makes some difference whether a paper to be moisture conditioned to a certain degree of air humidity comes from a dry or a humid environment. Paper stored in a dry place before being transferred to a processing room with a relative air humidity rate of approximately 55 per cent absorbs about 2 per cent less water than does paper of equal quality which had been stored in more humid surroundings. This so-called hysteresis phenomenon of the paper disappears only after the

paper has been reconditioned several times to different climatic conditions.

Fluctuating temperature conditions do not materially affect the moisture content of paper. Tests have proven that, at a stable relative air humidity rate of 55 per cent, a temperature increase of 18°F would only cause a moisture reduction of 16 per cent in wood-free offset paper. This does not mean, however, that papers may be exposed to fluctuating temperature conditions. This problem will be discussed later in this article.

The moisture degree of paper is governed by the type of raw materials used. As it may be recognized from Table 1, wood pulp absorbs more moisture than cellulose. The least amount of moisture is absorbed by the high-quality paper raw materials linen and cotton. In the following the average absolute moisture rates of different types of paper are shown after their conditioning to a relative air humidity of 65 per cent.

### Absolute moisture contents of various paper types at a relative humidity rate of 65%

| Paper Types                                               | Per cent |
|-----------------------------------------------------------|----------|
| Pure rag papers, e.g. banknote and security paper         | 6.6      |
| Paper, mixture of rags and cellulose pulp, e.g. map paper | 6.8      |
| Pure cellulose papers, e.g. wood-free printing paper      | 7.0      |
| Paper made from wood pulp                                 | 8.0-8.4  |
| Paper with high wood pulp content e.g. news-print paper   | 9.3      |
| Glassyne paper                                            | 10.5     |

Table 1

Regarding the glassyne paper (wood-free, strongly beaten) it becomes obvious that also the degree of beating of raw materials influences the moisture degree. Along with the intensified beating a fibre furnish develops which has a stronger tendency to absorb moisture than the undamaged fibre. Also the surface enlargement of the fibres contributes to an increased absorption of water. The common resin sizing of printing papers does not bear on the moisture content. Mineral fillers do not participate in the moisture exchange of the paper. Conclusively, papers containing such loading material hold less moisture than papers without or with only little filler content.

### Alternating moisture contents change dimensions of paper

At the beginning of this article it has been stated that the vegetable fibres in their dependency on the relative-humidity of the surrounding atmosphere either absorb or discharge moisture. Such moisture absorption and/or discharge results in a swelling and/or shrinking of the fibres whereat such deformations of the fibre to their larger part occur diametrically rather than lengthwise. It is a known fact that in machine-finished papers the fibres are mostly arranged parallel to the grain direction and, accordingly, the crosswise deformations in a paper sheet are essentially worse than in the machine direction. The length increases in the cross and the machine direction of various paper types as a result of changes in the relative humidity rate from 45 to 86 per cent are indicated below.



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### Increases in length upon changing of the relative humidity rate from 45% to 86%

| Paper Types                                                       | cross machine direction |      |
|-------------------------------------------------------------------|-------------------------|------|
| Enamelled paper (100 lb. subst.)                                  | 0.15                    | 0.38 |
| Litho paper, surface-finished and pre-conditioned                 | 0.16                    | 0.43 |
| Litho paper (65 lb. subst.)                                       | 0.18                    | 0.55 |
| Litho paper (80 lb. subst.) (register differences in cross grain) | 0.13                    | 0.63 |
| Litho paper — India print paper (15 lb. subst.)                   | 0.12                    | 0.61 |
| Map paper, rag contents                                           | 0.14                    | 0.35 |
| Chromo paper (60 lb. subst.)                                      | 0.15                    | 0.50 |

These linear distortions of the papers under the influence of moisture are an unwelcome although frequent occurrence in the daily routine of the printer and make themselves known by the tendency of the paper to become wavy or curl and further by differences in register. At this point it may be briefly mentioned that also other properties of the paper may be affected and, as a possible consequence, disturbances in the work process are caused by the moisture content of the paper. For example, the resistance properties of the paper such as tensile strength, folding endurance, flexural strength are highly dependent on the moisture content of paper and surrounding air humidity; the same applies to surface smoothness, static charging and fluffing tendency.

If a whole paper sheet is exposed to alternating humidity rates, the sheet undergoes changes in size and

might cause differences in register, if this happens during the printing of a set of colour plates between two passages. Where, however, only parts of the paper sheet are exposed to alternating humidity rates, the sheet undergoes a distortion, i.e. it tends to become wavy or curl.

Principally there are found only two kinds of waviness in paper piles, the one showing itself in warped edges and the other in a bulging of the centre of the paper sheet. If the moisture content in the surrounding air is higher than the corresponding moisture of the paper, the cut edges absorb water out of the air, and an expansion of the sheet edges followed by their becoming wavy is the inevitable result. If, however, the moisture content of the air is lower than the corresponding moisture content of the paper, the sheet edges discharge moisture which makes them shrink and causes the paper sheets to bulge. In both cases it becomes apparent that the paper sheets do not lie flat any more, but have adopted a more or less tridimensional shape. As for paper rolls, excessive moistening or drying out of the cut edges while the inside of the reel remains unaffected, will produce similar results as described above and either lead to a "slackening" of the web edges or to a "bulge" formation.

### Fluctuations in temperature, too, will affect the paper length

On the other hand great temperature fluctuations might also cause the sheet edges to become wavy. If, for instance, cold paper—cooled out during shipment in cold weather or when being taken out of unheated storage rooms—is brought into the warm atmosphere of a printing room, the air surrounding the paper piles cools off rapidly, bringing the relative humidity to a rise.

The following table shows the extent to which the relative humidity rate, is dependent on the temperature.

### Dependency of Relative Humidity on Temperature Conditions

| Temperature (in centigrades) | Relative Humidity % | Temperature (in centigrades) | Relative Humidity % |
|------------------------------|---------------------|------------------------------|---------------------|
| 38                           | 24                  | 24                           | 52                  |
| 35                           | 28                  | 21                           | 62                  |
| 32                           | 32                  | 19                           | 74                  |
| 29.5                         | 38                  | 16                           | 88                  |
| 26.5                         | 45                  | 13.5                         | 100                 |

It could happen that, upon undercooling of the air surrounding the paper piles, this undercooled air will accept a relative humidity rate of 100 per cent — hence is saturated with water. Under such conditions the sheet edges are ready to absorb moisture to a rate of 10 to 12 percent, thus subjecting them to considerable expansion and waviness. Along with the warming up of the entire paper pile the surplus moisture evaporates again from the sheet edges; however, the moisture equilibrium between the centre and the edges of the sheets cannot be restored, the waviness of the edges does not disappear entirely. In cases of a pronounced waviness difficulties will show up already in the sheet feeder and during the transport of the individual sheets through the press. The suckers are unable to properly pick up the individual sheets and likewise the tapes cannot transport them smoothly. Machine stops are the inevitable result. Furthermore, if sheets are not absolutely flat, this may lead to the formation of wrinkles during printing. This has to be mostly feared in offset printing and in sheet-fed gravure, where the entire sheet surface is in contact with the blanket or gravure cylinder and the impression cylinder, whereas in letterpress printing and sheet jumps

the slightly recessed spaces of the type forme. In a bulging sheet, that is where the edges are tight, a formation of wrinkles might occur which in most cases run parallel to the sheet edge and towards the back edge of the printed sheet. Wavy sheet edges caused by excessive moisture show a formation of wrinkles which run diagonally to the corners of the sheet. Sheets not lying flat may also cause misregistering. In case of wavy sheet edges the back edge will take the image while contracted, then re-expand to the original length so that in the end the printed image as it appears on the paper is longer than the plate image. In printing the following colours in several press runs register differences at the back edges are hardly avoidable due to this fault. On the other hand, "bulging" paper will cause a fanning-out of the back sheet edges during the printing process, and after these have regained their original size, the printed image along the back edge will be shorter than the plate image which also causes register differences in multi-colour printing.

