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V.I. NO-3



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Vol. 11

OCTOBER 1953

[No 3]

CONTENTS

Hon. Editor

D. RATHNASWAMY

Printed at

Broadway Printers, Madras 1

*All correspondence regarding
matter for publication, subscription
and advertisements should be
addressed to the Hon. Editor, 28,
Broadway, Madras 1.*

Members Go on Educational Tour	... 3
Odds and Ends	... 13
The Origin of Point System	... 14
The Story of Stereo typing	... 15
Picking of Coated Papers	... 17
Impressions of Mysore Tour	... 18
Federation Notes	... 20



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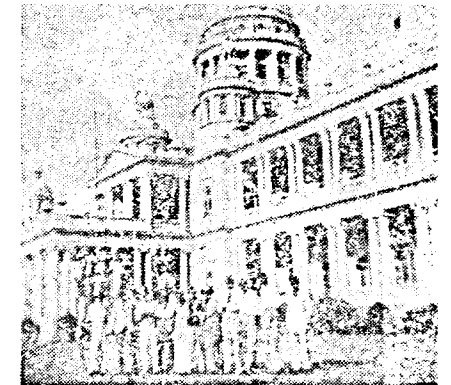
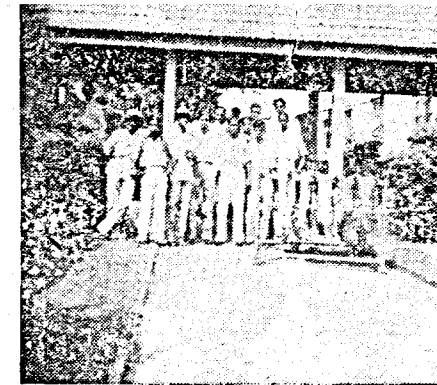
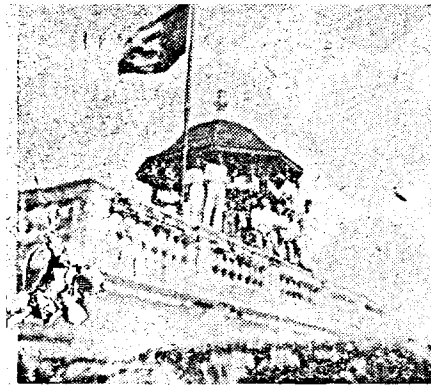
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MEMBERS GO ON EDUCATIONAL TOUR

On Wednesday the 14th October, by about 7-30 p.m. the members of the party started arriving with their baggages at the Madras Central Station. After formal introduction of one another, the party was gaily engaged in conversation waiting for the arrival of the train at the platform. The train arrived at 8-15, just half an hour prior to the departure. The crowd was terrible owing to Dasara, and with great difficulty, some members performing acrobatic feats, we were ensured of atleast sitting accommodation, almost together in a group. Some of our members who had come to give us a send-off also gave a helping hand. And the party was cheered as the train steamed out of the station.

Within a few minutes Sri A. Sunder Raman started emptying the water bottles and immediately he was nicknamed the "water-man" of the party which post he executed perfectly throughout the tour. The party split up into groups and started to play cards which was continued till the early hours of the next day. Only two of our members, Sri Y. Anjaneyulu and Sri S. A. Sundararajan dozed all the while.

A party of thirteen members of our Federation participated in the Educational Tour of Presses and the Paper Mills in the Mysore State from 14th to 24th October, 1953, under the leadership of Sri K. Mohan Rao, Joint Secretary. He was guided and assisted by Sri S. K. Thamba, one of our founder spirits who had visited the places earlier. The Joint Secretary's account of the tour is given in these pages. Those who could not join this party, we hope, will share the joy by reading the vivid day-to-day account of the tour.

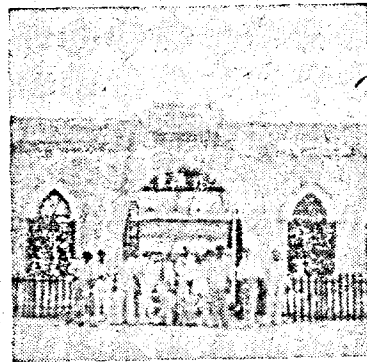
We alighted at Bangalore early in the morning on 15th and rushed to the other platform to catch the Mysore Train, but unfortunately the train was over-crowded and as there was another special in half an hour's time we stayed back and finished our wash, etc. After having our breakfast which was kept ready by one of our members, Sri S. Parthasarathy, who had arrived there earlier by an Express train, we left by the special train at about 9 a.m. having the whole compartment to

ourselves. The game of cards was resumed, but after a little while the entire party made use of every inch of the compartment and went off for a nap.

In the intermediate stations as the passengers tried to get into our compartment, the word "reserved" shouted by members with one voice kept them away. What a stunt! But unfortunately this stunt failed at Srirangapatam Station, i.e., two stations prior to our destination. So the beds had to be rolled up unwillingly. We arrived at Mysore at 3 p.m. on Thursday the 15th. From the station we loaded our luggage in two tongas and went to Modern Cafe ("Dasaraakash"): Due to the influence of both myself and Sri S. K. Thamba, the Proprietor Sri Seetharama Rao gave us spacious accommodation with special facilities, in the top-most floor known as "Chamundi View". Indeed, we had a wonderful view of Mysore from here right through our stay. We missed our lunch, excepting one Sri P. K. Pradhan who had a square meal even in the late hour. The rest of us had a heavy tiffin.

After refreshing ourselves, we left for the Industrial and Arts

Dasara Exhibition at 5 p.m. and spent a very enjoyable evening. Some of us made costly purchases and just as we were finishing our rounds we were suddenly caught in a heavy downpour of rain and were delayed for about an hour in total darkness as there was failure of electricity. So we experienced both light and darkness. As the rain was in no mood of stopping we returned to the hotel drenching ourselves. The night was chill indeed—a cold night to start with.

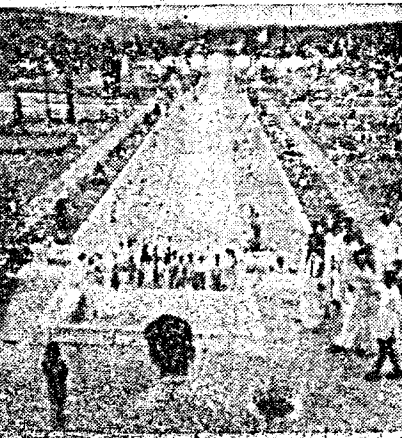


At Wesley Press, Mysore

besides a few other smaller presses.

