



A training class in session

better life through the adaptation of modern techniques to suit their environment the students from the city are eager to eradicate the evils of slums, one of the major problems of modern civilisation.

In our country this problem has not yet attained serious proportions. If we take adequate measures in time we will be able to tackle it without much difficulty, thereby we may avoid the serious consequences of this phenomenon which is the case even in some of the advanced nations. This programme has demonstrated the eagerness of our younger generation in taking up this noble work. The need is, proper guidance. Social work just because it is voluntary, need not be haphazard and amateurish. Backed by guidance, such as that provided by the Grail Movement voluntary social work becomes a formidable force to usher in the new society. ●

VILLAGE REFERIGERATOR

Place green vegetables in a bamboo basket and cover it with a lid. Cover the lid with a piece of damp gunny. Heap some sand in a corner and keep it wet. Place the basket on the wet sand. The moisture will keep the vegetables fresh for a few days. Since the vegetables are placed in a bamboo basket, there is room for air circulation, which prevents the vegetables from rotting.

HAY-BOX

A housewife who has to attend to all house hold chores will find the hay-box a boon. This is an improved method of cooking. Take an old wooden-box. Place hay in it. While cooking rice take it half-cooked from the oven and place it in the hay-box. The hay acts as the insulator and cooks the rice evenly. There is no need for constant attention and the housewife can go about with other jobs.

PICTURE PAGES

Facing page: Chief Minister distributing land-patta to the landless poor at Tiruchi on 8th August 1970.

Sardarni Ujjal Singh distributing Certificates to Social Work Trainees of Grail Mobile Unit, at Children's Theatre on 1st August 1970.

Fair-rent quarters for Government servants at Sivaganga was declared open by Chief Minister on 10th August 1970. Ministers for Housing, Industries and Backward classes also participated in the function.

The personnel of the Grail Movement who conducted courses for Social service workers in Madras were honoured with prizes by Dr. Sathyavani Muthu, Minister for Agriculture and Harijan Welfare.

Thiru V. R. Nedunchezian, Minister for Education, released the 2nd volume of Children's Encyclopaedia on 24th July 1970 at Rajaji Hall.

Distribution of land to landless poor at Mannargudi on 7th August 1970 by Chief Minister.

The Central Road Safety Committee met Works Minister Thiru S. J. Sadiq Pasha on 7th August 1970.

The distribution of enriched food to workers, organised by CARE programme was extended to T. I. Cycle Factory at Ambattur. Thiru K. Vezhavendhan, Minister for Labour inaugurating the Scheme.

Centre spread: Scenes of Thanjavur—the old and the new—it which are of absorbing interest to all.

Last page: Independence Day Celebrations 1970 on the ramparts of Fort St. George. Leaders of all political parties participated.





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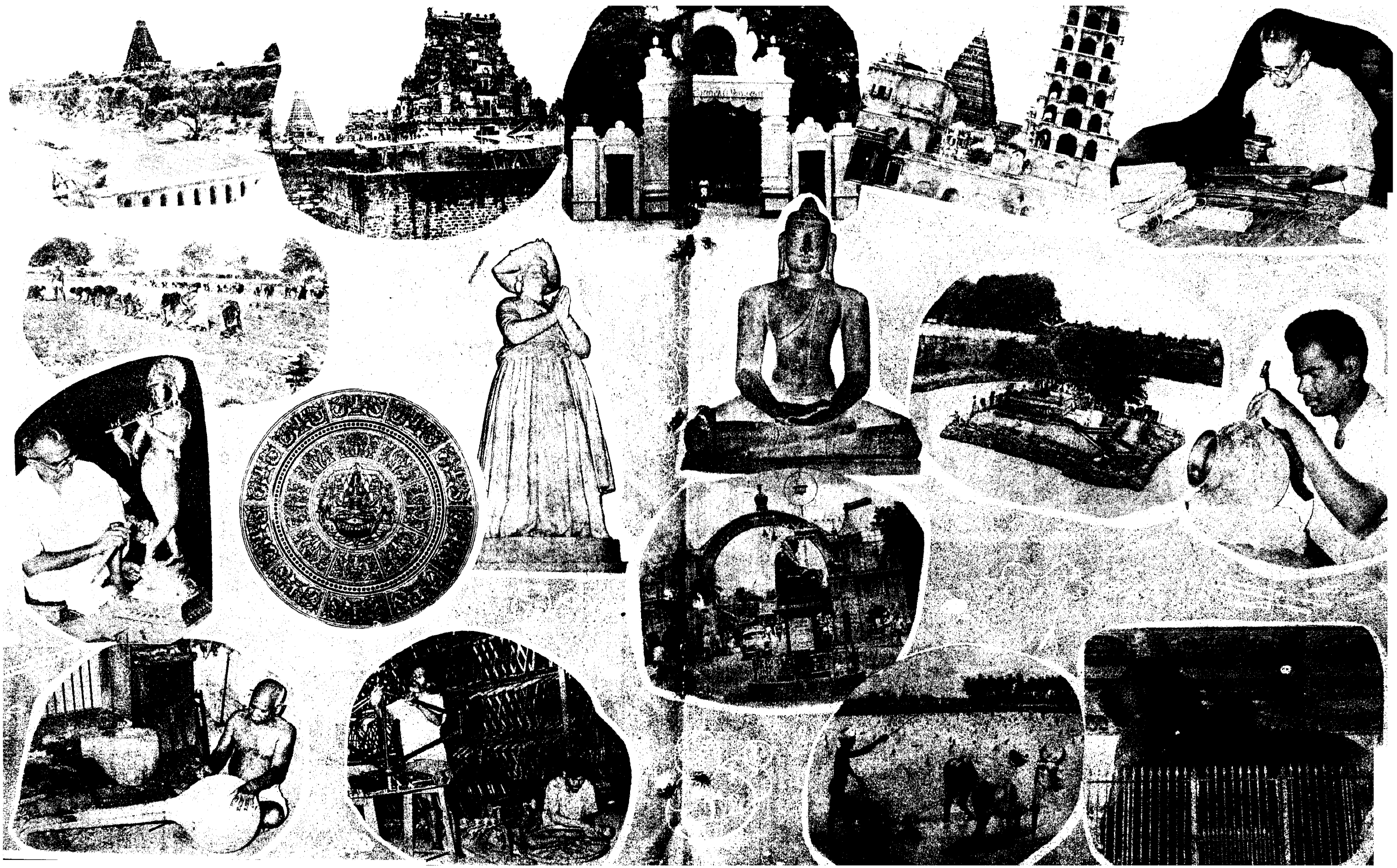
AUGUST 5, 1970

No. 3

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TWENTY DAYS

1. I'm off

"Fly away to nations distant To import home their treasures of art," says our great national Tamil Poet, Bharathi. His expressions are no longer imaginary or emotional. His expressions were intended to rouse the Tamils to action.

Historical evidences abound regarding the commercial, political and cultural relations our Tamil Nadu had with far distant countries thousands of miles away. Roman and Greek coins discovered by excavations in some of the ancient ports in Tamil Nadu add to those evidences.

thought and source for constructive action than sight and delight.

My intention was to introduce the treasures of our culture and art into nations abroad apart from getting benefited by their greatness.

The present generation of the countries I visited naturally does not remember the ancient ties that existed between our Tamil Nadu and their nations. Therefore, an aim of my visit was to remind them of our friendly relations with them in the past, and to learn something of the vigour and zeal of the nations that have revived themselves from their economic depression and political decline.

In order to realise my desire fully and to implement my plans effectively, I took along with me the Finance Secretary and my Private Secretary. It was in keeping with the old adage, "Travel not long without a guide".

Just to evade the pestering volley of questions "When are you going abroad? Which countries will you visit?" from Press reporters, I had been answering "This month; next month; very soon", and so on. It was due to the pressure of press correspondents that I abruptly announced that I would start off on 1st of July 1970.

My voyage abroad was quickened, more by the interest of the press than my own desire,

and I would like to thank the representatives of the Press first.

Till the day of my departure I had to be busy with matters of administration.

I couldn't think of the arrangements for my tour, not even of the dress to be worn in cold countries. When I was about to find some time to check up the arrangements made, my friends

from all over Tamil Nadu started pouring into my residence with garlands and boquets to bid me farewell. I had to leave those arrangements to the care of my family.

It was my first foreign tour. Many a time preparations were made for my foreign tour but were cancelled. Many impediments stood in the way. I could not even visit the neighbouring country, Ceylon.

This being my first foreign tour, some uneasy feelings haunted my heart. "How could I be away from my beloved millions? And that too for 20 days!". Such questions disturbed my sleep and kept me awake the previous night. I had been alone in prison for months together, but even in that isolation I had the consolation that I was in my Motherland amidst my people.





I had visions of the beautiful citadels, the happy parleys with foreign Ministers and sumptuous feasts. This mental vision egged me on to tour abroad, but the thought of separation made me ill at ease.

It was the first of July. From day-break, friends assembled at my residence in thousands. I was offered garlands and felicitations by friends so much and so long that I felt elated, excited and also tired.

The clock, the regular task-master, indicated the fast march of time. I cursed the clock.

When we are worried or

the crowds of people all along the route.

The Governor of Tamil Nadu, the Ministers and thousands of enthusiastic people had come to the Meenambakkam Airport to see me off.

Overwhelmed by their affection and zeal, I couldn't even express my gratitude to them.

I got into the plane. Other passengers could not reach the plane as there was the huge crowd in their way.

Only after my entry into the plane, people made way for others to reach the plane. I expressed

I had a stronger tie with the people outside; that belt was loosened; and I rose. My wife stopped me saying that all had gone.

"None have gone. All their eyes seek me and mine seek them", said I. So saying, I wiped away the tears that welled up in my eyes.

They all stood gazing at the aircraft. Could I ever forget that scene? I can never forget that day, the sweetest day!

Life is full of bliss and bitterness. That day was a day of bliss.

irritated due to some cause, we don't do our duty properly but develop an ill-feeling towards a regular worker. This human weakness was revealed by my curse of the clock.

The time of departure of the plane was 6-20 p.m. and it would have been punctual to leave home at 5-45 p.m.

But I was asked to leave my residence at 4-30 p.m. itself for I had to satisfy the enthusiastic crowds lining the route from home to the Airport.

The aircraft could not start at the scheduled time because of

regret over the difficulties caused to others by my presence there.

I had occupied my seat in the plane. Yet I could not help coming out. I rose from my seat, and looked at the people outside. They waved their hands in joy.

I returned to my seat. Then again I stood up to look at the zealous crowd. They raised their hands again.

Others might think that I was fussing over a short stay of 20 days, so I thought, and felt a little ashamed. I fastened myself to the seat with the seat-belt.

"Will you please be/seated Sir?" asked a gentle voice. It was the voice of the dutiful hostess. I had but to sit. The doors of the plane were closed.

I peeped out through the window, and continued to look out till the plane took off and rose high up in the air.

The plane took me far away leaving Tamil Nadu behind. Tamil Nadu and the people were concealed from my sight but not from my mind.

(To be continued.)

Having toured many countries, Chief Minister Thiru Karunanidhi arrived at Madras on 21st July. People gathered in thousands and were awaiting his arrival at the Meenambakkam Airport till 2-15 p.m. without minding the hot sun. As the Plane reached the airport, the huge crowd raised shouts of cheers.

A N N A V A Z H G A ,
K A L A I G N A R V A Z H G A

inspected a guard of honour provided by the Prosperity Brigade volunteers.

Huge crowds lined the route from the airport and the Chief Minister drove slowly in an open jeep specially decorated. Petals of roses were showered on him from a small trainer plane at the aero-drome and at some points on the route later.

drove in a car to Anna Chathukam; he placed a wreath on the grave of our Revered ANNA and then went home.

The Chief Minister was given a reception at the Children's Theatre at 6 p.m. the same day. The Education Minister Thiru V. R. Nedunchezian presided over the function. Ministers and

An Endearing Welcome



'WELCOME Our CHIEF' and 'WELCOME Our LEADER' that rent the air overpowering even the roar of the aeroplane.

The Chief Minister was the first to descend from the plane. The Governor of Tamil Nadu, Sardar Ujjal Singh, garlanded him, and embraced him. Then the Education Minister Thiru V. R. Nedunchezian and other ministers and leaders garlanded the Chief Minister. Then he

When the Chief Minister reached Chinna Malai, he was garlanded by two elephants and trumpets were blown to announce his arrival.

There were beautiful and big arches erected by M.G.R. Pictures, Vauhini Studio, A.L.S. Productions, etc.

Overwhelmed by the tumultuous and warm welcome accorded by the people, the C.M. got out of the decorated jeep and

other leaders expressed their pleasure and complimented him on his successful and skilful dealings with foreign leaders and Press Corps.

All praised him for inaugurating the Third International Tamil Conference in Paris, the citadel of western culture and for introducing to the world the grandeur and elegance of Tamil and Tamil Culture through his gift of oratory and his wise words and deeds.

ALL THE SNAKES AND VENOM TOO

The Madras Snake Park and
Reptile Research Centre.

Snake parks have been established in many parts of the world as centres for studying reptile habits, extracting venoms for medical and biochemical research and as places for people to visit to learn about these creatures. India has been without a snake park. That is unfortunate in a country where snakes and other interesting reptiles are common but rarely seen. The Madras Snake Park is being set up on the Velachery Road near Tambaram (in the Madras City suburbs) as India's first reptile research centre. Besides undertaking studies on reptiles, which include subjects from snake-bite to reptile conservation, this centre will be open to the public at a nominal admission fee.

Large collection

The Madras Snake Park maintains a large collection of snakes from all over India as well as some snakes from foreign countries like the American rattle



snake and European vipers. Mr. Romulus Whitaker, the project originator is an American herpetologist who has lived in India for 13 years. He plans to include the larger reptiles like crocodiles, giant tortoises and king cobras in the proposed Snake Park. He feels that thousands of deaths by snake-bite in India every year can be avoided if only the real facts about snakes and snake-bite are made available to the public. There are only four poisonous

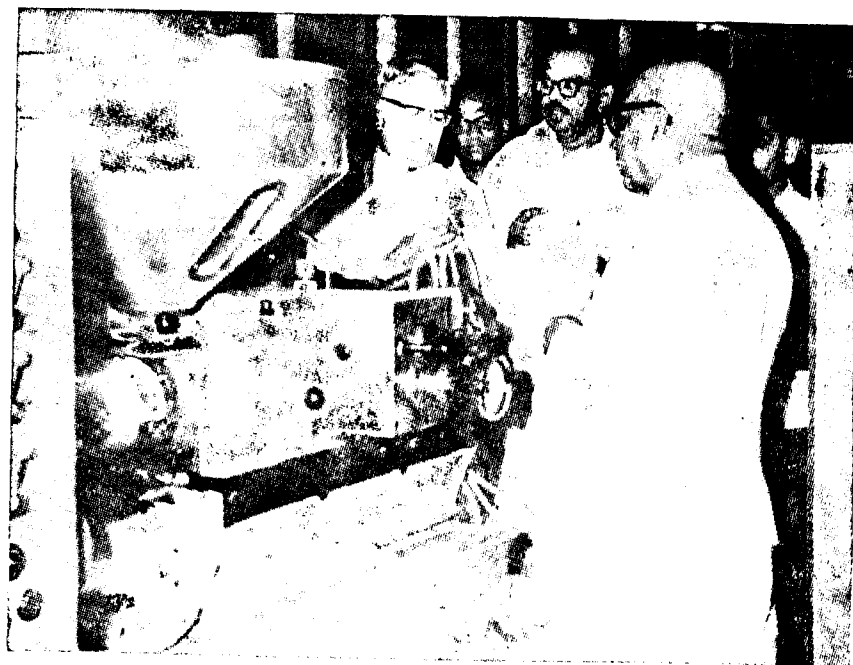
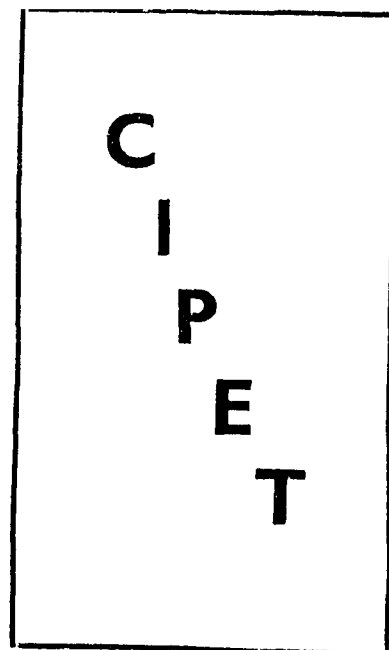


snakes which cause most snake-bite deaths in India : Cobra (Nulla pambu), Krait (Kutta virian), Russells Viper (Kannadi virian) and the Saw-scaled Viper (Suruttai pambu). The antivenin serum prepared at Haffkine Institute in Bombay for treatment of snake-bite is effective against any of these snake-bites. This and many other facts to be learned at the new snake park can help to save lives.