If paper rolls are used in rotary printing which have moist and, therefore, slack edges, wrinkles might form which will run throughout the length of the paper web. In addition the web might side-shift, which in multi-colour presses is apt to cause misregister. When roll edges have contracted by drying out, these will have to take most of the web tension in printing. Cracking of edges and even web breaks are then the inevitable result.

#### What can the paper manufacturer do about this problem?

It was lined out in the beginning that the moisture absorption of paper might be influenced by the raw material composition, the beating of raw materials and the filler

content. The use of suitable fibre materials which during the beating process do not develop mucilage in excess, for instance alkaline boiled celluloses, careful and not too excessive beating and the use of suitable loading materials in optimal quantities are the hypothetical essentialities. In practice these requirements are opposed by economical and manufacturing necessities. The selection of raw materials in the first place is dictated by the price of the finished product; a certain beating of the fibres is necessary in order to attain satisfactory intertwining to provide the paper with the necessary physical properties, and finally the filler content of paper cannot be raised above a certain critical level.

But also the manufacturing conditions at the paper machine can influence the tendency to waviness either favourably or unfavourably. Care must be taken that the pulp will deposit evenly on the Fourdrinier screen of the paper machine, that an equal distribution of fibre is attained and that a careful, slow seasoning of the paper is achieved. The paper web should not have too much tension between the press-rolls and cylinders, as otherwise the fibre structure will expand too much and in case of later shrinkage this will cause waviness. The drying felts shall press the web evenly against the drier cylinders in order to secure uniform drying. The paper shall be well cooled down and in settled condition when being taken from the machine and it should be free of inner tensions; moreover, it should neither be too dry nor too moist. Prior to further processing—calendering, rewinding, slitting or sheeting etc.—the paper, specifically paper of better quality, should be stored for not less than 24 hours in rooms with a constant appropriate humidity and temperature rate. It needs no particular mentioning that

sheeted paper in piles or paper reels should not stay for long in rooms with highly fluctuating humidity and temperature conditions.

While formerly sheeted paper was shipped packed in reams, now pallet shipping is preferred; moist packing boards are unsuitable for this method of shipping, of course. Where the distance of travel is only short and where the paper will be processed without further delay or where there is the opportunity to transport the paper in closed air-conditioned trucks, it might not be necessary to wrap up and seal the paper piles with wrapping paper. In all other cases, however, it is essential that the paper piles and reels be wrapped up in waterproof asphalt liner Kraft paper. Under the provision, that the paper has been provided with the required moisture content and that the wrapping has been done very carefully, every assurance can be given for delivery to the plant in a fully satisfactory condition as far as perfect flatness of sheet is concerned. Unfortunately, however, this does not warrant that the paper will arrive also at the printing machine in this condition.

#### How can waviness be avoided?

It has already been suggested that the best and safest way to ship paper is the transportation in air-conditioned trucks which protect the paper from changing climatic conditions. However the increased transportation costs are only justified for high-quality paper.

Even under such favourable conditions of shipment the paper should be removed from the loading ramp as quickly as possible, which is of particular importance during the cold season or in exceptionally dry or moist weather. The paper should be delivered without delay to the storage or processing rooms. There should be no question as to the

necessity for checking all paper lots upon arrival at their destination in regard to their moisture content or the rate of relative humidity in the paper pile and their temperature. Furthermore, it is essential to be permanently informed of the humidity and temperature conditions existing in the storage and press rooms, which means that they have to be controlled by continuous measuring and recording. If it is thus detected that the paper's condition deviates from the standard, then appropriate steps for the prevention of disturbances in the working process can be taken in time.

If the paper shipment is found to be too moist or—which is more frequent—too dry, such paper shall be unpacked immediately and hung up in small lifts. This will give the individual sheets the opportunity to discharge or absorb moisture over their entire surface. This procedure will cause either expansion or contraction of the sheets, but they will remain evenly flat. If, for some reason, the paper cannot be hung up at once, the paper should be stored in its wrapping. This is an essential requirement also where properly shipped and delivered paper has to be stored in unconditional rooms. Additional safeguarding of the paper piles against climatic influences by means of plastic hoods has proven to be an advantage. If it is revealed that the paper has become undercooled during transport or during the storage in unheated rooms, it will be of some help to store the waterproof wrapped paper in the warm press room for a sufficiently long time, until the paper will have adjusted itself to the prevailing room temperature, and only then to unpack it. Although the temperature balance is reached more quickly than the moisture balance, a conditioning time of not less than 24 hours should be calculated.

In many cases it will be difficult—if not impossible—to eliminate waviness, once it has occurred. As has been stated earlier in this article, each single type of paper shows a different reaction when being brought from dry or humid to a balanced condition. Accordingly, wavy paper, that is paper with an unevenly distributed moisture content, even after having been air-conditioned, will have a higher moisture content at the edges rather than in the centre of the sheet. In order to eliminate this unbalanced condition it would be necessary to subject the paper to a repeated air-conditioning—if necessary even for several times. Hence, wavy paper after being hung up would first have to be exposed to a higher rate of relative humidity and then steadily be adapted to the normal rate of humidity.

Where this measure cannot be carried through, the offset printer may improve conditions by subjecting the paper to a damping run, where the paper travels through the printing machine under slight surface pressure and with the appropriate quantity of dampening solution applied. If necessary, the press minder may have to repeat this procedure by applying increased back pressure. Wherever the size of the image permits, the edges of the rubber blanket could be relieved to lessen the stress on the back edges of the paper sheet; this will prevent the wrinkling of wavy paper.

#### Curling tendency of printing paper

The curling tendency of paper, like the formation of waviness, results from alternating moisture influences. Curling of the paper is also caused by a swelling or shrinking of the fibres. If a paper sheet is moistened on one side the swelling of the fibres bring about a one-sided expansion and conse-

quently the paper sheet rolls in towards the dry side.