On Friday the 16th morning, we left early at seven-thirty to visit the Sandalwood Oil Factory and Silk Factory. Later we visited the Wesley Press, a branch of the Madras Diocesan Press. There we were taken round by Sri K. A. Korula, Supdt. of the press who was of one of the members of the earlier batch of L. P. T's of our *alma mater*. The Process Camera and the new folding machine in this press attracted us. On our way back we visited Usha Press. Even though it is a small press, they were doing high class book-work. We visited the Bangalore Press

Tippu's Tomb

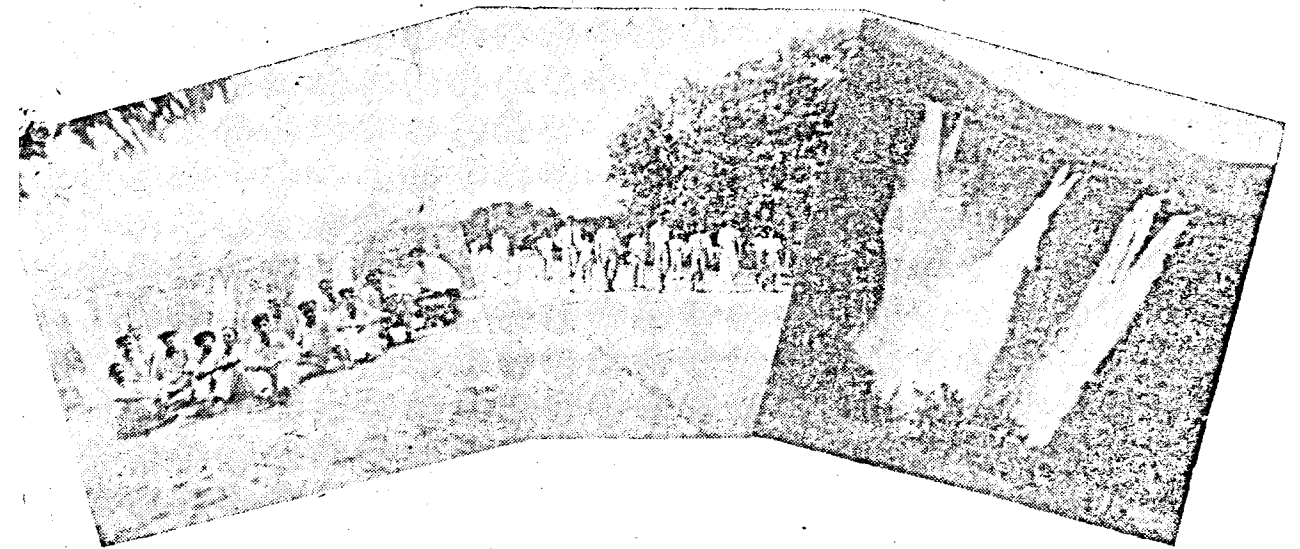
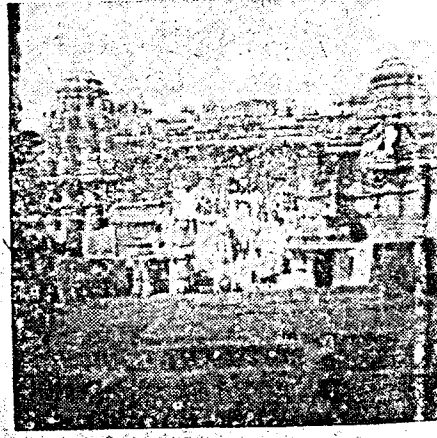


Brindavan Gardens

temple tank. After seeing the place our clever members ran to get the best position in the van. This caused some delay as two members could not get accommodation. Here again our programme director shouted to get back to their original posture and place. Much to the disappointment of some members the entire party had to accommodate themselves in some difficult postures right through from here. The discomfort and the strain were broken when Sri N. Chandrasekharan (commonly known as "Chandru") youngest of the lot at least in appearance, began to sing a few songs accompanied by Sri Arumugasami and ending with a chorus by all the members. Whenever a car tried to overtake us, lot of noise was made so as to make the driver not to give room to the other car. Sometimes we were successful and sometimes we could not be.

So we arrived at Tippu's Tomb known as "Gumbaz". What a monument! Built with black marble it was really a grand sight. The history of the place was narrated to us by one of the fakirs. After quenching our thirst we again drove to the Summer Palace of Tippu known as "Dari-

Somnathpur Temple



At the famous Garosoppa Falls, Jog

ya-bad Dowlat Bagh Palace.' What a beautiful structure of wood, well laid-out in the middle of an extensive garden surrounded by the Cauvery! The walls of the Palace bore pictures of the Second Mysore War painted on them. We could have enjoyed our stay longer but, owing to our limited time before us, we had to leave the beautiful spot rather reluctantly. We went from here to the Fort. Going around the ruins we passed by the spot where Tippu's body was found, and past the water gate and reached the dungeons. Here one of the local school-going lads rendered in clear fluent English the entire history of the dungeons and every one of us were enlightened by his wonderful annotations. Willingly the members offered him a good tip.

From here we walked to the famous Shrine of Sriranganathaswami and some of our members

offered puja. The unique feature of this place is that we found a big mosque and a Hindu temple inside the Fort area showing that unity among the two communities existed in those days.

We drove from here to Kambadi Dam otherwise known as Krishnarajasagara and Brindavan, a distance of about 20 miles through beautiful countryside. Everywhere we could see green carpets and sounds of twinkling irrigation canals. At about sunset we reached the Dam. It was an unforgettable experience, as we walked on the mighty dam of 124 feet high and 2 miles long to see the splashing of the river Cauvery through the sluices. Down we went to charming Terrace Gardens known as "Brindavan" and had a preliminary survey. It was indeed a fairy land, well laid out, with the exquisite fountains, flower beds, terraces, footpaths,

channels producing the most wonderful rainbow effects of colour. At the entrance to the garden, there is the image of the goddess Cauvery with a bowl in her hand from which flows a continuous stream of water indicative of perpetual beneficence and prosperity, particularly apt and pleasing. We sat on 'natural carpets' and had our tea. After tea we went along the footpaths seeing the fountains and flower beds on either sides, to the middle of the gardens and waited to board the boat to go to the other bank. As we waited, suddenly the dam, the gardens and the fountains were illuminated and in a fraction of a second the whole place was changed to something more than a fairy land. Soon we took the boat and enjoyed very much the short trip and walked back to our wagon, closely analysing terrace by terrace. Our driver, afraid of

the overloading, took us by a circuitous route but all the same we enjoyed the long drive and reached our hotel at 9-30 p.m. Oh, what a drive, and what a day! Most of us were exhausted and went to bed, except for a gang of four who started playing cards.