The Madras Snake Park and Reptile Research Centre is likely to be maintained from the World Wildlife Fund. The conservation of all wild life including the reptiles is of major importance ; the snake park will help publicise these facts. To be opened very soon, the snake park will display snakes in natural surroundings in deep, safe pits. Every week end the extraction of venom from hundreds of snakes will be shown to the visitors to the park.

Pythons as pets

While on the subject of snakes, our thoughts naturally turn to Rev. Fr. C. Leigh, S.J. of Loyola College whose absorbing pastime and study was rearing pythons ! No snake-charmer could have handled the serpent tribe or Ophidia—as they are scientifically referred to—with the perfect nonchalance he displayed in proving that the snake is a harmless creature “more sinned



A Training Institute for Plastics

THE CENTRAL INSTITUTE OF PLASTICS ENGINEERING AND TOOLS

Plastics, to-day, occupies a very important place in our daily life. From children's toys to industrial uses it has a wide application in all possible ways. Every house is to-day flooded with plastic wares by the street vendors. No other metal, perhaps, finds such a wide use in our daily life. It caters to the needs of all people and all purposes. They are not only most attractive, but they are very cheap and come in handy for any use.

Naturally, the plastics industry has made considerable headway during the last three Five-Year Plans. The essential raw material—the plastic powders are now indigenously produced to meet the needs of the industry. Bombay, Calcutta, Madras, Delhi,

Bangalore, Baroda, etc., are the chief centres of the plastics industry. A very wide range of products are being manufactured at these centres. Yet, it could not be said that the industry has attained sufficient maturity in our country. This is so, because of the lack of facilities for manufacturing the different kinds of moulds required for the plastics industry. Another great obstacle in the way of the healthy growth of the industry is the non-availability of experts and trained personnel in the field and effective consultancy service to offer advice to the industry—to suggest ways and means of overcoming technical and other difficulties faced by individual entrepreneurs in the field.

As far as the plastics industry is concerned a stage has now been reached when we cannot afford to neglect these aspects of the industry, lest we be left behind in this essential field of technology.

What an important place, the Central Institute of Plastics Engineering and Tools, which was formally inaugurated on 25th July 1970 by Dr. Triguna Sen, Union Minister for Petroleum and Chemicals under the Presidentship of Thiru V. R. Nedunchezian, Minister for Education and Health, Tamil Nadu, occupies in our industrial development can now be understood fully. For, it has been established with the

intention of meeting the above need of the plastics industry fully and effectively.

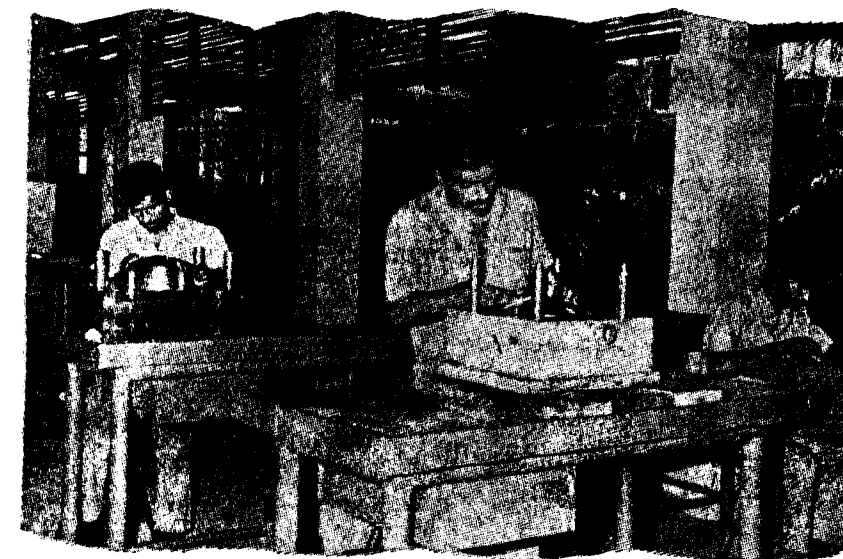
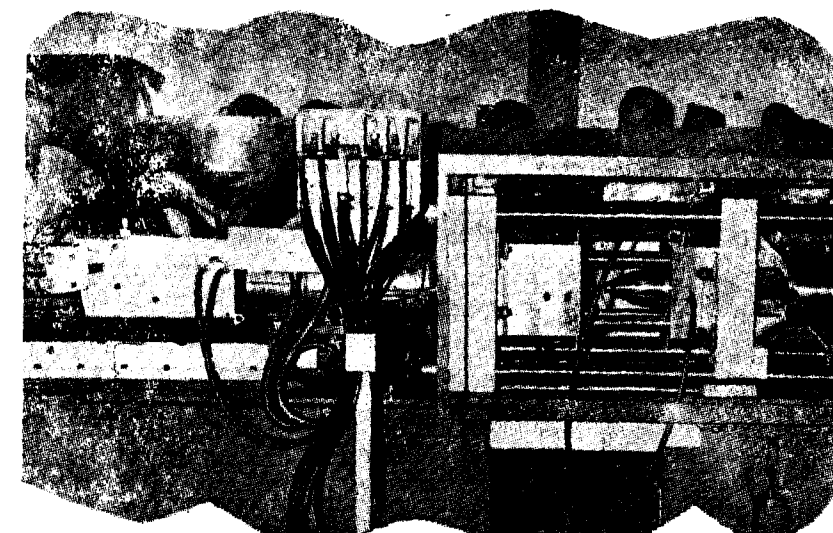
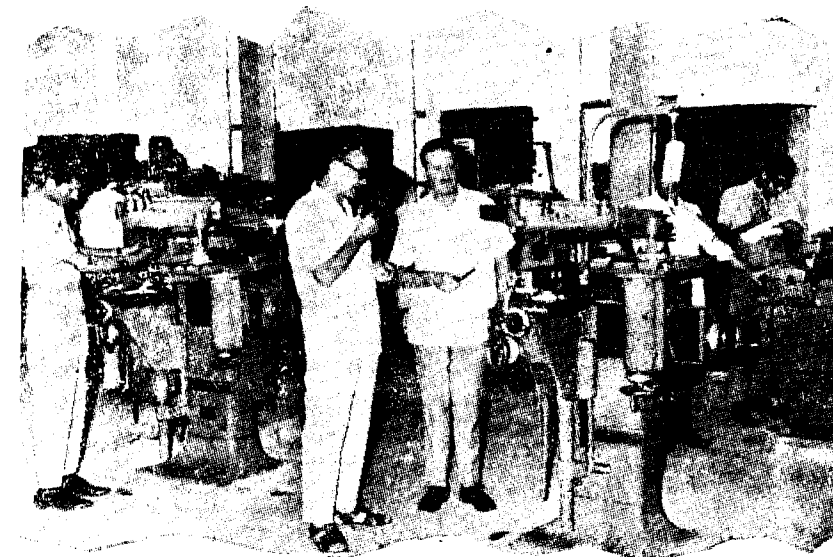
The Central Institute of Plastics Engineering and Tools (CIPET) situated in an eight acre plot offered by the Government of Tamil Nadu is a Government of India undertaking. This Institute is the first of its kind in India. Besides meeting an essential need, the setting up of the institute paves the way for the development of other ancillary small scale industries in Tamil Nadu.

CIPET is assisted by the United Nations Development Programme (UNDP) with the International Labour Organisation (ILO) as the Executing Agency. The UN Development Programme besides sending experts for staff of the Institute, has also supplied specialised machines for the tool-room and some moulding machines. CIPET has the best tool-room in India for making moulds for plastic mouldings. There are presently four specialists with the Institute and they are all from the industrial field.

The aim of the institute is to offer :

1. Training in—

- (a) mould making.
- (b) mould design.
- (c) mould polishing.
- (d) machine setting.
- (e) upgrading of design and tool-room personnel.



against than sinning". And what he did not know about them wasn't worth knowing. The secret of his success in being able to tame and handle pythons with such calm impunity, was to treat them gently; If you are rough, careless and brusque in your movements, you are sure to be bitten. Boas (pythons) are literally coldblooded creatures, gene-



rating nobody heat of their own. A human being substitutes for a sun-dappled trunk of a tree; hence they like to be handled and revel in the warmth of a human body!

Pythons do not have any positive virtues as pets except perhaps, eating only once a week or every two weeks. They are easier to maintain than either cats or dogs. Because of their relatively antiseptic living habits too, the snakes transmit fewer diseases than the ordinary pets. They are slow-moving, gentle and hardly ever bite, and once you have handled and tamed them, they seem to know you.

"According to Fr. Leigh, baby pythons grow rapidly, about one

foot the first year, four to six inches annually for the next few years. They eat mice during the childhood, but prefer rats when adult. He usually fed his pets mostly on bandicoots, crows, kites and dead hens that the obliging neighbourhood supplied him with. Since they were not fastidious about their rations, there was always plenty to eat and the cost of their maintenance very low. Occasionally a rabbit or a dead dog was thrown into the cage, but their juiciest bite was a monkey, which they preferred to anything else on the menu. There are no housing problems regarding the pythons, as they are content to live in tank or any old cabinets converted into cage.

TAMILS BAG TOP INVENTION AWARD

Thiru A. C. K. Krishnaswamy and Thiru C. Hariprasad of Madras have jointly claimed the Invention Promotion Board's highest award of Rs. 10,000 for developing an improved process and plant for carrying out fermentation of tea leaves. The award is being given for the first time since its inception ten years ago.

Thiru R. Dasgupta, Thiru M. S. Jayasimha, Thiru K. S. Sitarama Rao and Thiru R. Y. Narayan of the Indian Telephone Industries, Bangalore, claimed the second highest award of Rs. 3,000

for developing a split armature telephone receiver. It is simple, easily serviceable and cheap.

Thiru D. S. Likhari of Hindustan Zinc, Udaipur, gets Rs. 2,000 for developing a centrifugal blower lined with indigenously available fibre-glass reinforced polyester resins. It requires one third of the power needed by the imported blowers.

Prof. V. A. Altekar, Director, National Metallurgical Laboratory, Jamshedpur, gets Rs. 2,000 for developing a process of electro-thermal zinc dust smelter to

convert waste zinc hydroxide sludge, a by-product of sodium hydrosulphite plant, into superfine zinc dust.

Thiru M. R. Krishnamurthy, Dr. V.S.V. Sastry and Thiru K.C. Rajaraman of Regional Engineering College, Tiruchirappalli, have been awarded Rs. 2,000 for developing a single phase induction motor with single winding and reduced size, which can run at 2-3 speeds without the conventional resistance starter and can be used in production of scientific instruments, reduction gear units, small machine tools, etc.

Some drugs have been used to extract the truth from the suspected criminals and such drugs may be classified as "truth drugs". These drugs have been found useful in psychiatry and to some extent have been used for fact-finding purposes in criminology. These drugs are supposed to stimulate talk. For example the drug sodium pentothal makes a suspect, usually non-communicative, and glum talk uninhibitedly. Thus a good deal of material that might not have been otherwise forthcoming in hours of interrogation, could be extracted by such uninhibited talks. The evidence of the information thus secured may be inadmissible in courts but such techniques, if employed in trial investigation of crimes, give very valuable information. Under the effect of such drugs, the suspect will lose the conscious control of behaviour and will lay bare the "truth".

Antecedents

The modern truth drug has antecedents going back to earlier times. Many of the plant products belonging to the family of solanaceae contain narcotic alkaloids, scopolamine, hyoscyamine, atrophine and polandrene. These plants or their extracts have been used in some form or the other in all parts of the world. Under the influence of such plant preparations our normal waking consciousness will be suppressed while the matters dormant in the sub-conscious will come to the forefront. This class of chemicals brings about a marked increase

in the talkativeness and communicability and thus help in getting at the truth. These drugs bring about a decrease in blood-pressure decrease in heart rate, dilation of pupils, etc. These drugs remove the psychic inhibitions and bring about verbal release.

Initially scopolamine along with morphine and chloroform were being used on women during child birth to alleviate pain. But as a side-effect, it was found that women under the influence of these drugs often volunteered to talk freely. In 1922 it occurred to physician Robert House that scopolamine might be employed in the interrogation of suspected criminals. This was how the "truth drug" was discovered. But further studies proved that this drug had several toxic effects and it was soon given up. The drugs now most frequently used in interrogations are sodium amytal and sodium pentothal. They have the least toxicity and unfavourable side effects and give reliable results.

The interrogations conducted under the influence of these drugs will enable us to get a lot of information quickly and will be very helpful for taking timely action. But the information thus obtained should never be mistaken for

evidence or presented as such in court. However, the information collected by interrogating a spy will be immensely useful for gaining knowledge about the enemy activities. It may also be, however, mentioned that all the subjects are not likely to respond uniformly to this type of investigation; some are able to withhold information even under the influence of these drugs while some habitual liars are least affected by them. In a sense, therefore, we may say that this technique is yet in an embryonic stage and much data has got to be collected before such drugs are widely recommended for extraction of confessions for investigation of crime, but nevertheless this technique may be much

TRUTH DRUGS

more reliable for fact-finding purposes compared to the polygraphic technique, commonly known as "lie detector".

The lie Detector

The polygraph is only an instrument for recording rate of breathing, change in skin conductivity and pulse and blood-pressure. It is generally used in a pharmacological

2. Consultancy service for plastics industry.

3. Production of moulds.

4. Design and development of moulds.

5. Setting up of tests and quality standards.

6. Development of machines and moulds.

The training mentioned above is given only to students sponsored by firms or Government departments. This is because the training at the CIPET is industry-oriented and aims at training personnel for the sponsoring industries. The institute has capacity to handle 80 students. There are now 55 students at the institute sponsored by 36 firms from all over India. There is a hostel attached to the institute which can accommodate 60 students.

The training

The training is subsidised by Government with no tuition fee or special fee, but with only charges for the messing of students who stay in the hostel; this is again done to make it attractive for small industries to make use of this unit. The duration of the training varies from two years to three months depending on the course.

The first mould making course commenced on 29th January 1969 in a temporary workshop with a limited number of machines and with an ILO Chief of Project and an expert on the staff. The first design course was started six months later, when the second expert arrived. Indian instructional staff for mould design and

mould making were recruited in the meantime and given training. The foreign experts will be replaced by our own staff in due course.

At present, the institute is conducting three courses in mould making, two in mould design and one in mould polishing. The training is carried out on the mould orders received from firms. To date, it has over 20 mould orders on hand.