Following the fact that longitudinal distortions under the influence of moisture mostly occur in the cross-grain of the paper web, the curling occurs parallel to the machine direction of the paper. This kind of curling tendency can be observed in the top layers of a paper pile subjected to severe fluctuations of moisture or, if during offset printing too much dampening solution had been used. As soon as the rate of moisture throughout the thickness of the sheet has become uniform again, the original plane position is restored, unless the double-sidedness of a paper stock is so marked that even at an equal distribution of moisture from felt to screen side varying expansion and shrinking forces become effective. These are explained by an uneven distribution of fibres within the sheet. On the screen side the fibres are aligned more along the machine direction of the paper than on the felt side. An extremely dry sheet will, therefore, always tend to curl in the machine direction of paper towards the screen side, and an extremely moist sheet will always curl to the felt side. However disturbing this might sound, this gives reason for complaint only under extreme moisture conditions. An appropriate moisture content renders the papers

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so soft and flexible that they lie flat under their own weight.

While the double-sidedness of normal printing papers leads to curling only under extreme moisture effects, in papers with one-side coating, in multi-coated boards, and in one-side lined, varnished or gummed sheets and paperboards the rate of moisture must be kept at a constant level as far as possible. Coating sizes, plastic films, varnishes and gumming coats have hygroscopic properties different from those of the paper fibres and also show different expansion and shrinking properties in reaction to the environmental humidity rate. One-sided coated paper which is too dry will always roll in towards the coated side. A permanent curling tendency will occur in cases where the paper reels are wound too tightly and the sheet size has been cut from the innermost layers of the reels or where the pile skids are smaller than the sheet size so that the edges of the paper piles are not in plane position. The curling tendency observed in the first case mentioned is easily recognizable as it always shows up in the cross-grain

direction and in most cases not in every sheet, but in regular intervals according to the number of paper reels sheeted simultaneously.

#### How can curling be avoided?

If curling of the paper occurs after offset printing it could only have been caused by the dampening solution moistening the sheet on one side. This condition can be improved by a far-going reduction of the dampening solution feed. Hence this kind of curling tendency is more frequent when printing with coarse-grained zinc plates rather than bi-metal or multi-metal plates. The fountain feed should be kept as low as possible especially when processing any of the sensitive one-sided varnished, lined, coated or gummed papers.

At any rate the paper should not be exposed to very fluctuating moisture influences and—in case of differences in the rate of humidity—the paper should be given the opportunity to adjust evenly and steadily to the new climatic conditions. If, nevertheless, the paper curls after having been offset printed, it will be of some help to

turn the sheets around and let them run through the press with a blank printing plate on the cylinder and with the damping device in operation. Any still remaining tendency to curling can only be eliminated by placing the rolled-in surface bottom-down in the pile or by sorting out these defective sheets.

Due to the sensitivity to moisture of the vegetable fibres used in paper making, the paper maker is unable to produce paper not undergoing changes in its dimensions under a fluctuating influence of moisture and hence not developing any tendency to waviness or curling. By a proper selection and processing of raw materials, a conscientious operation of the paper machine, suitable equipment and careful wrapping of the produced paper, the paper maker can contribute essentially to it that a perfectly flat-lying paper can be delivered to the user, but it is also up to the printer to employ the proper measures in order to avoid any troubles occurring during the printing process due to wavy or curling paper stock.

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## NEWS AND NOTES

### NEW IMPORT POLICY ANNOUNCED

#### Licensing on Annual Basis

The import policy for the year April, 1962 – March, 1963 was announced on 31st March. Simultaneously the new Red Book was also released and it is available for sale since April 1, 1962.

A special feature of the new policy is that the Red Book contains the policy for the whole year April, 1962 – March, 1963 and all applications for import licences will be made on yearly basis. Annual licensing will be done to the extent possible, subject to the foreign exchange availability, and will mainly cover the essential requirements of Actual Users both in the scheduled and non-scheduled sectors. A separate announcement will be made indicating the scope of annual licensing. Annual licences where granted, will be subject to the condition that the first half of the annual licence can only be utilised within the first six months and the second half of the licence will, subject to such change in value and conditions as may be decided upon, will be endorsed for utilization in the second half of the validity of the licence.

In other cases, licences will be issued for six monthly entitlement or requirement as first instalment and supplementary licences covering next half yearly entitlement or requirement will, subject to such cuts as may be decided upon having regard to the foreign exchange availability and other relevant factors, will be issued in the next half year. The system of annual licensing will provide relief to the importers in as much as they will, instead of making two half yearly

applications, submit the application for annual licence once.

The initial period of validity of 12 months hitherto applicable to small value licences has now been extended to all import licences as the importers generally found it difficult to obtain supplies in a shorter period on account of distant delivery dates quoted by the overseas suppliers.

The need to conserve foreign exchange persists and the general approach for the next period remains much the same as for the current licensing period which ends on 31st March 1962.

### SECURITY PAPER MILL

The Government of India has signed with a British firm an agreement for technical collaboration in setting up a security paper mill.

The agreement was signed in New Delhi on 28th March by Shri Y. T. Shah, Joint Secretary to the Ministry of Finance, Department of Economic Affairs, Government of India, and Shri R. K. Arora, attorney of the British firm in India. The firm has been supplying to India, for over a century special paper used for currency and bank notes.

The mill, which will be the first of its kind in Asia will be set up at Hoshangabad, Madhya Pradesh, and is expected to go into production by September 1966. Initially, the mill will have a capacity of about 2,000 tons paper per year.

### PHOTOGRAPHIC PAPER PLANT TO BE SET UP IN BOMBAY

India's first precision factory for the manufacture of photographic paper will go into production round about July, this year. Located at Ghatkopar, Bombay, and sponsored

by Agfa and the New India Industries Private Limited, the new manufacturing plant hopes in course of time to meet the all India demand for photographic material.

Mr. F. P. Huber, Export Manager of Agfa A. G. Leverkusen said at a reception given to him recently that the Agfa Synchro Box Camera, produced at Baroda, were having a growing market abroad.

### RE-PUBLICATION OF U. S. BOOKS

The Government of India has now taken up the question of re-publishing suitable works in science, technology and the humanities by Indian authors as a part of its scheme to promote the printing of inexpensive editions of text-books for university students.

The re-publication of standard American educational works in low-priced editions has already begun and two books on chemistry and statistical methods applied to experiments in agriculture and biology have appeared. Other titles are under consideration.

Books re-printed under the Indo-American scheme are priced at about one-third of the original American price. The Ministry of Education has set up a board consisting of representatives of the two Governments to ensure that the scheme is fairly administered and causes no hardship to Indian authors and publishers. The chairman of the board is the Secretary of the Education Ministry and the secretary of the body is a nominee of the American Embassy.