* * *

On Saturday the 17th, we left at 8 in the morning to Jaganmohan Palace in which are lodged rich collections of curious art and other exhibits—belongings of the rulers of Mysore. Some of the original paintings of famous artist Ravi Varma are most life-like and admirable. Being lovers of Graphic Arts we were all very much attracted by them. We left reluctantly the art gallery as it was time for us to witness the Dasara Puja function at the palace. The entire palace ground was filled to capacity. Everyone of us took advantageous positions. We witnessed a spectacular and colour-

On the Hirabasagara Dam

ful pageantry—the decorated elephants, the array of cars, and the colourful palace guards were very impressive. It was just past eleven when His Highness the Maharaja of Mysore arrived. All of us had a closer view of the colourful pageantry through hired binoculars—a profession adopted by few of the local citizens. It was really a sight unforgettable. We proceeded from there to the Chamaraja Rajendra Technical Institute. Here again we saw articles of wonderful craftsmanship available for sale.

After lunch we started to visit the Palace Garages again our driver met us on the way and we fixed him up to take us to the undermentioned places. We alighted at the Garage and had a closer look of the array of cars—beautiful personal cars of His Highness. From here we went to the Palace Stables. We had an opportunity of seeing at close

At the Jog power station

quarters the ornaments and the dresses adorned by the palace horses and the beautiful state coaches of varying sizes and models. In the same compound we visited the kennels—a wonderful collection of lovely varieties of dogs. We drove from here to the famous Lalith Mahal. What a massive structure! We took the road from here leading to Chamundi Hills and on our way alighted at the Palace. From there we had a panoramic bird's-eye-view of the city of Mysore. Down we walked to the statue of Mahishasura, a gigantic figure. Then we proceeded to the Shrine of Sri Chamundeswari—the tutelary deity of the ruling house of Mysore. Some of our members went in to offer their prayers whilst the others returned to the van. Before our members came out of the temple there was a heavy downpour of rain accompanied by thunder. So a part of

Cauvery Falls

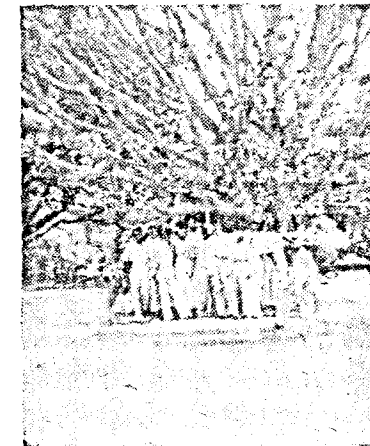
the group waited patiently here until at last our wagon came very near the temple and took us back. The drive to Chamundi Hills both ways was very picturesque and breathtaking. On our return we had a glimpse of the Nandi—Sacred Bull of God Siva—from the car itself as there was torrential rain.

We alighted at the Southern Gate of the palace at about 6-30 p.m. Here we waited for the palace illumination to be switched on and to see the Darbar. At 7 p.m. the palace was illuminated. Words are insufficient to describe the wonderful illumination. From here we went back to our hotel and all except two of our members—Sri D. G. Darbar, who wanted to sleep, and Sri Ramalingam who was slightly indisposed—wanted to go for a cinema, the name of which we don't remember now. What a choice! Some of our members started snoring in the theatre and some left during interval.

Suddenly we decided to alter our programme and visit the Sivasamudram Hydro Electric Station, the famous temple at Somanathpur and the Cauvery Falls. So we again fixed our familiar wagon and decided to leave in the morning.

* * *

So on Sunday the 18th morning we left at 9 a.m. for the above place, a distance of about eighty miles. We had no difficulty in accommodating ourselves in the van since we had got so much used



In the merry-go-round at Mysore Zoo

to it. After covering the distance of about twenty miles on a rugged road the driver suddenly stopped the van and to our astonishment he announced the breakdown of the "radiator." But he assured us that we could make the trip. So we proceeded to the famous Shrine at Somanathpur. There we saw the exquisite carvings, idols and other magnificent details in the interior. While we were admiring the place, our van driver was rendering first-aid to the radiator with native medicines—a plaster, prepared from albumen, jaggery and cement—to stop the leakage. But it was in vain. Therefore we had to stop the van now and then and fill the radiator with water from the adjoining irrigating canals. At last we reached Sivasamudram at noon. Going down in the trolley to the Power House was an experience. After visiting the power house, it became a problem to procure meals. With

some difficulty we arranged for meals and as there was slight delay we proceeded to Cauvery Falls about two miles away for a hurried visit.

Back at Sivasamudram we finished our lunch and started our return journey at about 2 p.m. hoping to reach Mysore in time. Alas! we had a wonderful experience as we had to stop every few miles to cool down the radiator and fill it with cold water. Besides this trouble the engine also would not start. So some of us had to push it and start. Sometimes we could see steam rushing out of the bonnet. This repetition became so familiar with us that all of us worked like an automatic machine—stopping the car, running down to fetch cold water in the petrol cans, and while some opened the outlet and allowed the hot water to run down, our sturdy members (Sri P. K. Pradhan and Sri Sundaraman) helped by the chottas were ready to push the van. This unpleasantness was cheerfully taken by all our members and they rose to the occasion. Our poor driver was upset and became silent. Our anxiety grew as the evening was falling. In our anxiety we wanted to catch any bus running on that route. But it was of no use. As the evening drew nearer and as most of us were exhausted by this repeated work, our progress was slowed down. The monotony was broken up when our members gave their vent to their feelings on the passing pedestrians, cyclists



and motorists. The *thamasha* went on till the radiant moonlight set in, when we were on the lonely road surrounded by dense vegetation.

It was 7 o'clock when we stopped near a rushing stream. It looked as if we were in a jungle. Again we had to halt besides a big tank and mandap. It was 7-20, so the programme director announced his decision that we had to stay a day longer at Mysore. No sooner the announcement was made than D. Ramalingam shouted "impossible". Soon there was close consultation among the members and an array of questions was shot at: 'Will our stay at Bangalore be affected?' 'Are we to pay extra for our stay?' 'What about our leave?' Very soon everybody cooled down and decided to enjoy the moonlight on the spot for some more time. So we halted here for about half an hour. This was the last lap of the journey to Mysore. As we approached the city, due to overloading, the screens in our wagon were put down and we arrived in the city like "goshas".