Exacting standard

Mould making is a highly specialised process. It takes at least 3 to 4 months for making a mould. Again the finish of the moulds should have an accuracy of 1/1000 of an inch. Polishing the moulds is an important aspect. Each mould takes 2 to 3 weeks of polishing to reach the high standard of quality. Different grades of diamond powders are used for polishing to obtain the required degree of finish.

Another important aspect of the mould is that a mould cast for making plastic wares using a particular type of plastic cannot be used for making plastic wares

with a different kind of plastic. Each type of plastic requires a separate mould.

These moulds are made of high quality with a special type of steel. The moulds made here are of international standard and there is scope for exporting them. Some other moulds made by the Institute is being exported to the United States.

The CIPET is assisting the State Governments to set up tool-rooms in their various regions to make moulds for small industries. When these are established, it will be of immense help to make quality moulds for industries who have no tool-room of their own.

Architecture

A word about the architecture of the building which houses the institute. Each and every aspect of the building has been planned and executed with imagination. In keeping with the functional purpose of the institution. Plastics and fibre glass has been extensively used in its decoration. In short, it is a creation of an environment that mixes the practical consideration of training, with elegance.



Too busy I was to enjoy the scenic elegance of Nature's charm in Kanyakumari district. The gentle breeze pregnant with fragrance and the fascinating verdure of paddy fields invited me to stand and stare. But my sense of duty roused me up and I started off shouldering my heavy movie camera.

Our Chief Minister, Thiru Karunanidhi, was on tour in the Kanyakumari district opening colleges, schools, stadia and participating in social functions. My role was to document those events by means of the film.

Meetings were in quick succession at 9-45, 10-30, 12-30 and so on in many places without any interval.

People were full of enthusiasm everywhere; huge crowds gathered to welcome the Chief Minister, and there were demonstrations of affection by the people at the hottest midday as well as at the coldest midnight.

Lured by the eloquence of our Chief Minister, people were in a state of ecstasy but we couldn't have the pleasure of listening to our Chief Minister. We could not rest but had to proceed ahead of our Chief Minister to make lighting arrangements to facilitate filming the events from angles of vantage.

It was midnight when we reached Nagercoil and the people were awaiting the arrival of the Chief Minister without sleep.

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We did not feel any hunger or thirst. Occasionally we stopped our van to swallow one or two bananas and to drink the 'cooling colour.'

The Institute of Film Technology at Adayar is our Alma Mater where about 25 film technicians are trained every year. The success of any Government depends on the public reaction to, and reflection on, the schemes and achievements of the Government concerned. Realising this, our Tamil Nadu Government entrusted to the Film Institute the task of producing documentary films twice every month. This was an interesting item of our curricular activities taken up in 1968.

About 30 films have been produced since April 1968

including those depicting the life-sketches of Mahatma Gandhiji and Arignar ANNA. Apart from the programmes of the Government, the events in connection with the birth day celebrations of Thiru K. Kamaraj, Thiru Kalyanasundaram and Thiru M. P. Sivagnanam, have also been filmed.

Details of social functions, schemes and programmes of the Government, Fine Art functions are all collected and forwarded to the Film Technology Institute by the Information Department of Tamil Nadu Government.

Fragments of our Experiences

Here are some instances of sweet, risky and pathetic experiences we had at the time of

laboratory for the study of the variation of these factors under the influence of chemicals on certain body mechanisms. But of late the polygraph is being used under the name of 'lie detector' for elucidating truth during police investigations.

As long ago as 1895 an Italian criminologist claimed, that by taking a suspect's blood-pressure during police interrogation he could establish whether or not he was telling the truth. Later a Swiss psychiatrist stated that by measuring the skin's resistance to a low electric current, guilt could be similarly established. Early in this century a Harvard Psychology Professor reported that a study of the body-physiology would trap a person in his deceit. Investigations also showed that there existed a relationship between a man's emotions and his rate of breathing and blood pressure.

Polygraph

One of the most noted polygraph examiners was Leonarde Keeler. He was the first person to bring about some improvements in the older models of polygraph and carry out the recording of suspect's changes in blood-pressure, the respiration, etc., during interrogations. Keeler got remarkable results from such studies and was able to obtain astonishing confessions from even hardened criminals. Since then, this new kind of interrogative approach has found importance all over the world.

Keeler called this apparatus a polygraph—It records rate of

breathing, blood pressure and skin electrical resistance. All these three readings are recorded on a roll of paper during an actual test when the interrogator puts the subject a number of questions formulated to fit the case. Some questions are neutral and innocuous that can be answered without showing evidence of any emotional disturbances on the graph.

But in order to get a real result out of a lie detector the questions selected must be carefully framed, only then the emotional disturbances will be created in the subject's mind which in turn bring about rapid variations in the breath-rate, blood-pressure and skin resistance which will be recorded by the polygraph.

Type of questions

It is, therefore obvious if any useful result is to be obtained from any lie detector, much depends upon the type of questions put during the interrogation. On the reaction to these crucial questions, a determination of a lie or a truth is made out; much depends on the technique of questioning, the questions asked and the manner in which they are asked. Thus a polygraph can be of some use only if we have trained and experienced examiners and on their skill depends the detection of a lie; but the instrument itself will not in any way help in extracting the truth. Thus the technique of using 'truth drugs' stands better compared to this machine which only helps in detecting a lie, under able

questioning by an expert interrogator.

This instrument has been widely used in America in detecting the lie in quite a good number of cases and their achievement has given the lie detector a reputation for its infallibility. One of the largest users is the U.S. Army and the federal agencies to check those suspected of being security risks. Many banks, commercial houses and departmental stores—places where both temptation and opportunity for theft are present—use the lie detector.

Quite good but....

But it is not popular because in the hands of an incompetent examiner this instrument can lead to entirely wrong conclusions. We have to take into consideration a number of issues involved in this technique, some are scientific, some are moral and ethical, as much of the recordings obtained in a polygraph depends upon the examiner and is likely to lead to erroneous interpretation. It is not an easy and routine job to recognise a 'false positive' reaction from the innocent or a 'false negative' one from the guilty.

The experts in the field advise that one need not worry about what the machine has recorded as long as one has been interrogated by a trained examiner. A polygraph can only record the relative physiological changes during questioning but cannot detect a lie. Hence science still hesitates to give lie detector its blessing. ●

The strategy is to integrate more than one method of pest control. At the same time pest resistant varieties of crops are also being developed.

In the strategy of pest control the modern concept is to integrate more than one method which are compatible with each other with a view to tackle the different stages of the same pest species for its eradication. In this line of work the old method of biological control through parasites and predators are advantageously being used in conjunction with the systematic and granular insecticides. Physical, mechanical and cultural methods of control are also integrated with the latest methods of chemical control to get good results. In an endeavour to make pest control cheaper, research on the utilisation of native products of plant origin are being done.

Pest resistant strains

Several strains of crops have been developed which are resistant to the attack of specific insect pests. Use of resistant varieties eliminates the possibility of pesticides hazards and the cost of treatments. For instance, MCU. 3 cotton has been found to be highly tolerant to stem weevil; some varieties are resistant to jassids aphids and thrips.

The application of a chemical against a pest even before its occurrence on a crop as a preventive measure has several advantages over the conventional method of applying an insecticide on an insect affected crop.



The prophylactic treatments effectively reduces the multiplication of the pest population. This method would be very effective for the control of tissue borers of stem, fruits and bolls.

The brood emergence is determined by light trap catches of adults like paddy stem borer, etc. A sudden increase in the population of moths caught is taken as an indication for taking up prophylactic brood emergence sprays.

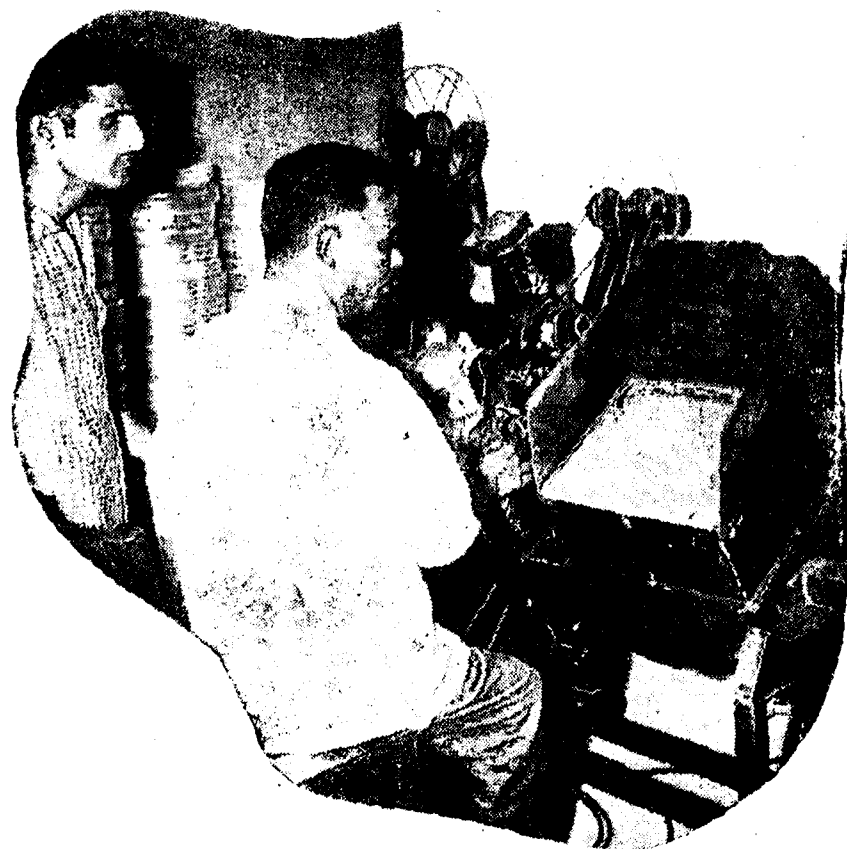
Development in pesticides

Increased use of pesticides of high toxicity and prolonged residual action has resulted in harmful effects on food fodder and human health; in addition to the development of resistance in insects to the insecticides. New pesticides have been developed which have very low toxicity and shorter residual toxicity. Systemic insecticides which are absorbed into the plant system and translocated to the growing parts have been very effective in controlling the sucking pests like the aphids

jassids alleuroids and thrips without killing their natural parasites and predators. Hence severe secondary outbreak of pests like aphids due to the destruction of their natural enemies with the use of the ordinary insecticidal sprays have been eliminated in using the systemic insecticides. The development of the wide spectrum insecticides which are effective against a wide range of crop pests is another advance.

New types of insecticidal formulations have been made to meet the individual requirements against specific pests. Systemic granules encapsulated insecticides ultra low volume concentrates have been developed making pest control more effective and economical.

They can be easily applied or broadcast by hand without the use of cumbersome equipments. They have the added advantage of long residual action slow release of the chemical lesser phytotoxicity and, who practically no contamination of



On the U. N. Day for the Handicapped the sorry spectacle of the handicapped whom we approached for filming, made our hearts bleed and I believe the same feelings of sympathy would have been aroused in the minds of the people who witnessed the scene on the screen.

Many a person would thrust forth his head or hand so that his face should find a place on the film and in order to satisfy them we would lengthen the film to include his head. They would be disappointed if their heads find no place, on the screen at the local theatre. It is the 'heartless' editor who chops off the snaps we take. "What can he do?"

He has been ordered to see that the film is only one thousand feet long.

our documentary adventure in the last two years.

In order to attract larger number of tourists we were ordered to film the graceful flower gardens and the green grass lands of Ooty. At the height of our excitement over the scenic splendour we went on filming till the whole film was about to be exhausted!

On the occasion of the opening of the Children's Hospital at Egmore, I was told to film an operation. I consented readily without considering the nature of the operation. The

patient was a child, and when the doctor cut open the stomach of the child, I felt giddy. I turned my face away closing my eyes



FINGER PRINT IN CRIME DETECTION

THIRU C. RAMAN NAYAR
Director, Finger-Print Bureau
Vellore

"Finger-prints are God's own seal given to us that we may know and recognise His greatest creation—man", says an author on Finger-prints. Though apparently insignificant and infinitesimally small, the fibrous lines on the hands and fingers afford an infallible means to fix the identity of every individual, honest or felonious. It is, therefore, no wonder that finger-prints play an important part in the prevention and detection of crimes.

New technique

As in the case of any other science, methods and techniques in the application of the science of finger-prints for the purpose of crime detection have undergone changes from time to time. At one time, finger-prints were mainly used only to identify ex-convicts in the Finger-Print Bureau, Vellore. Now both in the Finger-Print Bureau, Vellore and in its Single Digit Sections in important towns finger-prints are harnessed to trace the criminal concerned in the commission of a crime, positively leading to the detection of the crime. In order to help the

investigating staff to achieve this end, the Finger-Print Bureau, Vellore, has evolved some new techniques in using stray chance prints from crime-scenes to locate a criminal quickly from even huge multitudes of finger-print records.

One can easily imagine the enormity of time and labour involved, if a single or partial chance finger-print from a scene of crime has to be compared with 25 lakhs of finger-prints of about 2½ lakhs of persons available in the Finger-Print Bureau to get at the probable criminal. Indeed the effort is well nigh impossible. Nevertheless, an effort is possible if the field of our pursuit in locating a chance print could be restricted to only those criminals who are addicted to breaking into houses and committing crimes inside dwelling places, as such criminals form only a percentage of the total criminal population. In the Finger-Print Bureau, Vellore, there are many finger-print slips available in respect of a person for all his convictions. Spare sets of finger-prints of notorious house-breakers and

house-thieves are gleaned out and kept separately according to the district to which he belongs and if more finger-print slips are available, duplicates are placed in other districts also, to which he had extended his exploits. A compact collection of finger-print slips of selected criminals is thus made so that it is less voluminous and easily accessible for a quick search even with a stray and lone chance print. Such a concise and compact record collection is named a "District-wise collection".

Few instances

With the help of the district-wise collection, many a crime is solved now in the Finger-Print Bureau every year without undue loss of time and delay and the culprit is often betrayed by his own infallible marks left at the crime-scene.

The cases mentioned below are only a few instances to illustrate how the criminal who believes he had done a perfect crime without any reason to implicate him, is pin-pointed for quick apprehension, by the technical analysis of his finger-prints done at the Finger-Print Bureau, Vellore:—



atmosphere as there is no drift. The granulated insecticides are also useful as soil insecticides and as systemic insecticides which can be applied to the soil before planting; thus giving protection to the crop from the beginning. They were also found to be effective in checking wire worms, white grubs and root aphids in the cereal crops. Application of granular insecticides for paddy stem borer in standing water was also found to be effective.

Ultra low volume techniques

This involves the application of concentrated solutions or suspensions instead of the conventional method of diluting the spray materials in the large volume of water. The insecticides are mixed in 50—70 litres of water and sprayed over an acre. There is no wastage through run off by this method.

Here the concentrated insecticide is sprayed with special nozzles. It reduces application costs and achieves a heavier deposit

of the toxic material on the crops giving greater efficiency. New nozzles and accessory equipments have been designed for this new method. An aircraft can cover four times more area with ULVC than with L.V.C. By fitting suitable retractor nozzles to the mist blower ultra low volume sprays could be effected. There is less loss through evaporation by this method greater chemical stability



and greater resistance to the physical elements.

By combining two or more insecticides, pests which cannot be controlled if applied individually [Toxaphene+DDT (Helioth) EC] can control effectively the American boll worm on cotton, paddy leaf roller, etc. Certain non-toxic synergising agents are added to the insecticides to increase their efficacy. By using mixed formulations the cost of control measures is reduced and also the danger of the development of resistance in insects to insecticides is also reduced.