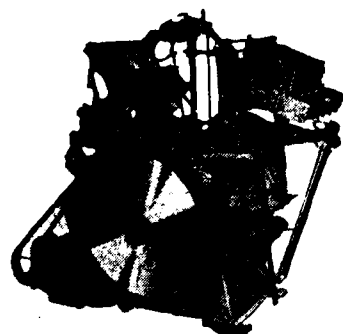
### FOUNTAIN SOLUTION

This is very important when printing on coated paper. Coated papers are usually Alkaline. The Alkali from the paper, accumulates

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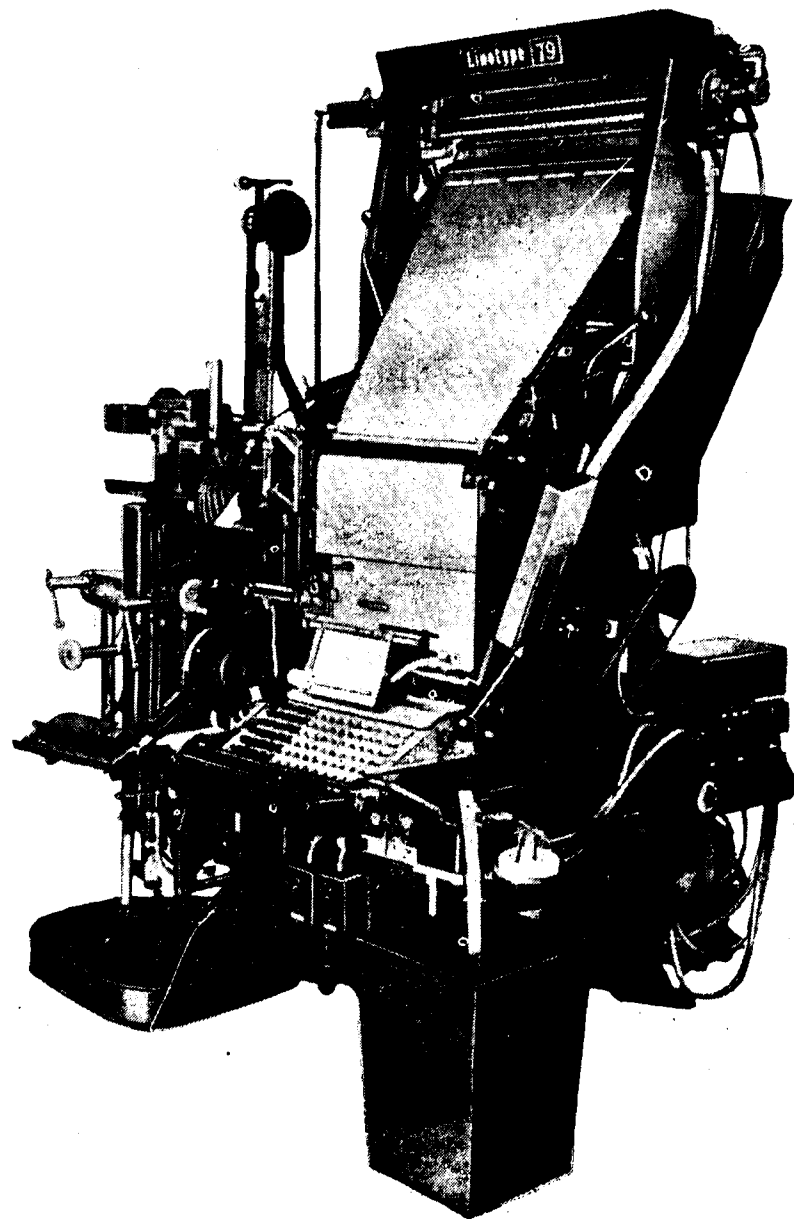
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on the blanket and then from the blanket to the plate and then on to the fountain solution. Alkaline causes scumming of plates, i.e., makes water receptive area ink receptive. Now the acidity in the Fountain Solution neutralises the Alkalinity of the Fountain Solution and thus avoids scumming.

Fountain solutions are prepared in various ways. The simplest is 2 or 3 drops of Phosphoric Acid in water. The combination of Bichromate, Gum and Phosphoric Acid with various salts are also used. The latest is to use CMC i.e., Cellulose Gum. A formula for fountain solution is given below :

Phosphoric Acid 85% 1 fluid oz.  
Magnesium Nitrate : (Crystals)  
1½ oz.

Cellulose Gum Dhy, 5½ oz.

The above solution should be then diluted with water till the required pH is obtained. For deep etch plates, 3 ozs. of the above solution with 80 ozs. of water will give the required pH. The pH of the fountain solution when printing on Coated Papers should be 3.8 for Deep Etch plates and 5 to 6 for surface plates. The press-room condition should also be taken into consideration. The correct acidity of the Fountain Solution could be ascertained only through experience.

If acidic papers are being used, then plain water is used as fountain solution. Here the scumming can take place only due to defective ink.

### PAPER FEEDER WITH TRIPPING DEVICE

A new high-speed feeding unit, designed by a British firm to link up with a printer's folding machine, handles different sizes of sheets and can feed to certain makes of folding machinery in a continuous stream, thus cutting out delays involved by a normal pile feeding.

A run of six hundred 13 in. (33 cm.) long sheets per minute has been attained. Maximum sheet sizes handled by different variations of the model range from 3½ in. × 2½ in. (8 × 6 cm.) to 30 in. × 40 in. (76 × 102 cm.).

Two special features are a control assembly which prevents sheets from doubling-up, and a tripping device which shuts the machine down in the event of a jam.

### NEW CARBON STATIONERY MACHINE

A new carbon stationery machine — a variable size rotary — is to be shown by a British firm at the International Printing and Paper Fair in Dusseldorf, May 5-18, this year.

The machine is for printing and collating multi-part carbon-interleaved sets, either snap-out or continuous.

At the Fair it will be restricted to four-part work—that is, four papers and three carbons—but

buyers have the option of adding one or two more units, allowing them to produce sets of up to six papers and five carbons in one operation.

The press is built on the in-line principle and will take paper webs up to 20 in. (50.7 cm.) wide and reels up to 32 in. (81.2 cm.) in diameter. The size range on paper length the machine can produce is from 7½ in. (19 cm.) to 14 in. (35.5 cm.). Printing is from flexible rubber plates using letterpress inks, and speeds are from 15,000 to 18,000 complete sets an hour.

### DRYING DEVICE TO SPEED PAPER PRODUCTION

Manufacturers of paper and paper board may soon be able to save floor space, reduce capital cost and fuel bills and increase production rates by upto ten times. These benefits should stem from a unique application of the well-known fluidised bed technique to the drying stage of paper and board manufacture, which at present takes up most space in the process. The idea originated at the British Paper and Board Industry Research Association at Kenley, near London, and has already been developed to the pilot plant scale. The process has been working satisfactorily with a new design of paper making

**CALCUTTA PRESS Private LIMITED**

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machine at St. Anne's Board Mills, Bristol.

In the trials at Bristol, the new device has successfully dried wet board containing a higher proportion of water than normal and coming from the machine at speeds up to 500 ft. (152.4 m) a minute. The next stage of development will be to install four more driers into the prototype machine line, with normal drying rollers, and to try to raise the production rate to 5,000 ft. (1,524 m.) a minute, or roughly twice the present maximum rate.

### FOTORITE PROCESSOR MAKES PHOTOGRAPHIC PRINTS

A Fotorite processor, which is said to make photographic prints and enlargements upto 11×14 fully developed, permanently fixed 85% dry, in any contrast and finish, in 5 to 15 seconds each, is being offered by Fotorite, Inc. an American Firm. According to the company negatives are exposed on special Fotorite photographic paper in a contrast printer or enlarger and then placed in the Fotorite processor to produce a finished print.