At last we arrived at the hotel and after supper we went out for a stroll near the palace, and as we relaxed for a while at the statue of the late Highness, Sri P. K. Pradhan performed a 'one act' play of his schoolday events. It was very humorous and witty. Then we went out to the market side and returned to the hotel.

On Monday the 19th morning,



With the hippo at Mysore Zoo

we visited the Zoological gardens. Here all of us became nursery children when we saw the 'merry-go-round'. All of us enjoyed the same by turns. And from here we went on the 'slide' and had an enjoyable time. Our Chandru performed stunt sliding. Sri S. K. Thamba coaxed the attender in the 'Hippo' booth to bring it out in a suitable position for taking a snap with us. He summoned us as soon as he got ready. From here we went about and arrived at our 'companion's' place where we enjoyed to the utmost. One of the cages was empty and some one suggested Chandru to go into the cage. Oh! it was terrible having sent him inside, since he started all the stunts of a chimpanzy in right earnest. And to control and to bring him out of the cage became a problem! Then we went on and saw other animals and birds. On the whole the Mysore Zoo is a model of what a Zoo should be in its cleanliness and neatness.

Here lions, tigers and other animals, encircled by a moat too wide for them to traverse, roam among the most pleasant natural surroundings and give endless delight to the spectators. After we left the Zoo, the party was then broken up and allowed to go out for a stroll and return to the hotel for lunch. After lunch we had some rest and packed ourselves by about tea time.

Soon after tea, all the members excepting three were allowed to go about and assemble at the station at 6 p. m. The complete luggage was taken charge by the members left behind who took it to the station at 6 p. m. There was a terrible rush again at the station and with the help of friends of Sri Thamba we stealthily got suitable accommodation. But before the train steamed out of the station we were jammed. We had slight trouble with local passengers, but soon won them over by the musical performance and cajoling done by our Chandru. Altogether it was an unforgettable night.

We arrived at Badravati on Tuesday the 20th morning and rushed to the hotel which was a stone's throw from the station. After breakfast we left in Jatkas to the Mysore Govt. Paper Mills. One of the horses refused to trot along. As the driver got down to cajole it to drag, Sri Pradhan the occupant of that cart, took hold of the reins and continued the post to the end. At the Paper Mills we were taken round by

Sri Venkataraman who took very keen interest in explaining all the technical details to us and we spent about three very interesting hours. We also visited the small press attached to the mills. What attracted us most were the two-colour disc ruling machine and slitting machine. On our way back we visited the Iron & Steel Works and as the lunch time arrived we had to adjourn. So we returned to the hotel and after lunch none of our members was willing to go out on a visit to the Iron & Steel Works, but took advantage of all the possible space available at the hotel and went off for a nice afternoon nap.

After tea at 5 p. m. we got ready and left for the station and caught the train to Sagar at 6 p. m. This journey we covered in an inter class compartment almost to ourselves and we were engaged in the game of cards till we arrived at Sagara at about 10 p. m. Here we spent the night in the upper class waiting room and the station master was



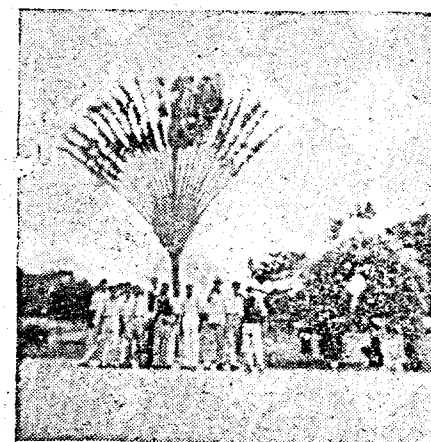
A Member turned Tongavala

very kind and helpful to us. To our great relief all of us spent a comfortable night. During this journey one Dr. Sethna of Bombay got himself acquainted with us and gave us some tips about the places.

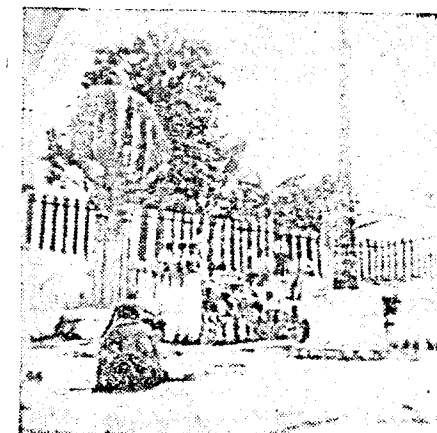
Early in the morning of Wednesday the 21st, we went in a special bus with our luggage to Hirabasagara Dam passing through rugged country side and the reserve forest. On our way we saw peacocks and monkeys

in plenty. At the dam sight one of the Supervisors gave us a very descriptive explanation about the dam—only one of it kind in the world, working on "Siphon system" invented by one of our Indian Engineers. We passed over the 'anafut', a beautiful sight, on to the Mahatma Gandhi Power Station at Jog. The trolley drive here was much longer and steeper and so also the power house was much bigger than at Sivasamudram.

After lunch in a nearby hotel we went to the famous Gerosoppa Falls which is a mighty, panoramic, beautiful spot indeed. There was intermittent drizzling and it was cloudy, but very pleasant. We spent about two hours in this spot enjoying nature's gifts. It is believed to be the highest falls in the world. We returned to Sagara at about 5 p. m. and boarded the train for Bangalore at 6 p. m. During this journey our doctor friend joined us and almost all of us had free consultation on some of the ailments with which we were



*Left:
Lal Baugh,
Bangalore*



*Right:
Cave Temple,
Bangalore*

affected. General problems like falling of hair, putting on weight, reducing weight were freely discussed. That night's journey was very comfortable and most of us slept well.