Several disease causing organisms like bacteria, virus, fungi and nematodes have been used for the control of insect pests. Application of Thuricide dust (Bacterial culture of *Bacillus thuringiensis*) at 10—15 kg./acre has been found to cause heavy mortality of the diamond back moth caterpillar on cabbage, castor semilooper, tobacco caterpillars and others.

Use of sex attractants

In this method certain secretions from the female body or similar synthetic materials are used to trap and kill the males in large quantities which are attracted to these substances. By this method, the chances of the females getting fertilised by potent males are reduced and thus they lay unfertilised eggs which do not hatch, resulting in reduction of population.

In this method the males are reared in large numbers and treated with irradiating materials and due to the radiation effect they become sterile but otherwise potent for copulation. These males

are released in the field in large numbers so that they compete with the normal males in the field for copulating with the females; resulting to unfertilised eggs and reduction in population.

Use of antifeedants, etc.

Certain compounds designated as antifeedants are being now tried against crop pests. These materials when sprayed over the crop make the insects consume lesser and lesser quantities of food thus effectively reducing their number and reproduction.

Certain substances called as juvenile hormones or phenomones

when used on pupae or late instar insects affect their normal physiology and development and make them sterile. Thus with the use of such substances the reproductive phase of the insects life is interfered with, resulting in the reduction of population.

Another useful programme to be launched this year is the training of selected cycle and motor mechanics in servicing and maintaining plant protection equipment. These trainees will be selected from each block of the Madurai Agricultural Region for attending to the needs of Madurai and Ramanathapuram districts.

COCOA IN TAMIL NADU

Trials have shown that cocoa of very high quality can be grown in Tamil Nadu. Cocoa which is useful not only for beverages but also for its food value, offers very good scope for development in Tamil Nadu particularly in hill ranges like Kalrayan hills and Nilgiris. Cocoa is a new crop to this State, but it is a very important crop as, besides, being a highly valued beverage yielder, it has got a high nutrient value in a concentrated form.

Being a perennial crop it will take time to convince the grower to take to it for large scale cultivation. Our initial experience of Cocoa Cultivation in Nilgiris has shown that Cocoa of very superior quality even according to international standards can be produced in Tamil Nadu. There are three pilot centres for Cocoa as visual demonstration centres at Mangalam-combu, Pechiparai and Papanasam to educate the growers as to how

Cocoa can be developed successfully.

Having achieved success on a small scale, it is now proposed to launch a fairly big programme of Cocoa cultivation on a plantation scale. An area of 2,000 acres in Genguvarodai of Madurai district and another area of 1,000 acres in Kanyakumari district have been chosen for development of Cocoa.

On 30th August 1969 a report was received that the house of one Padmabai Ammal in Vishnukancheepuram was burgled the previous day in the temporary absence of the inmates from the house and that gold jewels worth Rs. 580 were stolen. Finger-Print Expert from the Finger-Print Bureau examined the scene and lifted a few chance finger-prints and got them photographed. One of them was on the glass of a cycle lamp. There was no other clue to know who the culprit was. The expert at the Finger-Print Bureau began to work up with his records available in the district-wise collections.

After wading through the collection of records relating to Chingleput district without any success, he took up examination of the district-wise collection of finger-print records of the neighbouring district of North Arcot. The finger-print slip he was looking for was there, as he found the chance print matching exactly with the left middle finger-print of an ex-convict, Ranganathan of Alapudur in Chengam Station limits, previously convicted in Arcot Station. Further investigation and apprehension of the accused followed as a matter of course without much hurdle or waste of time. Ranganathan was charged for the offence before the First-Class Magistrate, Tiruthani and sentenced.

Another case of house-breaking in the house of one Chakravarthy at Poyapakkam village, 3½ miles from Villupuram town was reported on 5th April 1968. The culprit had scaled over the wall

at the back-yard, climbed up the roof of the house and got entry into the kitchen by removing a sun-glass. He had decamped with silver vessels and ever-silver articles worth Rs. 500 and made his exit by opening the back door. The Finger-Print Expert from the Finger-Print Bureau, Vellore, examined the sky-glass removed and kept aside by the intruder at the crime-scene, processed the finger-prints found on it and got them photographed. The routine check up of these prints with those of the inmates disclosed that they were not of the inmates and that they might probably be of the criminal's. The expert made a search of these prints in the finger-print collection of notorious house-breakers and

Symbol of Pride

While instituting the system of 'Chief Minister's Medals' to Policemen in Tamil Nadu, Thiru M. Karunanidhi said: "Hitherto badges with the figures of the British Emperors and the Indian national emblem have adorned the Chests of Policemen in Tamil Nadu. Along with these, they will wear the new medal which will bear the figure of Thiruvalluvar, the symbol of the pride and glory of Tamil Nadu.

"Ours will be the first State in India to honour its Police with a State-level insignia."

house-thieves kept for the South Arcot district. On 22nd April 1968, he found a matching set of finger-prints relating to one Selvaraj of Poyapakkam in South Arcot district in this collection. On the desk of the Finger-Print Bureau, Vellore, the criminal responsible for a heinous crime was brought to light without any chance of error. Information was flashed on to the investigating officers immediately.

Further investigation to apprehend the criminal and to recover the properties became comparatively easier for the Police.

Immediate report

Identification of chance prints through a search in the district-wise collection of finger-prints is one of the several means evolved in the Finger-Print Bureau, Vellore for the Finger-Print Expert to locate a criminal directly and speedily without waiting for the investigating officer to give suggestions regarding the probable criminals.

The above two cases point to the need for an immediate report to the Police, of thefts and keeping the scene of crime from undue disarrangement by curious neighbours. In both the above cases the finger-prints left behind by the culprits were chance prints on objects lying nearby. If curious neighbours or even panicky victims had disturbed the objects at the scene of crime, detection would not have been quick. It is quick detection that gives confidence to the public and also deters crime.



A fur cap to keep a cave-dweller's bald head warm on a winter's evening long, long ago, may have been the first wig ever worn.

The vogue of wearing wigs has great antiquity. Egyptian mummies have been adorned with wigs. In ancient Greece, wigs were used by men and women and in Rome wigs became a fashion in the early days of the Empire.

The use of hair buns and "chouries" is popular among Indian women. In England the periwig was in use in the 16th century but in the next century the peruke (wig) became a distinctive feature of the costume. This fashion was stated to have emanated from Paris. During the period of Queen Anne the wig attained its maximum development covering the back and shoulders and floating down over the chest. Though the fashion waned later, the full-wig is still worn by the speaker, the smaller tie-wig by the Judges and the fizzed wig by barristers and advocates.

In industrial societies of the U.S. West Germany, Japan and elsewhere, wearing of wigs by young women has become common in recent times. In U.S. the fashion is growing fast as is evidenced from the sharp rise in wig sales from 4 million dollars in 1961 to about 500 million dollars in 1969.

Organised export trade in human hair is of recent origin in India. In the great pilgrim centres of Tirumalai, Palani, Tiruttani and Simhachalam, men and women shed their locks in fulfilment of their religious vows. And these form the perennial source of supply of hair.

A particularly long tress of hair measuring 4½ feet received from Tirumalai has been sent to the United States for museum display.

In the international market, China is the largest hair supplier Japan and Hong Kong being well established producers of wigs. Chinese hair is stated

to be thick and coarse, whereas Indian hair, is soft and silken in texture.

When in 1965 the U.S. banned import of wigs made with Chinese hair, manufacturers naturally turned to India for supplies. Thus, the limited trade in unprocessed human hair carried on by some exporters in Tamil Nadu, became a business of huge dimensions overnight.

In order to earn more foreign exchange than possible by export of unprocessed hair, the State Trading Corporation set up a factory at a cost of Rs. 15 lakhs at Ambattur, the industrial suburb of Madras, for the manufacture of wigs and wiglets.

The Wigs India factory which has technical collaboration from Lion Rock Trading Company of Hong Kong is expected to earn a sum of Rs. 17 crores within seven years by virtue of an agreement entered into with, Fashion Tresses Incorporated, leading importers of wigs in the U. S. A.

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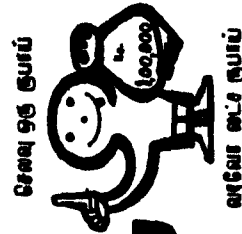
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COME TO THE SUCCOUR OF THE POOR

[Madurai University Convocation Address delivered by Thiru M. Karunanidhi, Chief Minister of Tamil Nadu, on 23rd August 1970.]

My heart swells with joy for having this unique opportunity of delivering the convocation address at this Madurai City of the Pandya Kings, who, having inscribed their insignia, the Fish on the brow of the Himalayas, alongside their insignias, the Tiger and the Bow of the Cholas and the Cheras, held sway over the country known as the Navalam peninsula with great pomp and pride. Though not nurtured in the temple of learning—the University, in the conviction that, I had this opportunity as one who had delved deep into the hoary literature of our Tamil language, I am standing before you.

Sanctified soil

This is the soil which was sanctified by the foot prints of great scholars and poets who had established here the "Tamil Academy". We have

assembled in this great city which was the venue of the legendary events of Kannagi, the heroine of Silappadikaram having learnt the gross injustice meted out to her sought justice before the Pandya King, who wilted before her fury, like a hare transfixed by a tiger. My loving hearts, assembled in this soil of the Pandyas, the recipients of the titles of renown like Thalaiyalanganathan, Aariyappadai Kathanan, etc., to receive the degrees awarded by the University, kindly accept my greetings. And then bridle yourself to hoist our flag of victory in all the directions.

You may shoulder any number of responsibilities. But I do not have the capacity to know the kind of responsibility you are cherishing. Your teachers may know it. Intuitively, you may be aware of it.

Greatness of Tamil

Recently I have toured a small part of the world. I saw the fame of our Tamil spread over those places much earlier. A few scholars felt glad in speaking about it. Those who have understood the greatness of the Tamils welcomed me with respect. They said that it is a lyrical language, and a sweet language not by hearing my speech, but by feeling the gentle breeze of that Tamil wafted by many others. The world knows about the greatness of our language. I have heard the scholars of different nations speak about the distinct qualities of the Tamil as a fully matured language with pride at Paris. My heart swelled with pride because of the fact that the Tamil has once again attained its pre-eminent position as a distinct language full of life, light and lustre. Even so, my heart felt an inexplicable pang of pain. Why? Thousands of the sons of Mother Tamil are steeped in poverty. I have seen sky scapers there. My eyes are filled with tears, at the galling thought as to when the Tamils will also achieve a full, happy life, which dimmed that sight.

In foreign countries people are enjoying life to the full. Only when our country also becomes prosperous our people will be happy like them. Is it possible to achieve this by the efforts, sacrifices, energy and intellect of one individual? Individuals may preach philosophical concepts and tender advice. These are the only things freely available in the world. If it is ordained that many



The Factory employs over 500 women, and is turning out wigs of all sizes and colours to satisfy the most fastidious and diverse tastes of the countless fashion centres in the United States and many Western countries.

Wigs India has worked out arrangements with the temple authorities for on the-spot collection of the offerings of human hair. The monthly purchase is of the order of 10 tonnes. Tirumalai Shrine alone gives 3 to 4 tons per month and the other temples account for the balance. To develop the skill that go into the intricate process of wig making, help was sought from Hong Kong, where a flourishing wig industry is in existence for years.

The Hong Kong firm, the Lion Rock Company, sent a group of experts to Madras to help train Indians in wig making. "Operation learning" took just about 18 months. Since then, skilled workers have done all the processing and fashioning to meet rigid international standards.

The factory produces two types of wigs; the wholly handcrafted wig, and the machine-made wig. The hand made wig is a quality product which is in great demand and fetches a high price. The wig-maker has to stitch each hair carefully on a net skull cap. In regard to the other, a special sewing machine is used to



arrange strands of hair in lengths which are stitched on to a net cap.

At present, twenty different types of hair products are made to satisfy the different styles and tastes. Plans are under way to diversify even further, so that Wigs India can supply any product that is in demand. Buyers can choose from 100 varieties produced in the Factory.

"What is important" says Thiru Vaidyanathan, Manager, of

Wigs India, "is the basic technical know how. This has been developed. We can now turn out wigs of any type, as per buyer's sample". For the manufacture of eye-lashes three employees were sent to France for training and are now making samples in the Wigs India Factory, Ambattur. On the basis of the samples the factory hopes to secure order for a new type of product of intricate workmanship.

TIRUCHI MAKES 100-TON COAL BUNKERS

In April this year, the BHEL High Pressure Boiler Plant, Tiruchirappalli, manufactured P.F. bunkers for the 100 MW Bhatinda power station. The four bunkers are designed for a storage capacity of 400 tons of coal per boiler and have a capacity of 100 tons each.

The pulverised coal from the drum mill, after passing through the classifier and cyclone separators is collected in the pulverised coal bunkers. These bunkers store the required quantity of pulverised coal ready for use. From here the coal powder is fed to the burners along with the air from the primary fan, after being mixed in the mixing nozzles.

The bunker consists of two parts, vertical or sloped side walls in the upper part and toughed hopper at the bottom. To ensure effective discharge of coal powder the angle between the side walls and the horizontal is kept at not less than 50. The side walls are provided with vertical stiffeners to resist the lateral pressure of coal powder. Secondary horizontal stiffeners give proper support for the main stiffeners and the walls of the bunker.

must toil to gladden the life of a single individual, then there is bound to be bitterness in the minds of the many. Individuals must think that they are also part of the society. The society is nothing but the association of individuals. With such clear thinking, if we had the courage to train ourselves to serve, then we can win many a degree in the university of the Public Life. We can march with pride and say that ours is a prosperous country and our people are having a better life.

Work, work, work

You may demur, 'work, work and still more work', seems to be the refrain of my speech. You may be tempted to point at the straining guts of the hand-cart puller; you may point at the dripping sweat of the tiller of the soil and ask of me: "Is it not work? Is it not enough work? Do we need to put in more work?" Yes, it is not enough. We must work to reduce the work load of those toilers.

That does not mean that we must also join forces with the worker in the factory or in the field; but we have to lessen the burden of his labours.

Lessening the burden

What else shall we do? An individual's effort is not enough for that. The country as a whole must prosper. All of us should work in different fronts to achieve this. You may be inclined to ask whether I am again advising only to work. If you think a little, everything will be clear to you. If, many of us work in different fronts and in different capacities the



age-old blind fatalistic notion that a few are born only to work will disappear. For the worker toiling in the field and for the wood-cutter the leisure time will become the time of recreation. For all those working in the factory, in the offices, etc., their enthusiasm will grow in proportion to the work they put in. This is the mirror which will reflect the prosperity of the nation. It is not enough if we see our face alone in this mirror. It must also reflect the philosophy of socialism.

Employment problem

I am aware you may be prompted to say, "we have studied for years and are getting the degree to-day. There are those who have studied with devotion and there are others who might have also studied but at great cost to their parents. You are saying, "more work is needed" and you are also likely to call us to 'scarifice'. Is it only for hearing this we have assembled here? Anyhow we are prepared to follow your advice. After all we have aspired for the degree only to serve. But, where is the opportunity for us to work? Where is the employment opportunity? Will you provide it?

Before answering such questions I would like to place before you some of the problems for your consideration.

It is now twenty-three years since we got our Independence. We have implemented three Five-Year Plans. After that though one or two years have passed the Fourth Plan has not moved. Only a few months back it has been resuscitated. The unemployment problem assumed huge proportions during this non-plan period which has brought in its wake poverty. There is only a feeling of frustration. To solve this unemployment problem which has assumed such huge dimensions, the Government of India should take bold steps immediately. But, do not think that by saying all these things, I am merely counselling patience till such measures are taken. At state level, we have formulated certain practical schemes for solving the unemployment problem. Therefore, graduates of the year, you need not be disheartened.