It is stated that Fotorite is also used to produce screen veloxes, line art reproduction (contact and in camera), proofing offset negatives, photo drawings, roll paper for photo-typesetting machines and glossy paper ready for engravers.

### "KINOPRESS" PRINTER

There are several methods known for the subtitling of films. The filmtitle Lettering Printer "Kinopress" combines the advantages of all the best known methods, its operation being, however, considerably cheaper.

The "Kinopress" applies the title lettering on to the positive frames by mechanical printing.

"Kinopress" consists of three main parts :

1. The spreading desk ;
2. The printing desk ;
3. The drying cabinet.

#### Chemical Processing

The spreading desk is designed for the chemical treatment of the emulsion on the positive film and feeds the film to the printing desk. The film spool to be title-lettered is located in the enclosure under the spreading desk. The film is placed on the guide rollers mounted on top of the enclosure and at the further extremity of the spreading desk and then it is led to the film travel mechanism. Above this, fixed to the spreading desk, there is a plexiglass globe open on both sides, a recipient for chemicals. The plexi-glass globe protects the operator against the volatile chemical vapours.

From the spreading desk the film reaches the printing head. The track time is generally short but on occasions a longer period is required. This is particularly true in the case of technicolour films where it is important that a suitable time should be spent between the wetting, the spreading and the printing of the lettering, to ensure a high quality of the titles.

#### Title Lettering

A typographically processed plate contains the title lettering for each frame. After preheating, it is placed into the plateholder on the printing head. The impression depth of the title, respectively of the different characters, corresponds to the thickness of the emulsion layer. Consequently, during the press-printing, the emulsion is pushed aside and the celluloid film base becomes transparent according to the shape of the characters.

The printer apparatus features a device to monitor the print of the desired titles on the printing desk before the preliminary test printing. A projecting screen is incorporated in the printing desk and by adjusting the edge of the frame to the lower horizontal adjusting edge of the projecting screen before the title printing, the titles will be correctly positioned.

#### Drying

In the hot air-heated drying cabinet the film is dried and thereafter spooled on the magazine reel.

#### Technical and output data

During the operation of the equipment in the drying cabinet as well as on the place of the spreading chemical vapours are volatilized. Therefore, a special exhausting and drying device guarantees the outlet of these vapours ; one has to provide, however, for the drainage of such vapours from the place of operation.

A three-phase induction synchronous motor operates the apparatus. A vee-belt ensures the drive between the engine and the clutch disc. The control of the clutch is carried out by means of mechanical transmission by adjusting the lever placed on the left side of the machineboard. With its help the driving mechanism of the machine can be separated from the engine drive by moving a conic friction disc without having to stop the engine.

#### Operation and maintenance

Two operators are needed when operating the equipment. One of them carries out the partial fixing of the film emulsion on the spreading desk, the other operates the printing desk and controls permanently the quality of the printed titles on the projecting screen.

### AUSTRALIAN FIRM DEVELOPS NEW COLOUR PROCESS

A new colour process has been developed by a Sydney firm, in Australia which will print a perfect four-colour reproduction in less than ten minutes without the aid of blocks, plates, screens or cylinders.

The process, known as electrograph, is a development of the already well-established electrical reproduction method, Xerography.

However, whereas Xerography uses a black carbon powder to make the image visible and is, therefore, suitable only for black and white reproduction. The electrograph process employs liquid developers, one for each colour, which enables full colour reproduction and a much finer reproduction of black and white.

Reproduction can be made not only on paper but also on a wide variety of other materials such as metals, plastics and timber.

The Unit manufactured by Electrophotograph Supply Co., Sydney, has great appeal in that it reproduces speedily and cheaply. For instance, it enables litho-offset printers to reproduce a colour print at a fraction of the cost and in much less time than is feasible with the conventional machine proving process.

An important factor is, that the new process enables even single reproductions to be made in several colours at low cost.

### ROTARY MACHINES NOW USING PLASTIC STEREOS

Plastic stereos are being used on rotary presses by Australian newspapers.

This dramatic break-through in the printing, stereo-typing and advertising fields was announced by a Sydney firm, makers of the plastic stereos,

David Burton Stereo Service, a pioneer in this field in Australia has been supplying plastic stereos to flatbed printers for over two years, but it has taken three years of experimentation to perfect the techniques for rotary newspaper presses. The announcement that this had been achieved was made only after rigid tests, under all sorts of conditions, by the metropolitan newspapers of all the mainland states of Australia.

The verdict of the chief stereotyper of one of the leading dailies in Australia was that the stereos were 'completely free of headaches' and a major advance in stereotyping.

#### Tested

After elaborate tests "under punishing conditions" another concern has reported : "We consider that this type of supplied material, used as a substitute for matted stereos, would give the advertiser much better value by giving him much improved reproduction in newspaper advertisements."

#### Advantages

Advantages of the plastic stereos are :—infinite fidelity of reproduction ; unaffected by rough handling ; exceptional durability ; lower cost than electros and cheaper to transport ; runs of more than half a million without appreciable wear ; excellent for four-colour and fine screen reproductions upto 150 screen.

#### ANNOUNCEMENT

Our next issue will be a bumper issue devoted to the commemoration of the Tenth All India Printers' Conference and Exhibition, which was held in Calcutta from 17th to 20th April, 1962.

— Editor

#### Obituary

### KARAMCHAND THAPAR PASSES AWAY

Mr. Karamchand Thapar, who had laid down office only recently as the President of the Federation of Indian Chambers of Commerce and Industry, died of a heart attack at his residence on 29th March at New Delhi.

Mr. Thapar (67) was suddenly taken ill on 23rd March and could not attend the annual session of the Federation on the next day. Mr. Thapar's body was flown to Calcutta where his permanent residence is situated.

Mr. Thapar started his business career four decades back, beginning in a small way in Ludhiana. He shifted to Calcutta in 1917. He was in the coal trade and very soon entered the coal industry and gradually extended his industrial interest to paper, sugar, textiles, engineering, insurance and banking. Today the industrial house of Thapar is one of the foremost and has offices and industrial establishments in over 50 centres in the country.

#### Tip for the Trade

### CUTTING NARROW STRIPS

When cutting narrow strips, we have all had the experience of trying in some way — on small job — to get by without removing the false plate from the clamp. One good method is to cut a couple of strips of chipboard, about 2" or 3" wide. Fold these in a "V" and set them against the back gauge. The stock can be jogged against these 'V's, which will slide down when the clamp is applied.