We arrived at Bangalore on Thursday the 22nd morning. We put our luggage in a 'bandi' with our familiar Ramalingam in it and went to Neo Mysore Cafe and in an hour's time got ready to visit the Sri Jaya Chamarajendra Occupational Institute. The Printing Section is a very small one having facilities for composing only. The rest of the practical training is given at the Govt. Press

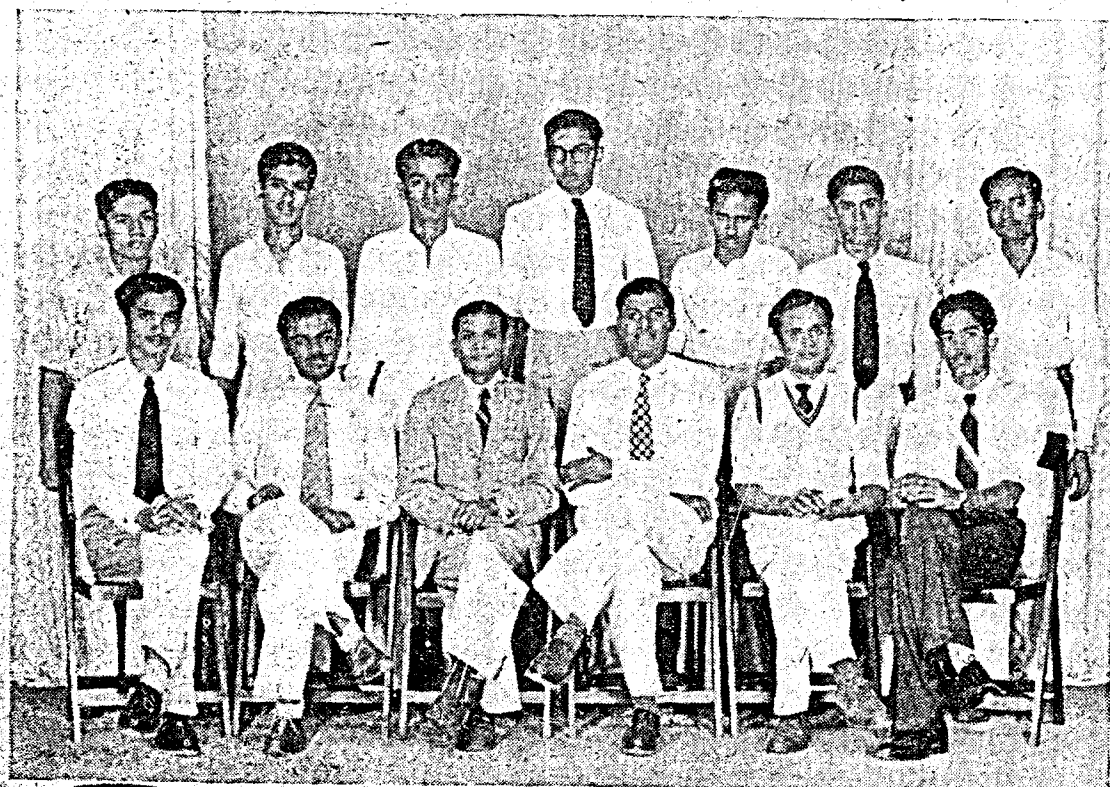
adjoining the Institute. Next we visited the Govt. Press. We were greatly impressed by the varieties of machines in the Press room, and also the Model 31 linotypes with automatic quadder besides the offset department.

After lunch we visited the Associated Printers and 'Deccan Herald' in the Contonment area and late in the evening went to the Commercial Street and most of our members were contemplating about the purchases to be made in the following day. After supper we took a long walk through the Cubbon Park and returned to the hotel after resting

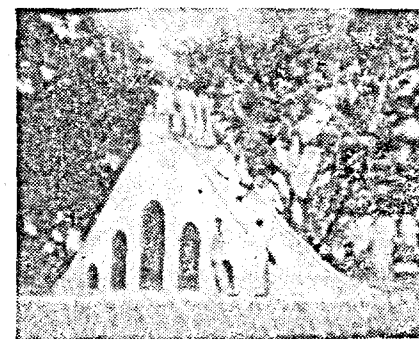
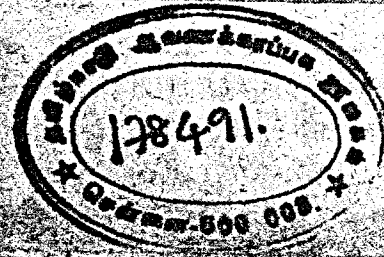
for a while in the Park.

On Friday the 23rd morning we left for Basavangudi and after visiting the shrines of some of the deities — one of which is believed to be growing in size — tracked through fields on to the cave temples. From there we visited the City Market and went to cantonment and here the party broke up into two and proceeded for their lunch in different directions, i.e., vegetarian and non-vegetarian.

After lunch we again assembled and proceeded to do shopping and from there went to the



Members who participated in the Tour



Down the slide at the Zoo

famous Garden Laul Bagh and spent about an hour there. From Laul Bagh we went to South Parade and after a refreshing cup of coffee at the India Coffee House, went back to the hotel, packed our goods and proceeded to the station. After supper at the station we boarded our train. Here again we were helped by one of our friends working there and all of us procured comfortable sleeping accommodation.

After a comfortable night's journey we arrived at Madras Central on Saturday the 24th morning. Each one of the party felt rather sad when the time for separation came. The nine days we spent were really the most enjoyable, and they will live in our memory for a long time to come. The tour was a grand success, indeed!

HANDMADE PAPER

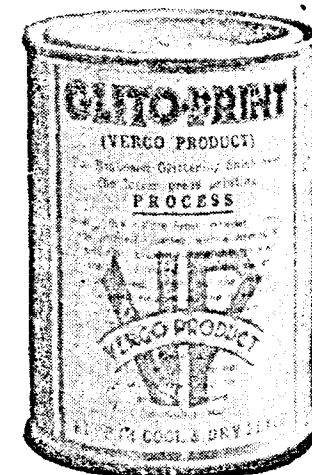
About 1,200 tons of handmade paper — worth about Rs. 30 lakhs — are to be made in India in 1954 according to a scheme prepared by the All-India Khadi and Village Industries Board.

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ODDS AND ENDS

Offset vs. Letterpress

THE production of newspapers by offset litho in the United States has now reached such proportions that publishers of orthodox letterpress productions are beginning to fear their competition.

In California, in particular, there has been a long running fight between the newspaper publishers, associations and some of the newer newspapers which are being published by the offset. Competition is made keener by the fact that the offset papers are able to give more lively illustrative material.

The Californian Newspaper Publishers' Association's effort was to sponsor a Bill for the Californian Legislature restricting to letterpress the term 'newspaper of general circulation'. The Bill would have made it impossible for publications produced by offset to qualify for legal advertising and governmental business under the Bill's definition.

Opponents of the Bill argued successfully that the courts have decided that newspapers produced by lithographic process cannot be barred from the 'general classification' on that ground alone. A number of Californian Newspapers are produced by offset and enjoy their share of legal advertising. Adjournment of the legislature brought about the defeat of the Bill.

To Prevent Fraud

A survey conducted in France, of sympathetic invisible, indicator, etc. inks in printing work, shows a number of existing applications and wide possibilities of extension. Among the most modern is the use of sympathetic inks for preventing fraud and falsification of packages, labels, gift coupons, etc., the originals reacting chemically to certain developing media. Other possibilities are in advertising novelties, 'trick' painting books, etc.