The Chief Minister with the Governor and the Education Minister at the Convocation of the Madurai University.

What is the purpose of higher education? A pat answer like, it is for getting a post, is not the proper thing. It is for acquisition of knowledge and capacity. At the same time, I do not deny the fact that we have to look after ourselves and our family. It is for those who are thinking on these lines I am telling, that by the State Government's efforts there will be employment opportunities and they can be rest assured.

Purpose of education

The number of those who study with the intention of getting a job to eke out their living is larger. Though few in number, students from the rich families do not study solely for eking out a living. Then, why is it that they are also hunting for jobs? They must not think that even if there is enough wealth, to be in a job is more respectable.

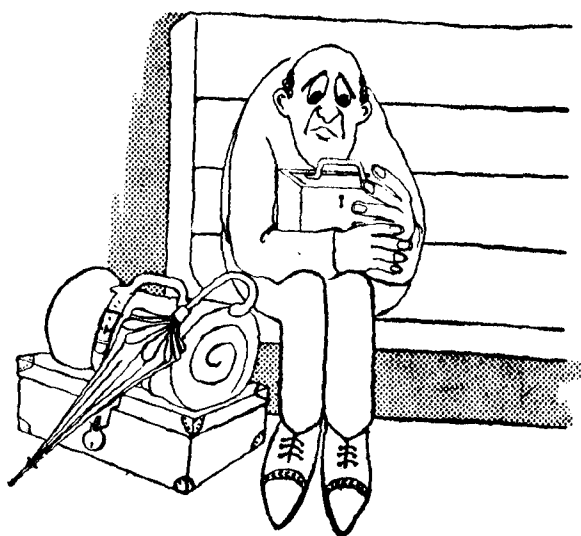
Wealthy people are certainly not in the compelling position of seeking employment to eke out their living. It would be better if their knowledge can be utilised for the development of various industries in the country. Wealthy students should think about

social service and public works. There can be no end to the sufferings of the poor graduates if these well-to-do students also apply for jobs. In implementing this policy the well-to-do graduates should co-operate with the Government. They must think of it as their sacred duty towards the poor graduates who are suffering a lot every day. This may not solve the problem. It is only just like the mother unable to feed her weeping baby trying to make it sleep by resting on her shoulder. Yet, if the State Government do not take even this minimal effort the tragical allegory of the child's unending cries leading to swollen belly, fever and disease ending in tears may well apply in the case of indigent graduates as well.

State Government's efforts

Many a poor parents have spent for the education of their sons by tightening their belts in the hope that their sons will protect them in the evening of their life through their earnings. We do not want to see that these aspirations of those parents go unfulfilled. Within the limited power available to the State Government we are trying to meet at least the minimum of the aspirations, and the longings of the parents of such graduates.

Tell him there's an easier way to carry money safely...

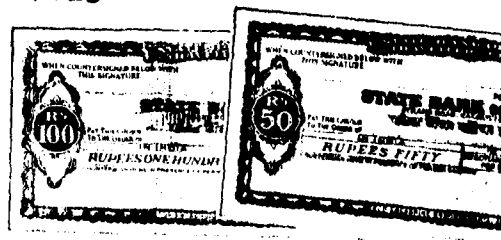


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THE HISTORIC FORT SAINT GEORGE

ITS HUMBLE ORIGIN

Madras, with which Fort Saint George is associated, has always been in the limelight of Indian politics and history but both had an obscure beginning. Of all the fortified centres of Trade and Commerce no fort other than Fort Saint George, named after Saint George, the Patron Saint of England, has gained a world-wide fame. To all the nations of Europe, Asia and the Far East, Fort Saint George is a familiar name. To the British, it was the chief commercial centre between Mauritius in the Middle East and Bantam in the Far East Asia. It is a romance in history how a narrow strip of land, six miles along the marina, which Francis Day selected for his commercial activity developed into the modern Fort Saint George.

Francis Day who was commissioned by the Court of Directors from Masulipatam in 1639 was given a warm welcome at Santhome. But he avoided the choice of the erstwhile Portuguese settlement at Santhome, in spite of the support

BY

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paradoxical that the new site had neither beauty, nor a harbour except a shallow lagoon-like river, running parallel to the sea for a short distance. In fact the Cooum emitted an unpleasant and unhealthy effluvia from the rotting seaweed lying in its loathsome black ooze. Neither the stink of the river nor the acres of sandy waste discouraged the persevering servant of the East India Company, and Day concluded his negotiations with the Rajah of Chandragiri satisfactorily on the 1st of March, 1639.

of the Portuguese and local merchants for the choice of that settlement. On the other hand, with their help he secured for rent a piece of land directly north of Santhome. It looks

When Fort Saint George was erected, local merchants, weavers, local manufacturers, painters and others were encouraged to settle in the neighbourhood at a place thence forward popularly called

Do you think that there is no other avenues of work in the country for the graduates from the well-to-do section of the society?

There are people in Tamil Nadu who are not aware that :

'The Tamils are a distinct race, and It has exceptional qualities of its own'.

Will it not be a far more satisfying thing for them to kindle this flame of Tamil in the hearts of those unfortunate brethren?

There is the scientific field, the research field, inviting you to open new vistas of knowledge and to proclaim the intellectual superiority of the Tamil Nadu to the world. Why is then this hesitation? The war ravaged West Germany which was in utter ruins is to-day smiling with its opulence. This was possible only because of her rapid industrial development.

Duty of the wealthy

If those who had acquired the knowledge come forward to co-operate with the Government to transform their perishable wealth into imperishable wealth will it not be an act of righteousness? Would not the country transform itself into a wealthy nation?



Poet Bharathi who sang loud, 'There shall be no caste, child', did not live to realise his cherished goal. We may continue that unfinished task.

"Tamil is the beautiful language of ours ;

It is the nectar which gives us joy",

sang Bharathi Dasan. That dream of the poet can be translated into reality. Tamil need not only be a poetical language. It can also be the medium of instruction. In this effort you must stand by the Government. Still there are some who oppose Tamil as medium of instruction. Only, if we overcome these obstacles we can say that we have understood the meaning of, "Tamils are a distinct race", as said by Namakkal Ramalingam Pillai.

Gandhi said

It would be appropriate if we remember what Mahatma Gandhi said in this regard:

"I must have the same attachment to my mother-tongue, in spite of its short-comings, as a child to its mother's milk. Only this can give me the life-giving milk. I firmly believe that the children of a nation who are taught in a language other than their own mother-tongue are committing intellectual suicide. It takes away all the creative powers of the children. It not only arrests their growth but also isolates them from the family atmosphere. Therefore, I consider that this kind of situation is the greatest tragedy to the nation. The medium of instruction should be changed at once and efforts should be taken to accord the rightful place to the Provincial languages at any cost. I shall accept the temporary chaos as far better than the total waste at the Higher Education level."

Anna's counsel

This is the advice of Mahatma Gandhi. There are people in Tamil Nadu who hold views different even from this. You may be aware of this even without my referring to it. Our beloved leader Anna who delivered the first convocation address of this University, alas, stands to-day as a statue in this ancient city of Madurai. He had stated clearly the need for making Tamil as the medium of instruction. "A language need not have any merit other than being

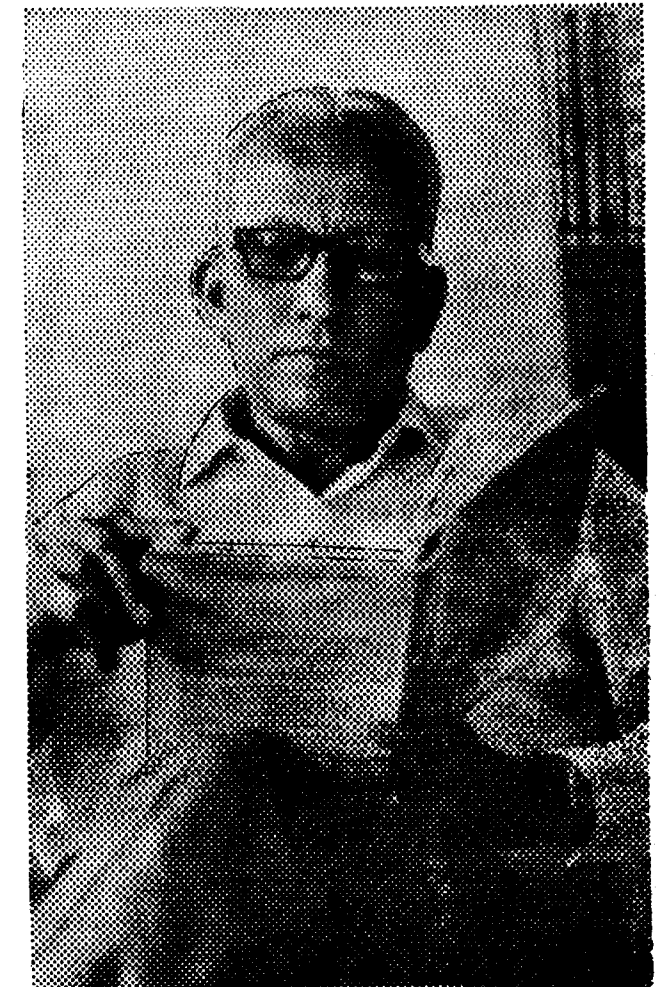
the mother-tongue," to become the medium of instruction. Having said this he explained the place of English in the following words: "Knowledge of English is essential for moving in unison with the world as also to take full advantage of the fund of knowledge available in that language and for communication between the various regions of India and between India and the world." As we cherish his loving memory, so also we shall not forget his noble counsel. I have seen how some of the countries I have visited are marching towards prosperity and fame by teaching the scientific, medical and other technical subjects in their own mother tongue. We must take the responsibility to develop Tamil, which is a treasure house of literature on both the esoteric and exoteric values of life, not merely as the medium of instruction but also as the vehicle of expression to unravel the secrets of the atom and of the lunar travels.

Graduates of the year, are all of you entering the employment arena? There may be an Ingersoll, a Rousseau, a Voltaire, a Valluvar, a Ilango, a Kambar, a Gandhi, a Nehru and Anna among you. I see in you a galaxy of young men who will follow their path in discharging your duties. That is why, I am requesting you to dedicate your energies for the welfare of the nation. Of you, the rising sun, I am seeking light. Of you, the Moon, I am seeking coolness. Of you, the Jasmine, I am seeking fragrance. Of you, the southerly Breeze, I am seeking the lullaby. Of you, I am seeking the incense of Pothigai hills. My dear friends, I am seeking your efficient and whole-hearted co-operation.

Saplings of the soil

You are the saplings of the soil which was the domain of the Pandya King Nedunchezian who proclaimed that; "One should learn by meeting the needs of the teacher and rendering him all help when needed, without the least exasperation." The Tamil mother is seeking your succour and an harbour of coolness in the summer. Thou shalt not fail her. With that resolve, come quick as the sword out of the scabbard in the face of injustice. May you grow mighty as the sheltering tree.

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Chennapatnam and Madras-pattinam by the Indians, and Madras by the English. A *cowle* for building the fort was obtained, through the mediation of the Naik of Chingleput, from the Raja of Chandragiri, a descendant of the Hindu Royal family of Vijayanagar. It is interesting to note that it was the Raja of Chandragiri who delivered the deed of possession to Francis Day. After all, the Raja was an obscure representative of a magnificent Indian Empire of the past; Francis Day was an obscure representative of a magnificent Indian empire that was yet to be; and the document that the Raja handed to Francis Day was in reality a patent of an empire, transferred from Vijayanagar to Great Britain. It was at Chandragiri that the British Empire in India was begotten; it was at Madras that the British Empire was born. And by his transaction, his employers in England obtained their first territorial rights in India.

The Raja of Chandragiri, who received the cash paid down as rent for the ground, must have laughed up his sleeve at the folly of the English in parting with gold for that dreary waste of sand and mud. He could not foresee that the apparently worthless spot might hold a Clive and a Munro, and that it might send forth mandates for the deposition of princes stronger than himself; that it might shelter and despatch a Job Charnock to found Calcutta in the name of his masters, and to stretch a powerful arm over the length and breadth

of the country to protect the weak from the tyranny of the strong. Francis Day's task was only half finished when he obtained possession of the land. There were no buildings upon it but half a dozen mud huts belonging to the mukvas or fishermen; he had to set

about raising a warehouse for the Company's goods, and a house for the offices, wherein the Company's affairs might be transacted. Dwellings were also needed for the Company's servants and it was necessary to attract the country-born Portuguese merchants, who

were the link between the exporter and the producer..

The Fort House stood at the present Secretariat buildings just in front of the sea gate. It contained offices, reception rooms, a dining hall, a room set apart as a Chapel, and accommodation for the few merchants, factors and writers who were numbered on the staff. By 1680, during the Governorship of Mr. Streyensham Master, St. Mary's Church was built in the Fort to meet the long felt need of the Protestant citizens for a separate place of worship. The original house had not been built with the solidity which marks the fine houses raised some fifteen years later under more experienced architects. In fact Sir William who visited Madras then found it rapidly falling into ruin. In the initial stages, the garrison at the fort gave the Directors enough trouble over their love affairs.

Since 1690 communications in the form of general letters, were sent for the first time by the Agency at Fort Saint George to the Court of Directors. In the beginning the settlement was placed under the Presidency of Bantum in the island of Java; and was intended to supply goods from the Coromandel Coast to meet a demand which existed in Java.

It should always be remembered that the East India Company was established purely as a commercial association, with its head office in London, and its employees in India were men with business

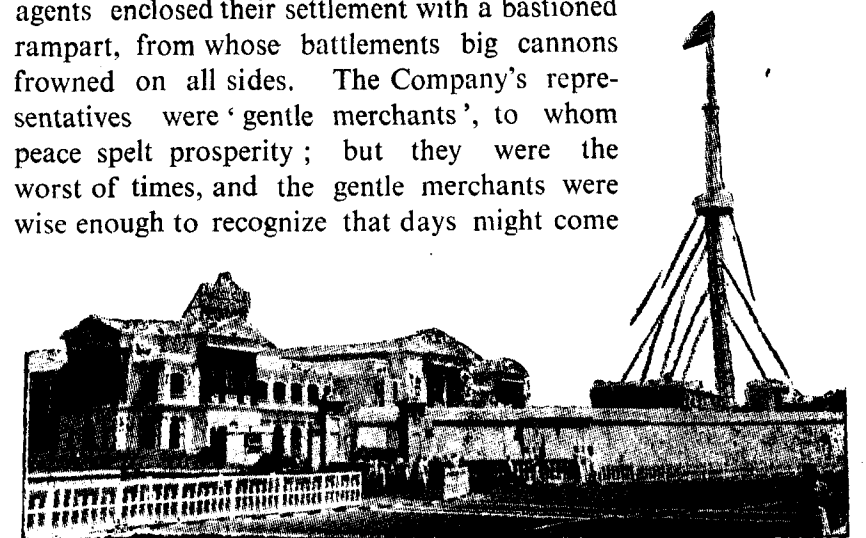
qualifications, appointed to carry on the Company's trade. The prime concern even of an Agent or a Governor was the making of good bargains on the Company's behalf and sometimes on his own getting the best prices for European broadcloths and brocades and buying as cheaply as possible Indian muslins and calicoes and other natural products, for exportation to London, where they were sold at a huge profit. Any fighting in which the Company's servants engaged was merely incidental to the pursuit of business in a land in which the ruling sovereigns, as well as the many small chiefs, were constantly at war. It is a maxim that 'Trade follows the Flag'; but in the case of India the Flag has followed trade.