Timothy Farson  
Glendale, Calif

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| HEO 3—2       | 22" × 31-1/2"     | 21-1/2" × 31"        |
| PEO 3—1       | 24" × 33-7/8"     | 23-5/8" × 33-7/8"    |
| PEO 4—1       | 26" × 37-3/4"     | 26" × 37-3/4"        |
| PEO 5—1       | 31-7/8" × 44-1/8" | 30-3/4" × 43-1/4"    |
| PEO 6—1       | 35" × 49-5/8"     | 34-5/8" × 48-3/4"    |
| Two Colour    |                   |                      |
| PZO 5—1       | 31-7/8" × 44-1/8" | 30-3/4" × 43-1/4"    |
| PZO 6—1       | 35" × 49-5/8"     | 34-5/8" × 48-3/4"    |
| PZO 7—1       | 39-3/8" × 55-1/8" | 38-9/16" × 54-11/32" |
| Four Colour   |                   |                      |
| PVO 6—1       | 35" × 49-5/8"     | 34-5/8" × 48-3/4"    |

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## School of Printing Technology, Allahabad Celebrates Annual Function Day

The Third Annual Function Day of the Northern Regional School of Printing Technology, Allahabad was celebrated on 26th March, 1962 under the chairmanship of Dr. Balbhadra Prasad, Vice-Chancellor, Allahabad University.

The proceedings commenced with *Saraswati Vandana* by the students of the School. Shri J. W. Halge, Superintendent, Printing and Stationery, Uttar Pradesh welcomed the Chief Guest.

Shri L. R. Nagpal, Principal read the report on the progress and activities of the School during 1961-62 session. Regarding the help rendered by the Government as well as private firms, he observed :

"The Government of U.P. have sanctioned a grant of Rs. 3.68 lacs for the construction of staff quarters within the campus of the school.

"The Government of India have very kindly consented to provide additional machines and equipment for this school at a cost exceeding Rs. 3 lacs. These additional machines will substantially re-inforce the existing plant which was procured at a cost of Rs. 4.80 lacs approximately. He also mentioned the help given by various printing concerns like The Czechoslovak Foreign Trade Corporation for Import and Export of Precision Engineering Products, M/s. Kovo, Praha, Czechoslovakia, M/s. Monotype Corporation of India Ltd., Bangalore, M/s. Rainbow Ink and Varnish Manufacturing Co., Bombay, M/s. Ganges Printing Ink Factory, Calcutta, and M/s. Monotype Corporation, Calcutta.

### Courses of Study

The aims and objects of the National Certificate Courses, introduced in the school, are to train



Dr. Balbhadra Prasad, Vice-Chancellor, Allahabad University, Allahabad, delivering his presidential address. Shri J. W. Halge, Superintendent, Printing and Stationery, U.P. and Shri L. R. Nagpal, Principal of the School are seen on the left and right respectively.

skilled technicians for the printing industry. Emphasis is given on the development of dexterity and practical skill supplemented with exhaustive grounding of theoretical and practical know-how. The basic knowledge of science, humanities and administrative subjects viz. Foremanship, Costing and Estimating, Accountancy, Office Management, Labour Relations etc. is also imparted to the students to enable them to shoulder the responsibilities of junior executives in addition to their primary role as qualified technicians.

### Admissions

Being a regional school for Northern India, the school admits students from the States of U.P., Rajasthan, the Punjab, Delhi, Himachal Pradesh, and Jammu and Kashmir with adequate reservation of seats for each State.

### Library

Mr. Nagpal said that the school is equipped with a good library and the library is housed in a spacious room and contains about 1,500 technical books purchased or received by way of donation. In addition to this, 62 magazines and journals (both foreign and Indian), on printing and allied subjects, are being received. The school is a member of Printing, Packaging and Allied Trade Research Association, England (PATRA) and is getting its regular research publications. It also gets the publications of the Lithographic Technical Foundation, New York. The Government of India have also recommended grants for the development of the library, every year.

### Extra-curricular Activities

The report ended with an account of extra-curricular activities of the

(Continued on Page 17 Col. 2)

# "MAKING TYPE TALK"

## SOME TIPS ON GOOD TYPOGRAPHY

Use white space generously; a type face, or line of type is legible only to the degree in which it is surrounded and contains within it, the proper proportions of white space. When in doubt, use more white space; it is the cheapest and most effective element used in the graphic arts industry.

A type face or line of type may be reduced by one third, or magnified by six times and still retain its legibility and type design integrity. Reduction by more than one-third of its size, reduces white space to the degree which makes the line of type illegible. Thus 12 point type may be reduced to 8 point type, and enlarged to 72 point, and still retain its design and legibility. Enlargement or reduction beyond these limitations endangers good typography and readability.

Don't set type wider than twice

the point size in picas. Thus, eight point should be set no wider than 16 picas; 10 point not wider than 20 picas; etc.

Avoid setting type in columns narrower than 1½ times the point size in picas. Eight point should not be set in columns narrower than 12 picas; 10 point type narrower than 15 picas etc.

Avoid setting lines of type, or paragraphs of type in all capital letters. It has been proven in readership tests that capital letters, *en masse*, are harder to read than the same amount of material set in lower case letters.

We all learned to read type set in rectangles, with flush right and left hand margins; thus we read this faster; but type set flush left with ragged right hand margins, such as typewritten copy, is also easy to read and very acceptable in

good typography. Avoid setting any amount of type with ragged left hand margins, that is, flush right. It is more difficult to read and slows down the reader.

Avoid setting type vertically. We did not learn to read vertical type, and actually we do not read it very readily; we must decipher, rather than read such type faces.

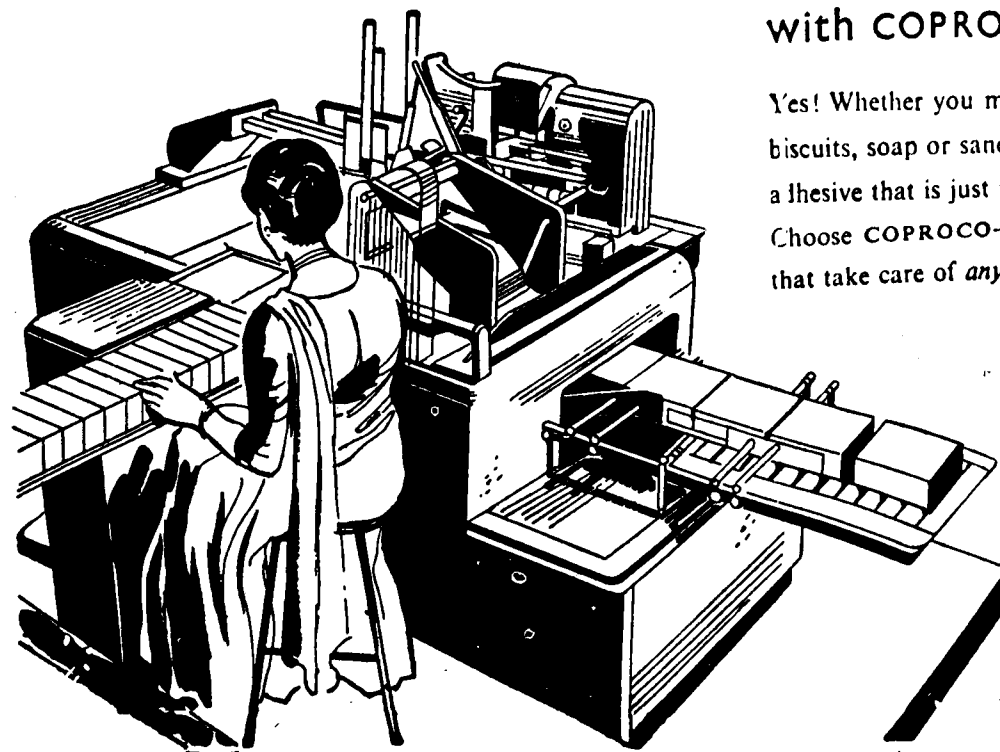
Reading tests show extensive use of sans serif type faces in text matter is hard to read. We all learn to read serif type faces, and it is generally conceded that large amounts of sans serif slows down the reader. A good rule to follow: If the copy contains less than 40 words, it might be used in sans serif very effectively; if the copy contains more than 40 words it will be less tiring to the eyes if it is in a good serif type face with ample white space between lines.