These inks, usually of the varnish water emulsion type, can only be used in book-printing methods, i.e. where no melting, etching, transferring, or developing is necessary (in view of possible action of the vehicles on the ink), and manufacturers' instructions should be carefully followed.

Press Workers Earn Most

Male printing and paper workers of Britain are top of the list in the British Ministry of Labour half-yearly survey of hours and wages with average weekly earnings of £ 10 6s 5d compared with the national average of £ 9 5s 11d. The paper and printing average is well ahead of most of industries covered, the only other two approaching it being metal manufacture (£ 10 5s 11d) and vehicles (£ 10 4s 8d).

Men in printing and paper worked an average of 46.7 hours per week as against the national average of 47.8. This is lower than many other industries — transport 49.5, building 48.8, mining and quarrying 48.6.

Mergenthaler Museum

Ottmar Mergenthaler, the son of a teacher, born on May 11, 1854, learned the watchmaker's trade and emigrated to the United States when he was 18 years old. In America he invented the Linotype machine in 1836. His birth place was Hachtel, a small village near Mergentheim in south-western Germany.

The 400-year old house where he was born is in a serious state of disrepair and funds are being collected to repair and re-decorate it in time for the centenary celebration next year. It is planned to make the building into a Mergenthaler Museum and the German Printing and Paper Trades Unions are appealing for gifts and donations to make this possible.

The proof press operator in a typical 18th century English printshop was required to pull all proofs within five minutes after notice or forfeit a fine of one penny for each frame.

FOR STUDENTS NO. 3

THE ORIGIN OF POINT SYSTEM

THE change over from names to numbers in type sizes took a very long time. Fournier made the first attempt in 1737, but as his gauge was printed on damp sheets, it was far from accurate when the paper dried. He took two French inches as the basis for his calculation, dividing them into twenty-four parts. To the measurement thus obtained he gave the name *cicero*, which he divided again into twelve points. The *cicero* of French 12 point measured .648 in., and when in 1770 Didot improved on Fournier's system, his *cicero* came out at .510 in. or approximately eleven points. The confusion to which this difference gave rise was accentuated when the German printers adopted the Didot system, gave the name *cicero* to his 12 point. The result was that in France *cicero* meant 11 point and in Germany 12 point. About 1860, however, the French adopted the much-debated name as meaning 12 point.

It is commonly believed that the American point system was the result of the big Chicago fire in October, 1871, when the type foundry of Marder Luse and Co. was badly damaged. It has been said that when the firm restarted its business it turned over to the point system. Nothing is farther from the truth. It is to the credit of Nelson G. Hawks (1841-1929) that points became the standard type measurement. Hawks was a printer of San Francisco and was unaware of Fournier's and Didot's attempts. His advocacy resulted in a memorial being submitted to the Type Founders' Association of the United States in 1871, asking for the establishment of "a uniform standard of body for type." The general attitude of the type founders can be appreciated from the terms of a letter from Marder, Luse and Co. "After the wholesale destruction entailed by the great fire, we would have gladly conformed to a new and absolutely correct standard but it would suspend our business for two or three

years or until that standard could be definitely agreed upon."

Hawks, however, was undismayed and when he became manager of Marder, Luse's San Francisco office, he made the most of a visit of his Chief, and in 1874 had the satisfaction of seeing his point of view accepted. So complete was the conversion that in 1879 it was announced that the firm had accepted the change and that it had "shouldered the entire responsibility and expense of the reform."

Gradually, other founders adopted the idea, and on September 16th, 1886, an open conference was called by the Type Founders' Association, which adopted the report favoring the point system. The conference accepted the pica cast by McKellar, Smiths and Jordan solely because it was of a size adopted by several of the big founders.

Here may be added a very interesting bit of history. When Benjamin Franklin was in France he purchased from Fournier the materials of a type foundry which he took back to the United States. His grandson, Bache, inherited the plant and it passed first to a Mr. Duane, then to Binney and Ronaldson. In 1820 the foundry was acquired by Johnson and Smith and in 1843, the firm changed its name to McKellar, Smiths and Jordan Co., whose pica was accepted for the size of the new 12 point.

In Great Britain we have to thank Walter Haddon for his early and persistent advocacy of point sizes. His foundry was the first in England to discard the old standards. — By courtesy of *The London Typographical Journal*.

The Indian Railways own 15 printing presses, being thus the owners of one of the largest chains of printing presses in India.

In this the second article on

THE STORY OF STEREOTYPING

Charles Talbot gives interesting facts about the plaster of Paris stereo, and the birth of the 'flan'—the predecessor to the flong as we know it to-day.

AT CHEVENING, the 'Stanhope' Press was developed, and what concerns us, the system of plaster of Paris stereo. When this was sold to the Clarendon Press, Stanhope himself would take nothing for any of his patents, but he insisted on £4,000 being paid to his manager, Andrew Wilson.

The plaster of Paris system was used for many years, and a short description may help.

In the process, as it was finally developed, a special low type was employed and the page was set up in a 'flask.' The type was black-leaded or oiled and the finer plaster applied first, usually with a brush. Later the coarser plaster was rolled on, the whole being wiped flat with a straight edge across the top of the 'flask.'

When the plaster had set, it was sometimes baked at about 400 F. for about two hours. The equivalent of the casting box was a dish like a large size photographer's developing dish. At the bottom of this was a loose iron plate called the 'floating' plate. Above that was placed the plaster-cast upside down, and over that an iron lid of which the four corners were open. The whole was screwed firmly to a rod carried in a 'gallows' which could swing.

Allowed to Float

It was lowered on to the surface of the metal in the pot, and allowed to float there to take its final roasting and to acquire an even temperature throughout. It was then pushed lower into the pot until the metal trickled in by the corners and filled

the space within, the theory being that the plate, by floating upwards, pressed the metal up into the interstices of the plaster, and by coming up against stops, regulated the thickness of the stereo.

When the mould was full it was pushed completely under the metal and held there until all bubbling and seething had stopped. The box was then lifted out and swung by means of the gallows over the cooling tank. It was lowered until the outside of it only was in the water. As the metal cooled and shrank, further metal was poured in from a ladle until the setting was complete.

The whole box was then plunged in the water, cooled, taken out, 'knocked out,' and the stereos literally carved out of the apparently solid chunk of metal with which the box was filled.

At the heyday of this process, a good stereotyper could produce five casts an hour. Of course, the plaster was destroyed every time.