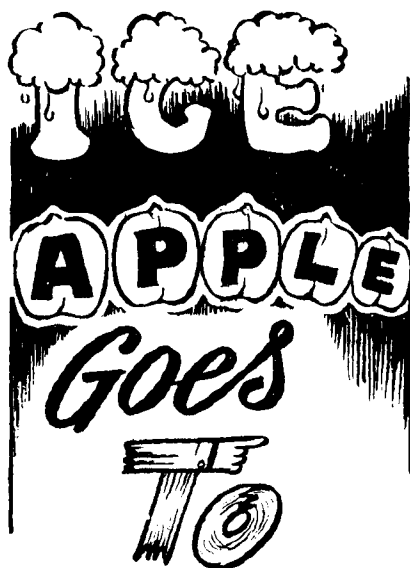
From the very beginning the settlement was called Fort St. George, but it was several years before the buildings were surrounded by a high and fortified wall. It was in no spirit of military aggression that the Company's agents enclosed their settlement with a bastioned rampart, from whose battlements big cannons frowned on all sides. The Company's representatives were 'gentle merchants', to whom peace spelt prosperity; but they were the worst of times, and the gentle merchants were wise enough to recognize that days might come

when it would be necessary to defend themselves and their merchandise and the town of Madras as well, from the 'roving robber or the princely raider or the revengeful trade-rival', and that military preparedness was a dictate of prudence. In fact there were such dangers to the Fort. On such occasions the excitement in the Fort Saint George had been really great. We can imagine the anxiety with which, when the sentry gave the alarm, the merchants climbed upon the walls and looked out at the horsemen who were appearing at a distance, and enquired to one another disconsolately whether it was in peace or in war that they came. Even fifty years after the Fort had been founded, a party of soldiers under the Commander-in-Chief of the Mohammedan King of Golconda pursued some of the King's enemies who entered Madras, "burning and robbing of houses, and taking the company's cloth and goods", whereupon the Governor of the Fort sent word to them that "he would



St. Mary's Church in Fort St. George built in 1680





A visitor from Nepal said, "I have been going round all the States in India. But only Tamil Nadu has given the proper place and practical direction to village industries".

He made this statement only after visiting the village industrial complex functioning at Kumarapapuram in Madhavaram, a suburb of Madras, under the aegis of the Palm Gur Federation.

Two Professors of U.S.S.R. had recently visited this industrial complex. Both of them were doing research in Gandhian economics. They were amazed to find that this village industries complex of the Palm Gur Federation provided all the material needed by them for their research.

Comprising a mere 4½ acre plot, this industrial complex produces many consumer articles, for both home and foreign consumption. The Palm Gur Mill is at one end of the complex.

The ancillary industries are housed around the mill. Let us take a look at the products manufactured in this complex.

We first start with the products made out of palm fibre and palm leaves. A variety of colourful articles catch your eye. Baskets, boxes, cots, chairs, bags, etc., all made of palm leaves and fibre, but in design and finish competing with the most stylish products of the plastics industry.

Looking at these articles, we bemoan the lack of publicity, as otherwise these articles would have been more popular in the market.

Toughest carpentry job

Next we visit the section where utility articles and vanity pieces from seasoned palm timber are manufactured. Generally such seasoned wood is formed inside a mature tree, and could be got at only after hacking away the thick outer layers encrusting it.

Thus the timber available is only of 6 to 9 inches thickness, and from this timber beautiful articles like walking sticks, table lamps, curios, etc., and cute vanity bags of milady are manufactured here. Tough palm timber is made up of fibrous veins and demands exacting labour for paring and polishing. To make these fancy articles from this wood hefty carpentry skill is required.

We next move on to the section where brushes and brooms are manufactured. Brushes required for cleansing houses, Railways, hospitals, workshops, etc., are

made here. The fibre to make brushes are exported to the United States. Tamil Nadu exports fibre worth Rs. 25 to 30 lakhs annually.

Nutritious palm candy

Tamil Nadu is traditionally famous for the manufacture of nutritious palm candy directly from palm neera. The technique of making candy has been improved today, resulting in the production of quality candy, wrapped in dandy foils. Ginger, cashewnut, milk and orange are used in the preparation of candy. Sweetmeats like laddu too will be prepared shortly. The quality of the sweets manufactured from palm candy is far superior to that of any other products in the market. The manufacture of sweets provides part-time employment for women



and children from the adjoining rural areas, which supplements the family income. Mostly the children are employed to wrap the candies in colour paper.

While large firms utilise huge machines for manufacturing sweets, this unit manufactures toffees with the help of small machines and a large number of part-time workers.

The section for preparing delicious drinks is close-by. Squashes, Sherbets, Jams, etc., are prepared from palm sugar. Tinned fruits are preserved in palm syrup.

Ingenius experiment

Experiments have been conducted to can ice-apple (Nungu). The preservative is palm syrup. The experiment has been success-

ful and the possibilities of exporting Nungu are under study. Two Americans who tasted the canned Nungu have assured that there will be a great demand for Nungu as a dessert dish in their country. With due publicity on a large scale the canned ice-apple (Nungu) will be an important foreign exchange earner in the future. Samples of this ice-apple have been sent to Germany in the interest of this trade. The canned ice-apple retains its freshness for a year. It is estimated that the Unit at Madhavaram alone will fetch Rs. 10,000 annually through the export of the ice-apple. The potentialities of tapping the State's nungu resources for this trade seem to be really enormous. The delicious taste of this ice-apple can be depended on for obtaining a global market.

The products of the Palm-Gur Federation are indicative of ingenuity and bold initiative, without undermining the philosophy of labour-intensive industries for village regeneration.

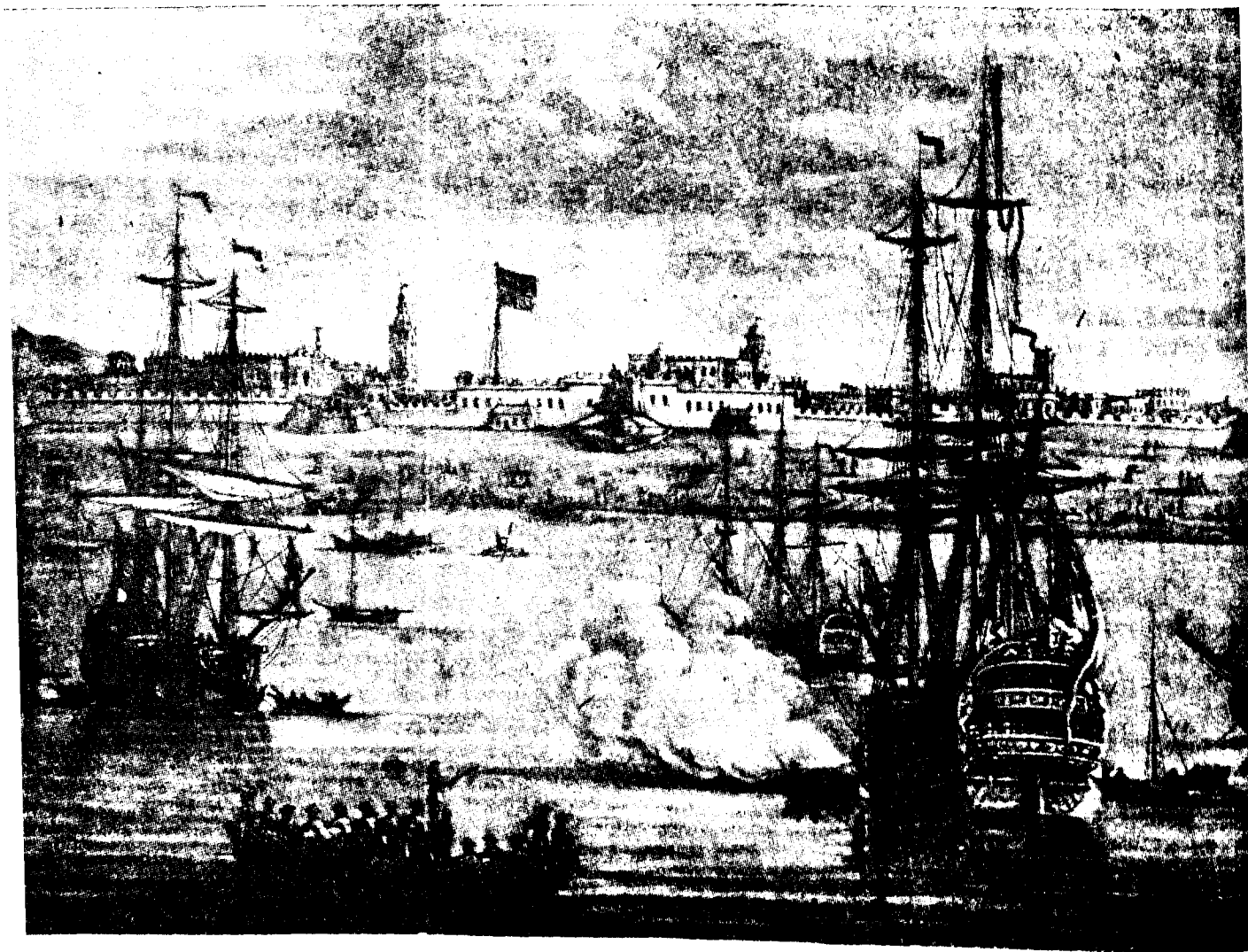


Palm toffees being rolled in wrapper.

employ all means to force them out of the town; upon which they retreated out of shot of the Fort." They returned, however, with additional strength, and for eight months they besieged the stronghold, but without success; and finally, they wearied of their hopeless endeavour, marched away. Madras changed hands on many occasions both among Europeans and Indians but the British always had the sagacity

to buy off the Victor. The fascinating fact about their deal is that they always gained an additional territory or concession when treaties were concluded. The acquisition of Chennapattinam, Madraspattinam, Mylapore, Eelu-yoor or Elumboor and Thiruvottiyoer would testify to these facts. The annexation of the territories of the Nawab of the Carnatic, the scandals that attended the Carna-

tic debt, the annexation of Tanjore the conquest of Mysore and Maharashtra territories, and the transformation of the Poligars into Zamindars are chapters which testify to the diplomacy and tact which made Fort St. George a mighty territorial power. It was the treaties, sannads and deeds which became the primary weapons rather than the armaments on which the Empire depended. (To be continued.)



View of the Fort Saint George in the time of Governor Pitt 1698 - 1709.

EVENTS IN PICTURES

Health Minister being shown the first child born at the Arignar Anna Maternity Centre, Aranthangi.

The President being received by the Governor.

Fishermen Families uprooted by Kalpakkam Atomic Project housed in Padur Housing Colony.

E.S.I. Scheme for families of workers extended to Vikramasingapuram.

Celebration of U. N. Education Day at Rajaji Hall.

The New Office Buildings of Panchayat Union is being declared open.

Sir A. Ramaswami Mudaliar receiving the "Padma Vibushan" Award.

Opening of T. V. Sundaram Iyengar Statue at Madras.

Some flats in the new P. R. Road Estate.

Thanjavur ART PLATE

Thanjavur has the distinction of being the fountain head of Art and cultural tradition of the Tamils throughout the ages. It has been the capital of Cholas, the Nayaks and the Marathas. Each one of them have contributed for the enrichment of the culture of the Tamil people.

The tradition continues even today. Among the many art works of Thanjavur, the "Art Plate" has earned a name for itself because of its intricate workmanship. So much so the Art Plate itself is known as "The Thanjavur Art Plate". This is a peculiar art consisting of inlaying Silver on brass and opper—the type of which cannot be found any where else in India.

Images of various shapes and designs depicting scenes of Hindu mythology or the various avatars (incarnations) of Vishnu and other Hindu deities are engraved and inlaid with silver. They adorn the best houses in all cities like Madras, Bombay, Delhi and Calcutta and even in foreign countries. They are an eloquent testimony to the skill and artistry of our craftsmen. The Thanjavur Art Plate is the first choice among articles of presentation to visiting dignitaries.

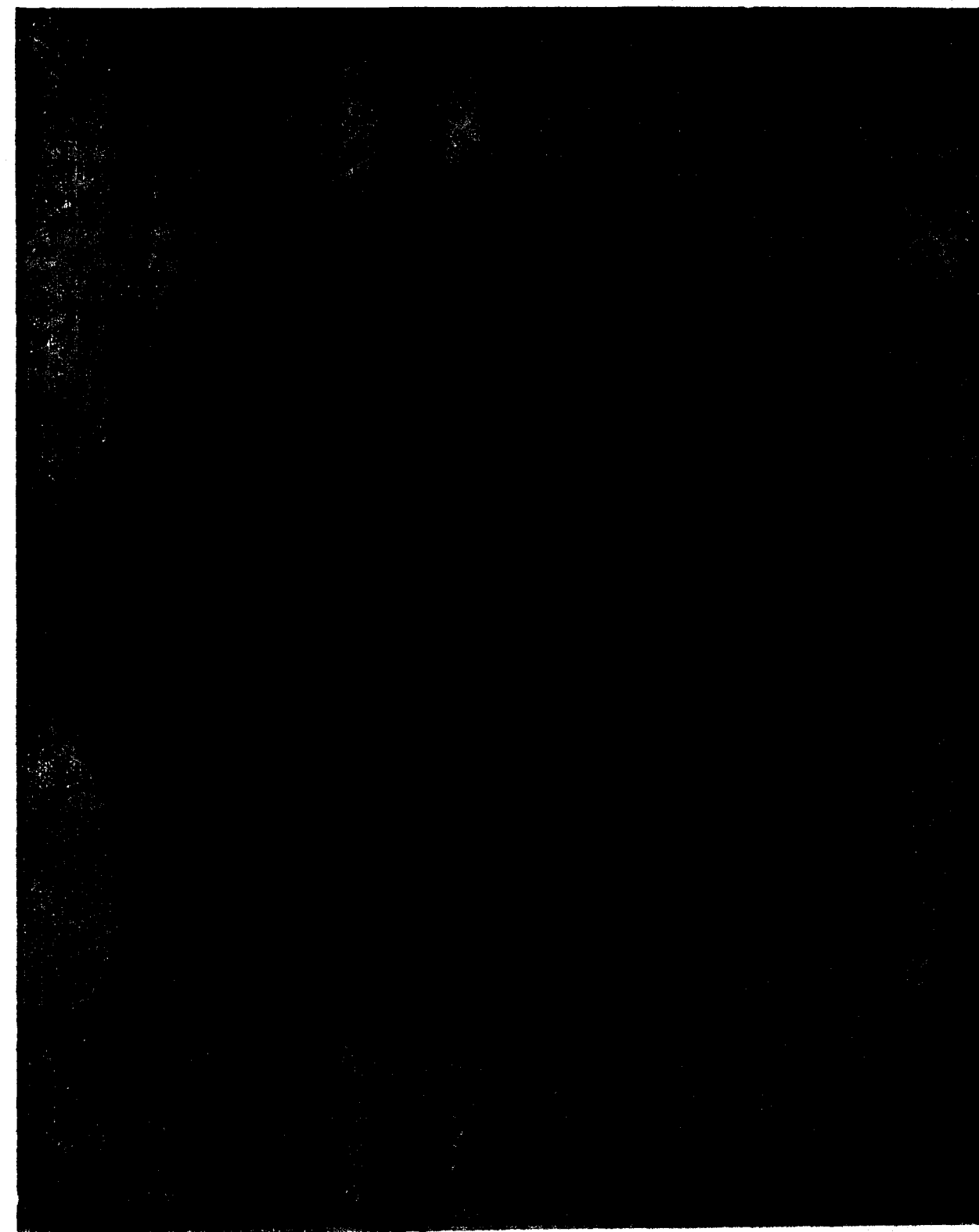
In fashioning these plates, four craftsmen work as a team. One is an expert hard-metal-worker, the other is a skilled jewel maker;