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## BOOK REVIEWS

### INDIAN STANDARD SPECIFICATION FOR PAPER SIZES (Is : 1064 - 1961)

Published by Indian Standards Institution, Manak Bhavan, 9, Mathura Road, New Delhi-1. Pp. 10; Price Rs. 2.00.

Based on the recommendations of the International Organization for Standardization, an Indian Standard Specification for Paper Sizes (IS : 1064-1957) had been issued by the Indian Standards Institution earlier. This standard covered only the trimmed sizes. Now, a revised version of the standard has been issued as IS : 1064-1961, which also includes the untrimmed sizes, that is the sizes in which paper should be manufactured and stocked by mills and dealers. It prescribes sizes of A-series for printing, writing, wrapping and casing paper, machine made and hand made. In this series, the surface area of the basic format is equal to one square metre, the width and length bearing a ratio of 1 : √2 which is maintained by each doubling or halving. The standard does not cover paper sizes required for special purposes in which case it has been recommended that the nearest equivalent in A-series be adopted. Since Foolscap and Crown sizes of the existing system of paper sizes in the country are not covered by the sizes in A-series, additional sizes of the B- and C-series have been permitted.

The purpose of this standard is to rationalize and reduce the number of paper sizes with a view to co-ordinating the sizes for business letterheads, card-index records, filing records and office furniture. In addition, this standard would enable uniformity being achieved in the

sizes of paper to be used in correspondence, production of books, pamphlets and allied materials to facilitate manufacture and sale of paper. Finally, it is hoped, that as a result of rationalization and reduction in the number of sizes to be manufactured, the cost of production would decrease.

## REPRORAMA

### International Bulletin for Graphic Information No. 14

Reprorama No. 14, published by Gevaerts of Belgium, has very useful and interesting articles on photo-techniques. The two important articles of this issue deal with 'The Diffusing Diaphragm' and 'Electronic Flash in Photomechanical Reproduction' (II) which are accompanied by suitable diagrams and graphs. 'Some Practical Problems Solved by Sensitometric Methods' will prove valuable to those interested in the field of photography.

Printed on excellent art paper, this Reprorama No. 14 has a beautiful picture of rose on its cover, which is made from two distinctly different pictures combined together in a simple fantasy—one a colour photograph and the other a wash-drawing in colours.

### School of Printing Technology, Allahabad

(Continued from Page 15)

school and the list of prizes awarded to the distinguished students of the school by a number of printing presses and establishments.

Concluding his speech, Shri Nagpal said: "I sincerely thank all those officers of the State Government, of Government of India and of the Advisory Committee and of

those members of printing profession who actively encouraged us in developing this Institute through whose patronization and help it is flourishing. Last but not the least, I very much thank the staff and the students of the Institute for their unremitting co-operation."

Later provisional certificates were given away by the Vice-Chancellor to the passing out students. A considerable number of prizes and medals, technical books, etc. as instituted by various presses and other establishments were given away to the distinguished students in various fields of activities. A vote of thanks to the Chief Guest was moved and then the National Anthem was sung by the students. The function concluded with light refreshments.

Messages were received from a number of dignitaries including viz., Shri N. V. Gadgil, Governor, Punjab; Lieutenant Governor, Himachal Pradesh; the Chief Commissioner, Delhi; the Director of Technical Education, U.P.; the Chief Controller of Printing and Stationery, India; the Director, Printing and Stationery, Rajasthan; the President, All India Federation of Master Printers; the Hon. Secretary and Treasurer, Bombay Master Printers Association; Editor, *Chhapakala*, Poona; the Manager, Star Paper Mills Ltd., Saharanpur; and M/s. Gujarati Type Foundry, Bombay.

## SOUND ADVICE

If your printing speaks for itself make sure it says the right thing.

—M. H. Mac Donald

## RETRENCHMENT OF WORKMEN

(From our Correspondent)

The law of retrenchment of workmen is embodied in Section 25(G) of the Industrial Disputes Act, 1947. It runs as follows : "Where any workman in an industrial establishment, who is a citizen of India, is to be retrenched and he belongs to a particular category of workmen in that establishment, in the absence of any agreement between the employer and the workman in this behalf, the employer shall ordinarily retrench the workman who was the last person to be employed in that category, unless for reasons to be recorded the employer retrenches any other workman." Thus the section sets that the employer shall ordinarily retrench the workman who was the last person to be employed.

The above mentioned phrase 'the last person to be employed' came up for judicial interpretation in a case before the Kerala High Court in July 1961. In that case, one John who had resigned his job was re-employed later by the employer after condoning the break in his service and treating the interval between the resignation and the re-employment of the worker as leave on loss of pay. One George, another employee, had been employed by the Management after A's first appointment. But George was in continuous service without any break unlike John. Sometime after, the Management had to retrench their workmen and then the question arose as to whether John with a break in service but which was condoned later, or George, his junior without any break in his service, should be retrenched. The general law of retrenchment is 'last come, first go'. In the facts of the above

case, the question which arose was whether John or George should be deemed as the last to come, that is, the last appointed worker.

The retrenchment committee appointed by the Management to go into the question of this retrenchment retrenched John and retained George. Thereupon, a dispute arose which was referred to the Industrial Tribunal, Trivandrum, which found in favour of John. Thereafter, a writ was filed in the High Court which confirmed the Tribunal's award whereupon the Management preferred a writ appeal to the High Court which allowed it setting aside the award of the Industrial Tribunal. Extracts from the judgment of the High Court are given below :

ANSARI, C.J.— Assuming that both George and John had belonged to the same category of workmen in the establishment, one fails to understand how the latter, having regard to the break in employment, can be treated as the employee who had entered the service earlier. The fact remains that his earlier engagement had been terminated by the letter of resignation, a copy of which is exhibit P.3. In that letter C. K. John clearly states that he resigns from the post of Head Clerk with effect from 1st June, 1949, about which he had already given notice in his letter of 2nd May, 1949. The later appointment is on 1st October, 1949, and the relevant extract from the order reads as follows :

“ With reference to your letter of 13th September, 1949, you are hereby re-appointed in your previous post on the same salary and D.A. which you were receiving

when you left the service on 31-5-1949 . . . The break in service will be considered as absence on leave without pay. The re-appointment is with effect from 15th September, 1949, i.e., the date on which the Chairman has confirmed his approval of your re-appointment."