Technically Successful

This method was technically successful and Cambridge University adopted stereotyping for their printing in 1807, to be followed by Oxford in 1809.

Once more, the 'dons' showed themselves more pliable in mind and more advanced than the craftsmen. Again, the printers set to work to prevent the introduction of stereotyping. Plates were damaged in storage and maliciously hammered on the presses and after a few years, both universities had to revert to type.

But the restless Daemon of the nineteenth century had an urge which carried farther than either a Scot's obstinacy or a noble's resources. Experimenters kept at work on stereo. In 1829 the turning point was reached. We leave the harsh Edinburgh of the eighteenth century, the calm experimenting at Chevening in Kent, and turn to provincial France, barely recovered from the Napoleonic wars, racked with internal strife, and on the verge of yet another revolution.

Our next hero is a printer, the bustling, competent, 'bon bourgeois,' Claude Genoux of Lyons.

His claim runs: *'The matrix, which I have the honour of submitting to you, is composed of seven layers paper, the last, or uppermost layer, oiled and reddened. Between these layers I apply a mastic compound.'*...

Curiously, the mangle, or its equivalent, was used before the brush. For Genoux first pressed this wet mat on to the type with a roller.

But he called his paper matrix the 'flan'—

and indeed 'flong,' almost as we know it, had arrived.

The stereo of today was born.

Steady Development

Commercial stereo steadily developed. In 1855, Dellagana of Switzerland introduced a thicker stereo plate where needed, casting type high, and later, ribbed plates. Before this, plates had all been approximately 1/6 of an inch in thickness. In 1858 Heyer and Harrison of Sheffield had set up a commercial jobbing stereo firm, and in 1860 James Wood of London claimed a casting box for newspapers.

The application of stereo to newspapers was a gradual process, and for its introduction, it depended on two other developments. The first was the speeding up of the stereotype process, and the second, the production of a curved plate. It should be remembered that the type revolving presses which were called 'lightning' presses in the forties

(Continued on page 20)

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PAPER PROBLEMS-1

PICKING OF COATED PAPERS

its causes and correction

by FREDERICK T. DAY

THE printer, both large and small, has experienced this trouble at some time or other and such picking or plucking of paper surface can give rise to much trouble in the machine room.

The causes of this trouble may not always be attributable to soft coating material to the basic body paper; it may be that the pulling power of the printing ink is too great for good reception to paper surface, overcoming the otherwise normal efficient coating adhesion to the paper body. It is quite conceivable that a grade of ink which is somewhat extra viscous and too tacky for first class results, must be used on the job for some reason or other. In such cases, the viscosity of the ink must be suitably reduced as the relative action between the printer's ink on the machine and the surface coating on the paper relies upon the viscosity of the ink and the necessary cohesion of the coated surface.

The correction therefore can invariably be effectively carried out by using ink that is not too "sticky" and at the same time, the machine room temperature may need some attention. This is the other important aspect in this trouble.

Control Humidity

Temperatures in winter and in summer can cause endless trouble in the press room, not the least of these troubles being the picking of coated papers while running on the press. Curling paper, wavy edges, creasing of sheets, the cracking of the surface of coated papers are some other troubles, to mention a few, which can arise from dry and hot air in the summer to the damp or moist temperatures of the winter months. The effective assistance of modern humidifying apparatus which will control temperatures and humidity is worth the earnest con-

sideration of those printers not equipped with similar installation. Paper will vary with the use and fall in temperature and moisture present in the atmosphere.

Surface of Coated Papers

In order to understand the sensitiveness of the surface of coated papers from the point of view of machine room conditions, a brief outline of the coating might help.

Coated papers are essential for letter-press job where first class results and faithful detail from fine screen half-tones are desired. Such results are obtained via a clay medium with adhesive which is brushed on to the basic body surface. China clay or Kaolin is very extensively used for coated papers of the inexpensive variety, while for better grades, calcium or barium sulphate is used. Also known as satin white or pearl hardening, it is a very fine white precipitate giving a first class and even surface. Barium Sulphate (blank fixe) is artificially prepared, and is entirely devoid of grit or other matter and produces a really first class printing surface.

All coatings must hold fast to the body papers otherwise there is the danger of picking. The body papers themselves are treated with resin size in the pulp stage, and this acts as a fibre binder and provides a holding surface for the coating mixture. An unfinished absorbent and mature body paper will hold the coating recipe firmly and provided moderate temperatures prevail in the press room, no trouble should arise for the printer.

This brief outline of coated paper surfaces has been given here in order that the delicate nature of coated paper is fully appreciated by the printer and that where necessary both ink and machine room temperatures should be watched in the event of any difficulties. — By courtesy of Paper & Print.

Impressions of **MYSORE TOUR**

by **P. K. PRADHAN**

Asst. Manager, Mission Press, Cuttack

I MUST thank the tour of Mysore State for bringing me into close touch with the Indian Federation of Printing Technologists. I was not a member of the Federation before I came to know of the tour that had been arranged. But on seeing an intimation card regarding the tour with one of my friends, I made enquiries and learnt further details. Greatly impressed, I straightaway enrolled myself as a member of the Federation and participated in the tour, from which I have without doubt derived much benefit.

When I reached the Central Station, I had a queer feeling, for I knew only two members of the party of thirteen — a classmate of mine, Mr. A. G. Ramalingam, and my lecturer, Mr. S. K. Thamba. But soon I overcame this feeling, following introductions, when I found I had been thrown into the most delightful company of young men in high spirits. It was like a large family on an outing, and there was much hilarity all round. I had only one regret — I missed many of the jokes that threw my comrades into peals of laughter as I did not know Tamil. But I should say they were quite considerate to me, and most of the time managed to speak only in English. This spirit of bonhomie and comradeship continued right through the tour and made it memorable for us.

The tour itself was most instructive, and we learnt a great deal at first hand. We saw some new machines and studied their working, spent a most useful time at the Bhadravathi Paper Mills, and visited a number of places of historical interest and beauty.

I was most impressed by the Paper Mills. Mr. M. S. Anantaraman, officer in charge of the stock and printing section, took good care of us here. He took us round and explained exhaustively

the various processes involved. I felt it my duty to record what I saw at the mills for the benefit of members who did not join the tour.