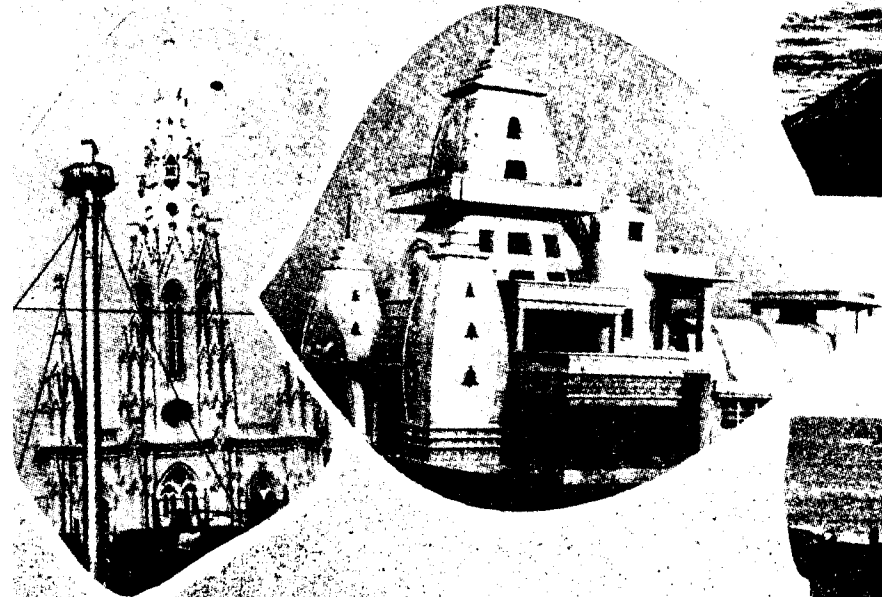
the third an expert diamond setter and the fourth a good hand at delicate metal work. But whether the metal art work of Thanjavur is a refinement of or improvement upon the equally famous Bidri Plate is still uncertain. In Bindri plate the brass plate which forms the base, is cut with grooves and inlaid with decorated reliefs. The reliefs are on the same level as the surface of the plate. But in Thanjavur Plate, the reliefs are encrusted on the base plates which facilitate the use of three dimensional figures thereby enlarging the scope of intricate work. This is a distinct contribution made by the artisans of Thanjavur. Again in Bidri plates, the designs are only floral decorations in the pure Moslem tradition. In the Thanjavur Plate mythological figures are embossed amidst floral decorations. Thus the creative imagination of the local artisans appears to have been superimposed on the imported art and a product of great artistic value has been produced.

Though this ornamental work of engraving and embossing images and floral decorations was originally confined to making of plates, other articles like cups, tumblers, bowls, caskets and jewel boxes came to be made subsequently. In the case of

these articles also, the base material is brass on which embossed reliefs made of copper and silver are encrusted. Of late, a few of the enterprising craftsmen who have sufficient capital have attempted new articles and have made ornamental ash-trays, mirror-stands, photo-stands and flask covers.

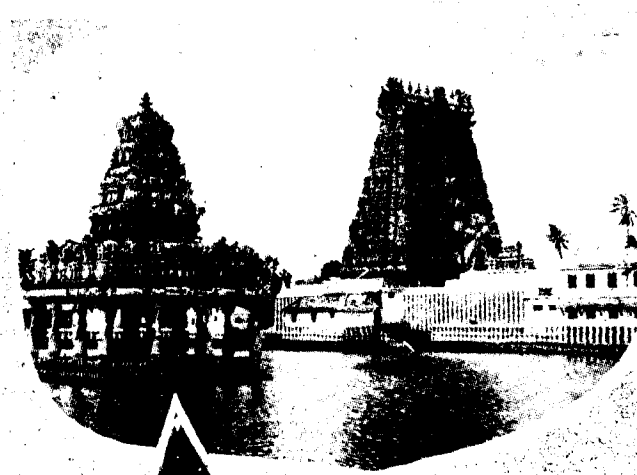
According to a Tamil saying, "the first, the best and the most perfect of instruments is the human hand". In the art plate of Thanjavur it is the hand of the artisan that fashions all the sophistry, that we see in it. No machine or power is employed in its making. To see a workman draw the details of the design, chisel out and refine the beautiful images and floral decorations thereby showing a high degree of skill, certainly enriches the aesthetic experience of an onlooker. The decorative art plate of Thanjavur which is a fine example of the artistic crafts of India, is worth preserving. ☉





KANYA KUMARI

The Land's end of India, Kanyakumari
 is in itself a fairyland,
 Washed by three oceans, and
 Lashed by winds of both monsoons,
 Nature goes on a rampage here,
 Ripening fruits twice a year
 While the rest of India has to be
 Content with but one season of fruits.
 Not lagging far behind nature's
 Exuberance, skilled artisans have
 Erected an abundance of temples and churches,
 As also memorials to Vivekananda and Gandhi.
 Palm-fringed canals and pleasant roads
 Unwind miles and miles of loveliness
 To enchant every visitor.



With the increasing tempo of urbanisation the old world charm of natural atmosphere are slowly giving place to the monotonous town atmosphere. Hectic Town life which has become the daily routine for the urban people slowly eats away their health and energy. They can recoup their health and energy only in calm natural atmosphere away from the urban and industrial areas. There has been growing awareness in western countries about this need and they are developing even small places into major centres of holiday camps for rest and recreation.

Tamil Nadu abounds in such places. Courtallam is one such place which has the major attraction of cataracts. Since these falls are also reputed to possess medicinal properties capable of curing many an ailment the attraction becomes much more. In fact there are very few places

in the world which can be compared to the Courtallam. In the words of Caldwell it is the "finest fresh-water bathing place in the world".

The season

The season at Courtallam begins with the setting in of the South-west monsoon in June and extends right up to the end of September. Small hills of 2,000 to 3,000 feet in height surround Courtallam, which is situated on a low plain 550 feet above sea level. The annual rainfall is 58 inches and is ideal for those who would like a quiet holiday or a rest-cure. Courtallam lies between Tenkasi and Shenkotta on the Madras-Trivandrum route of the Southern Railway at about three miles from Shencottah, covered by a good motorable road. The place is less expensive than the larger and more sophisticated stations which the middle class of today find beyond their means. On this account alone it is well worth a visit.

Its pleasant climate, wealth of brilliant flowers, delicious fruits and tasty vegetables are an inducement which is beginning to draw visitors from abroad. Hills, dales, cataracts and rivulets everywhere make for enchanting scenic beauty and offer lovely picnic spots.

The greatest attraction of Courtallam is the water-falls Vada Aruvi. During the June to September season as also from November to January the period of North-East monsoon the water-falls Vada Aruvi—one of the most striking natural beauties, is in full flood. It is by this cascade, the Chitrar makes its final descent into the level country. To an observer from the foot, the river comes first into sight rushing headlong from the forest above over a precipice nearly half-way down, a deep trough in the face of the rock known as the (boiling sea) Pongumakadal breaks the fall. It is beneath the mass of water issuing from this basin and in the pool lying at the foot of the fall that all classes of people delight to bathe.

Greatest attraction

"What conduces much, to the restoration of the invalids at this signal abode is the little water-fall under which most of the Europeans daily bathe. This cataract is, by a division of a rock above, separate from the greater one and is not more than 13 or 14 feet high. The falling of the water, after the first shock is over, gives an indescribable feeling of pleasure. By its constant beating it quickens the circulation and produces a fine glow all over the body; and has, besides the further good effects of dispelling langour raising the spirits, exciting appetite, and promoting digestion in a superior degree to any other kind of bathing that we are acquainted with."

A big arch with iron railings has been provided to protect the bathers and nearly 200 people can take their shower at a time. Separate arrangements for bathing have been made for men and women. It is said that the water has curative and health giving properties as it takes its long course in the hills rich with herbs of medicinal value and minerals.

Other features

In addition to this main cataract, there are other falls such as Five Falls and Chitharuvi, resorted to by the selected and the glorious Honey

Finest fresh-water bathing place in the world

falls or Thenuruvi and Shenbagadevi Falls in the interior of the forest. Just a mile in the South from the main falls is the Tiger falls and still farther about three miles away is the old Courtallam falls which is an imposing cascade (front cover) to which too bathers resort.

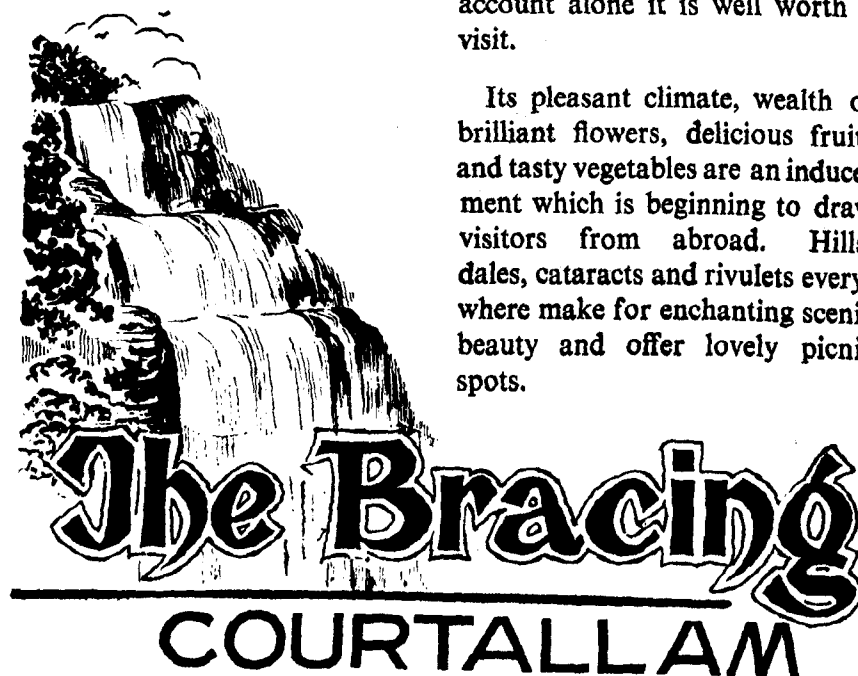
The Courtallam hills abounds in spices, honey, jack fruits, etc. There is a Model Orchard Centre at Courtallam. To the botanist and the sportsman the jungle around Courtallam is equally

delightful. As early as 1835 Courtallam neighbourhood was explored and actually 1,200 species of flowering plants were collected in an area of twenty square miles. It was calculated that at least 2,000 species were to be found and that the ferns were almost equal in number. Sambur and Ibex are fairly numerous. Little spotted deer are less common. Tiger make occasional descents. Wild pig, wild goat, wild buffaloes, jungle-fowl, and spur-fowl are plentiful.

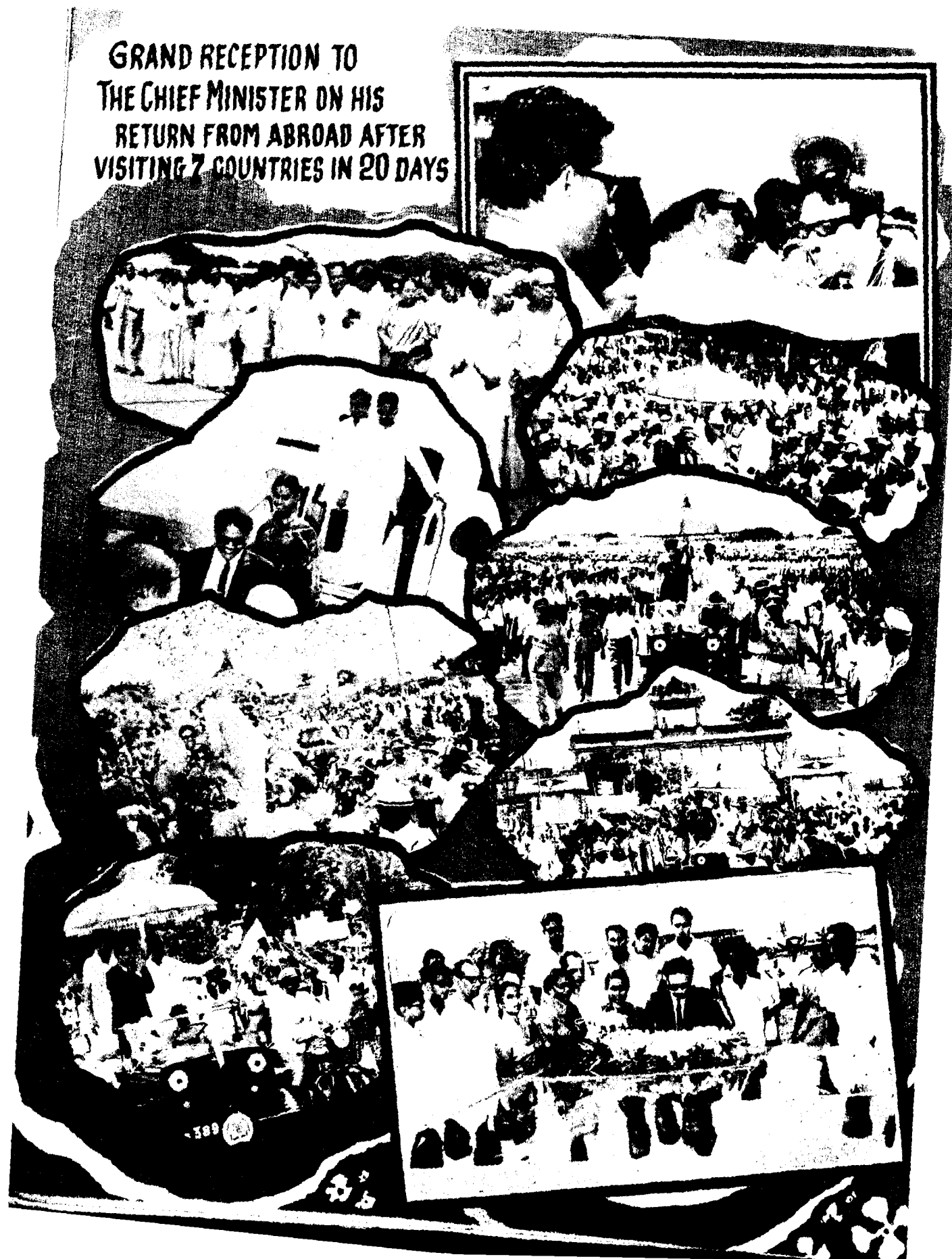
A Holy place

A fine temple dedicated to Lord Courtallanathar and another temple known as "Chitra Sabha" are other attractions. In fact these Shrines were the Central feature of Courtallam till its value as a sanatorium was discovered. Saint Thirugnana Sambandar who lived in the 8th Century A.D. sang in praise of the Lord Courtallanathar, His Consort Kuzhalvai Ammai and the falls. Another of the four Saivite Saints has also sung in praise of the Lord here.

According to legend Lord Nataraja is said to have danced in five places in Tamil Nadu which are named "Sabhas". Courtallam is one among these holy places and is called "Chitra Sabha". The Lord Nataraja and his Consort Sivakami Ammai are painted here in their usual posture. The famous lyric "Kutrala Kuravanji" of Thirukuda Rasapa Kavirayar deals with the love of the Eternal Pair.