The next question is, how far condoning the break binds those who were not parties to it. Clearly the concession rests on the agreement between the employer and the employee, which would not bind strangers, as the rule is well-settled that a contract binds only those who are parties to the bargain. It is further clear that the benefit conferred on other employees by the aforesaid resignation of not being retrenched before the person, who had later entered the service, cannot be taken away without their consent. These propositions rest on the rules of natural justice, and had received recognition by the Labour Tribunals in *Teddington Chemical Factory (Private) Ltd. v. Gulsher Khan Abdulla Khan*, (1957) I.L. L.J. 205. In that case dates of employment of freshly engaged persons were ante-dated by the employer, and such acts were found not to adversely affect the rights of those who were factually employed earlier when making retrenchment. The respondent's learned advocate has tried to distinguish the case on the ground that its principle would not apply where a discharged employee is again engaged. We are afraid the rule on which the Tribunal had acted is that the benefit derived by a person from given circumstances can be taken away only with the

consent of the party getting the benefit, and taking away the benefit otherwise would not be justified, even where the person engaged be a former employee. It follows that treating the break in service as leave without pay, would not nullify the benefit that had resulted to S. K. George through John's resignation, and such condoning would be inoperative against George. It further follows that John, in such circumstances, is not a person who had entered the service earlier; and, thus there is in the case no violation of Section 25(G) of the Industrial Disputes Act so as to justify the Tribunal's award in favour of John. This is an error of law apparent on the face of the record, because, the case to which we have made reference was relied on before the Tribunal and was brushed aside as not relevant. The legal error vitiates the entire award, which is hereby set aside and this appeal allowed without costs.

## INSPECT AND ATTEND TO PRESSES

Periodic inspection at the end of the week when the presses are down is good practice. In this way numerous breakdowns which would cause serious delays are prevented.

Only by constant attention and care in keeping all equipment in the best of condition can the highest production efficiency be achieved. Lack of proper lubrication is a common sin. Well-oiled bearings will not only keep a machine running but will also add to its life. When a press is new it should be oiled every morning and at noon-time for two months and at least every morning thereafter.

As soon as any part of a machine is discovered to show serious wear it should be given attention by being repaired and replaced. Extra or spare parts should be kept on hand, particularly certain parts that are known from past experience to wear quickly such as fibre gears

for the rollers and other wearable parts.

Standardising of all equipment has much merit, as the cost of maintenance will be decreased and operating problems will be simplified by having all equipment of the same type and make where it is possible to do so.

## Artists Changed to Master Printers!

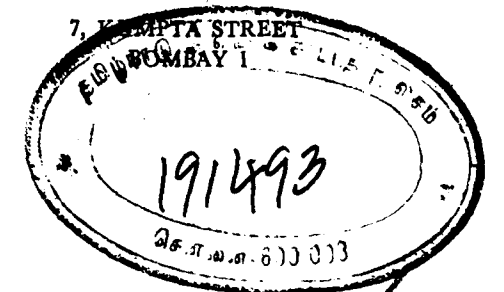
On page 3 of our March 1962 issue, it is mentioned in the caption of the photograph 'Mr & Mrs. M. B. Glick with Mr. S. C. Ghose (left) and other members of the Association of Master Printers, West Bengal Ltd.' In fact, the only member of the Association of Master Printers in the group is Mr. S. C. Ghose. All the others are participants in the dramatic performance, held by the Association of Master Printers, West Bengal Ltd., in January. We are extremely sorry for the mistake.

—*Editorial Staff*

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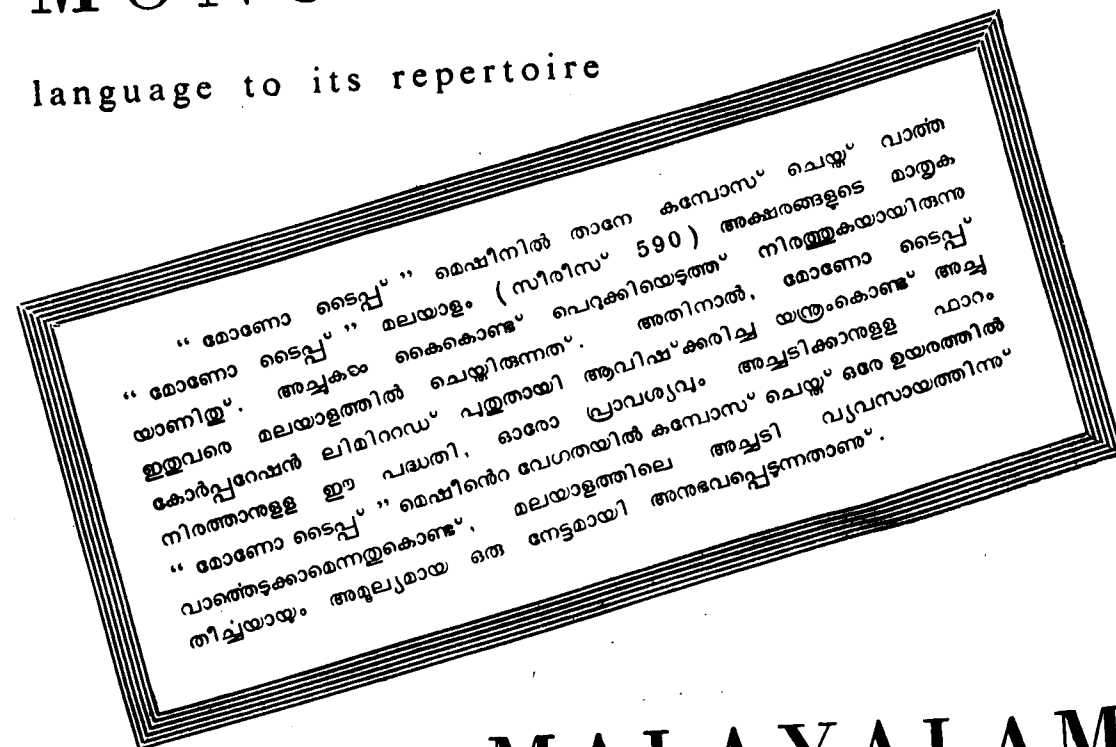
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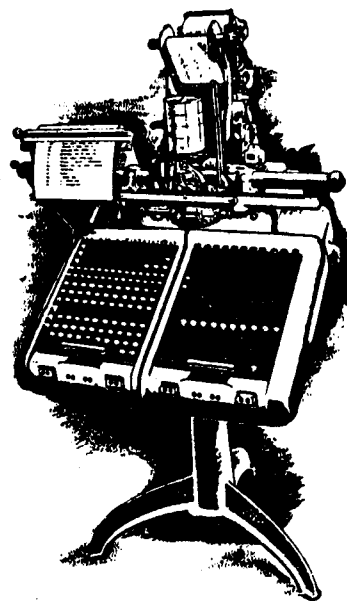
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