Of course it is well known that the most important consideration for the location of a paper mill is abundant and continuous supply of water and availability close at hand of the raw materials needed. The water supply in the case of the Bhadravathi Mills is from the river Bhadra, which joins the Tunga some ten miles further down to form the Tungabhadra. The water from the river is pumped into settling tanks and mixed well with alum solution. The mud and other impurities settle down, and the clear water is taken to filterbeds where it is chlorinated and stored for supply both to the mills and to Bhadravathi town. The mill has its own chlorine plant as it is more economical than buying chlorine since large quantities are involved; it may be noted in this connection that chlorine is also required for bleaching the pulp.

The foundation of the paper mill was laid on Apr. 1, 1937, but production began only in 1939. When it was started it comprised a pulp mill, a paper-making machine, an electrolyser unit, a recovery plant, and auxiliary steam, water and power plant. Later a well equipped workshop and a small unit for cardboard manufacture were added to this set-up.

Bamboo is available in plenty in the thick forests close to which Bhadravathi is located. The bamboos are brought to the mills by a special miniature railway. The green bamboos on arrival are left to dry in the open, and then sent by trucks to the Chipper House, where power-driven cutters chip and crush the seasoned bamboo and endless belts convey the chips to the digesters (huge pressurised steel containers). There are three diges-

ters, each of 7.5 tons capacity; about thirty tons of bamboo are treated daily in this fashion and ten tons of pulp obtained. The chips are cooked in the digesters in a solution of caustic soda and sodium sulphide; the non-fibrous material in the bamboo goes into solution, leaving the fibrous cellulose in the form of pulp.

The caustic soda and the sodium sulphide which have served their purpose and the non-fibrous part of the bamboo in the solution and also the washings are pumped into the recovery plant where soda is recovered for use afresh. The pulp goes through a drum-washer and comes out thoroughly cleansed of uncooked pieces of bamboo, sand, grit, etc. It is then dewatered and collected in the bleachers. Bleach liquor is added in measured quantities until the pulp is reduced to suitable degree of whiteness. Bleached pulp is thereafter conveyed to the beater floor.

Rag pulp and pulp made from waste paper is also added to bamboo pulp according to the quality of the paper under production. The method used

far making pulp from rags — meaning hosiery and tailor cuttings — and for making pulp from waste paper is similar in general outline to that for bamboo pulp. The mixing of these two pulps with bamboo pulp is done in the beater, where rosin, alum, china-clay and dyes are also added in measured quantities, depending on the quality of the paper to be made.

In the beater, the fibres are loosened, hydrated and brushed and given a felting quality. The beating cycle is normally between three and five hours, but for special grades of paper it may extend to ten hours. The beaten pulp is fed into a whirling jordan which brushes the fibres, and is then diluted and passed through strainers to a headbox feeding the paper machine.

The papermaking machine is a succession of units coupled together, each carrying out well defined operations, so that the wet pulp poured into the "wet end" of the machine is reeled up into long heavy rolls of paper at the "dry end."

(Continued on next page)

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Emerging from the headbox, the stuff gets spread over a wide endless belt of finely woven wire travelling across the paper machine. Then, peeling off the wire cloth, the wet paper moves on through press rolls which squeeze out water and then over a series of drying cylinders heated by steam. Then it rushes through a stack of chilled steel rolls under pressure which impart the desired type of surface and the completed paper is then wound up in rolls.

The rolls then go on to winders for rewinding, and thence to cross-cutters for being slit and cut into required sizes.

On the whole, it was all a fascinating process, especially because of the great speed of the entire process and the smoothness with which one operation followed another. Every little detail was explained to us thoroughly, and we came out thoroughly satisfied. The trip was well worth it, if only for the Bhadravathi Paper Mills.

STORY OF STEREOTYPING

(Continued from page 16)

were made for type, and type continued to be used for newspaper work for many years, because stereo took too long.

At first, paragraphs of commercial stereo were incorporated among the type, then whole columns, followed by rules being included in these columns, and it was not until the sixties that the true semi-circular plate came into practical use.

In this matter of the production of curved plates, there is much confliction of claims: the first ones are in 1816 for Applegath and Cowper of *The Times*, one by Moses Pool in 1840, one for De Witte in 1850, and a claim by Colonel Richard Hoe in 1857.

Federation Notes

Some members have written to the Joint Secretary in reply to his circular regarding the tour to Mysore congratulating him on the initiative taken by the Federation and regretting that the time given to them was very short. As we were anxious to arrange the tour to coincide with the Dasara celebrations, for which Mysore is famous, to make it more entertaining, we regret we could not give more time to members to decide. We will certainly bear this in mind and we hope a larger number of members will be able to participate in a future tour.

The Federation conveys its sincere thanks to Mr. A. R. Doraswamy Iyer, Principal, Central Polytechnic, Madras, for the guidance and help rendered to the Federation in making the Tour successful and also for the facilities he has offered to conduct meetings at the Institute.

We request members to take more active part in the publication of this journal by sending articles of technical interest to be published in *Printech*. Whatever you think will be useful to other members, please send in, whatever be its length. Let our motto be "Share Your Knowledge."

It is sure that *The Times* started to experiment immediately after the Crimean War, and insisted that the results of their experiments should be made known to all other newspapers, but the method was not made really practical until 1863. By 1865 the Bullock Press was using stereos, and the Hoe Press had some curved stereos as early as 1861. (To be continued.)

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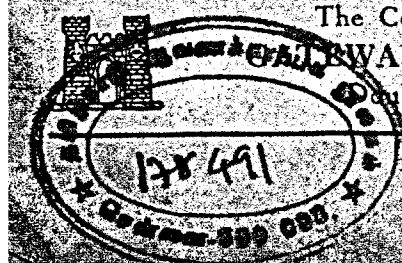
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The advertisement for Delta Metal Refineries features a central illustration of a large industrial building with the word "DELTA" on top. Below the building, the text "D.M.R." and "METAL FOR ALL PURPOSES" are displayed. Surrounding the central image are several smaller illustrations and text boxes. At the top, five small images show different metal products with labels: "METAL FOR HEAVY PLATES", "METAL FOR TUBES", "ANTIFRICTION METAL", "METAL FOR SOLDERING", and "METAL FOR SHIPS". Below these, on the left, are "METAL FOR RAILWAYS" and "METAL FOR SUPER EASTER". On the right, there is "METAL FOR LINOTYPE". In the center, a box lists applications: "TYPECASTING", "STEREOTYPING", "ANTI-FRICTION", "SOLDERING", "BEARING METAL", and "Etc.". At the bottom, the large text "DELTA METAL REFINERIES" is followed by the address "177, MUKTARAM BABU STREET CALCUTTA-7". Below this, it says "MADRAS OFFICE : 100, GOVINDAPPA NAICK STREET" and "DELHI OFFICE".

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