**GRAND RECEPTION TO
THE CHIEF MINISTER ON HIS
RETURN FROM ABROAD AFTER
VISITING 7 COUNTRIES IN 20 DAYS**



GIANT STRIDES IN MARINE FISHERIES

A. D. VENKATASWAMY, B.Sc.,
Assistant Director of Fisheries (Information and Statistics)

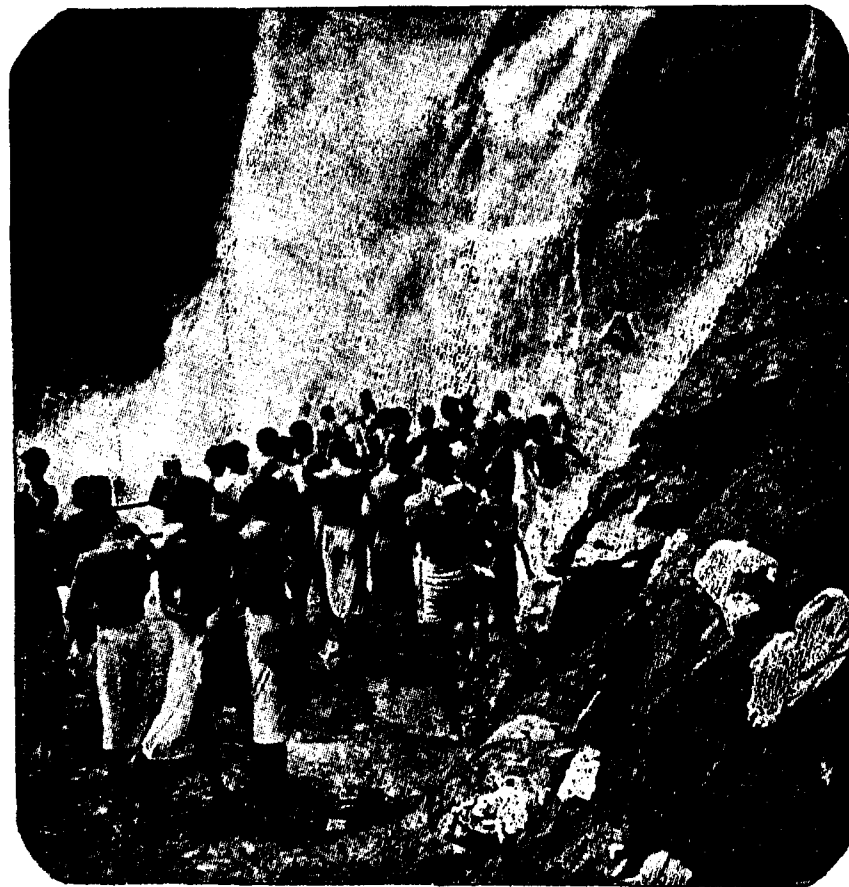
Marine fish production in Tamil Nadu has increased rapidly in recent years, with the result that among the nine maritime States in India, it ranks second in respect of marine catches, accounting for 15 per cent of marine fish landed in India. A beginning was made in the export of fish and fish products from the State in 1968-69 to the tune of Rs. 1.70 crores. While this progress represents merely the near shore operations with mechanised boats, the prospects for the industry with trawlers in deep-sea fishing to be inaugurated in 1971 are immense.

In this field, Tamil Nadu will be competing with fishing vessels from Russia, Japan, South Korea, Taiwan and Ceylon in the Bay of Bengal for the tuna fisheries.

The construction of a major fishing harbour at Royapuram in Madras to accommodate 400 mechanised boats and 50 fishing trawlers is under execution by the Madras Port Trust, and is expected to be completed by the middle of 1971. Similarly the construction of a fishing harbour at Tuticorin, is under execution by the Tuticorin Port Trust and, is expected to be completed in 1972. On completion, this harbour will also provide berthing facilities for 400 mechanised boats and 50 trawlers. In addition, proposals for construction of a fishing harbour at Colachel in Kanyakumari district, is under consideration of the State Government.

Fish production in Tamil Nadu has been stepped up from 78,000 tonnes per annum at the beginning of the First Plan period to 3,32,205 tonnes at the end of the annual plan 1968-69. During the above period the world production of fish increased from 20 to 56 million metric tonnes. The relatively poor production is mainly due to the dependence on the traditional types of fishing in the limited and much exploited narrow inshore region bordering the coastline with meagre yields per unit effort. Even with the mechanisation of the fishing crafts, the area of operation is confined only to the inshore region of the coast. This is chiefly due to the lack of adequate information on fishing grounds





Such is the grandeur of Courtallam hills also known as Pothigai Malai and Agasthyar hills in ancient literature. It is one of the loveliest tourist centres of the South, sacred place for Hindus, a paradise for hunters and holiday makers and it also abounds in hill produce. No wonder then Bishop Caldwell should have described it as one of the World's best falls.

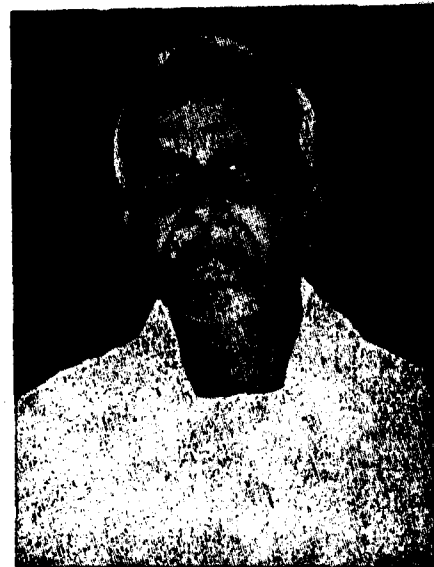
As it is becoming increasingly popular the Government of Tamil Nadu has taken steps for providing the necessary amenities for tourists. A Tourist Bungalow has been constructed at Courtallam. It is also under consideration to improve the centre further under an integrated plan. Other important boarding and lodging houses are Dalavai House and Travellers Bungalow. The Forest Rest House provides lodging facilities only.

O. P. R. PASSES AWAY

Thiru O. P. Ramaswamy Reddiar, former Premier of the composite Madras State passed away at Madras on Tuesday, the 25th July 1970.

Born in 1895 Thiru O.P. Ramaswamy Reddiar hails from Omandur in South Arcot District. He was a prominent Congress worker since 1926. He courted imprisonment four times during the freedom struggle. President of Tamil Nadu Congress Committee in 1938, Premier from 1947 to 1949, and Member of the Legislative Council from 1946 to 1969, he had eschewed politics since 1952. After retiring from public life he settled in Vadalur.

The news of his death was received by the Speaker of the Assembly Thiru K. Govindan by 1 p.m. and he announced the sad news and adjourned the House. The Legislative Council passed a condolence resolution moved by its Chairman Thiru C. P. Chitrarasu and adjourned for the day. The Chief Minister, and other Ministers placed wreaths on the body before it was taken to Vadalur.



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and availability of fish in the offshore region and harbour facilities for the quick unloading of the catches and protection from the vagaries of nature. It should be possible to double the catches by putting into operation large trawlers, equipped with modern electronic equipment, such as Echo-Sounder, Radio telephone, Radar, etc.

In the field of mechanised fishing, significant advance has been made during the last decade in the State. As a result of experiments conducted on different lines such as motorisation of indigenous canoes, trials with surf landing boats, and designing of new type of boats suitable for our sea conditions with the assis-

tance of F.A.O. Experts, a 25' boat called the "Pablo Boat" (P. Bs. with 10 to 15 H.P. engines) and later the 30' "Illugason Boat" (I. Bs. with 30 to 37 H.P. engines) were evolved. These boats facilitated trawler net operations. The survey of fishing grounds carried out by the Department off Rameswaram, Cuddalore and Madras has established the fact that rich trawling grounds for prawns and silver bellies, etc., do exist. In order to improve the cruising range of the boats, the Department switched over to 32' boats with 37 to 45 H.P. engines. Further experience has shown that 35' and 43' boats of a new design with 60 H.P. engines will be more productive. Construc-

tion of these boats has been started since 1967. Even though mechanised fishing boats are being built in this country for more than 15 years, building of deep sea fishing trawlers is comparatively of recent origin. The first deep sea fishing trawler was built by the Mazgaon docks in the year 1964. They have built 40 more (57 ft.) Jheenga type trawlers of 17.5 metric length. Out of these 40 trawlers, The Tamil Nadu Government will be getting four trawlers.

Exploring fishing grounds

Accurate knowledge of fishing grounds, big fishing harbours for providing shelter and operational facilities for large fishing vessels, trained crew and skilled workmen for the operation of big trawlers and adequate finance—all these are important factors for the advancement of the mechanisation programme of the Industry.

The inshore waters are being surveyed by the Inshore Fisheries Survey Stations at Madras, Cuddalore and Rameswaram. The F.A.O. Expert Mr. Illugason has already assisted us in the survey. The Government of India Offshore Fishing Unit at Tuticorin is surveying the offshore waters in and around Tuticorin. The offshore and the deep sea waters around Madras and the area between Madras and Mandapam are to be surveyed.

Berthing facilities

The most important requirement for development of fishing industry is proper berthing facili-

ties for the mechanised fishing boats and big trawlers. Under the Five-Year Plans, small fishing harbours (First stage) have been established in Cuddalore and Nagapattinam and landing Jetties have been provided in Porto novo (South Arcot District), Rameswaram, and Mandapam. These harbours and jetties have been designed to accommodate mechanised boats up to 36' in length. They cannot be utilised by the trawlers and other bigger boats. It is necessary that when the trawlers return with the catches, adequate facilities are made available for quick unloading of the catch, storage, supply of ice, water, etc. Two schemes for the construction of fishing harbours at Tuticorin and Madras (Royapuram) at a cost of Rs. 200 lakhs and Rs. 388 lakhs respectively have been approved by the Government of India as centrally sponsored schemes, both harbours will be ready for use soon.

Berthing facilities for 50 trawlers and 500 mechanised boats in each of the two harbours will be available. The construction of these harbours will be a major break through and is expected to provide adequate facilities for the *exploitation of fish* in the offshore regions along the coast of Tamil Nadu and in the deep seas of the Bay of Bengal. Another fishing harbour at Colachel in Kanyakumari district is also planned as a State Scheme.

Trained personnel

Another important factor is the availability of trained personnel to man the offshore and deep sea fishing trawlers. A fishing trawler needs a skipper, an engineer, a second hand and three or four deck hands. At present only a few trained persons are available to operate any one of the bigger type of fishing boats and trawlers. The Government of India have established the Central Institute

of Fisheries Operatives at Cochin where they give training to these personnel. A similar institute has been functioning in Madras since February 1969.

The Central Institute of Fisheries Operatives has a very significant role to play in training persons for the operation and the maintenance of fishing trawlers in the east coast of India.

Lastly the availability of finance plays a very significant part in the proper development of the fishing industry. The funds allotted under the public sector alone will not meet the entire demand. Hence for large scale fishing operations by utilising big ocean going trawlers we must have to look to other sources also. Real break through in the development of fisheries is possible only with the active participation and involvement of the private entrepreneur. To exploit the untapped resources of Tamil Nadu coast



this is the time for the private entrepreneurs and fishermen's co-operatives to participate on a large scale. The resources of Commercial banks could be utilised in a big way to fulfil the needs of the fishing industry. Other institutions such as the Industrial Finance Corporation of India and Agricultural Refinance Corporation are ready to finance the industry.

The Technological side.

Tremendous advance on the technological side of the fishing industry has been made. The latest techniques on fish preservation and fishing crafts with various latest electronic devices and gear made of nylon twine, are being utilised in all the advanced countries. In India, modern methods of preservation by freezing and canning have been established. A large number of freezing plants and canning factories have sprung up all along the west coast of India. Processing by freezing

and canning has been taken up in Tamil Nadu also. The first freezing plant with a freezing capacity of 3 tonnes of fish per day was established at Ennore. It was leased out to a private entrepreneur. The freezing plant erected under the Indo-Norwegian Project at Mandapam is to be commissioned shortly. One more freezing plant is being established at Tuticorin.

In addition to these, a number of smaller freezing units have been established under the private sector in Madras City and in Cuddalore. In the proposed fisheries harbours both at Madras and Tuticorin, sites have been set apart for the establishment of processing plants both in the public and private sectors. The department undertook establishment of a canning factory (pilot plant) in Tamil Nadu at Tuticorin with a capacity of producing 5,000 cans per day. This factory has been leased out to a private entrepreneur.

A fish meal plant incorporating the latest technique with a capacity of 50 tons raw material daily is nearing completion at Mandapam.

Availability of suitable machinery and equipment is an essential pre-requisite for the proper development and success of the deep sea fishing industry. Importing the machinery will not only mean drain of foreign exchange towards initial cost, but will also impose a recurring burden on our limited foreign exchange resources towards its maintenance. On the other hand, if the necessary equipment is manufactured indigenously, the equipment as well as spares and services would be available locally. This would also provide employment to a large number of persons.

Electronic equipment

Electronic devices are being increasingly used for fish detection and navigation. Fish finders,

radio telephones, radar and direction finders are some of the most important electronic equipment used on fishing vessels. All the requirements of electronic equipment are met by imports at present. The Indian electronic industry has shown interest in the manufacture of these devices and prototypes of some of the equipment have already been built and tested.

In the Fourth Five Year Plan, schemes have been included for the construction and distribution of 1,525 mechanised boats through departmental Boat Building Yards and through the Fishermen Co-operative Federations. In addition, under deep sea fishing scheme, the working group of the Government of India has recommended that 70 trawlers operate off Tamil Nadu coast from 4 bases including Madras and Tuticorin harbours against an overall total of 300 for the entire country. Four trawlers have already been ordered and two of them are likely to be received during 1970-71. Against this, in the Fourth Plan, provision has been made for operation of 4 trawlers by the department and 66 by private entrepreneurs. By implementing the above two schemes the total fish production by the end of the Fourth Plan will be in the order of 5 lakh tonnes, i.e., double the present landings.



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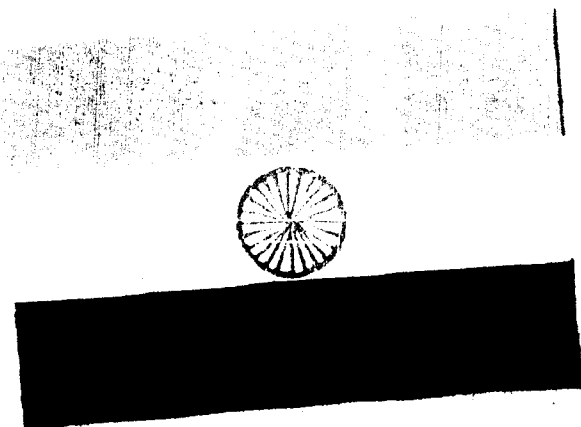
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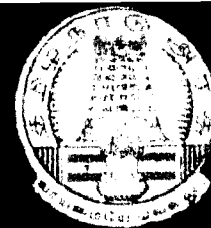


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TAMIL ARASU



This is the design of the proposed Flag of the State of Tamil Nadu, which has been sent to Government of India for approval. In the communication dated 23 May 1970 it has been made clear that the proposed Flag will be used by the Ministers within the State. It will not replace the National Flag, which will be flown as usual during National Festivals and over Government offices and buildings.



Tamil Arasu



CAN THE SAND DUNES OF TIRUNELVELI BE TAMED?

HOPE FOR THE COSTAL LANDS

Thiru K. R. THIRUVENKATASWAMY, B.Sc., (Ag.), *Agricultural Engineer Soil Conservation Training Centre, Tirunagar, Madurai-6.*

A survey of the coastal lands in Tirunelveli District, ravaged by wind erosion, waterlogging and salinity, reveals that wind erosion has devastated the largest area of cultivable land and what is more menacing, is that this will spread to adjoining areas to the tune of 2.98 lakh acres if proper methods of prevention and control are not taken up expeditiously. What is now lying as desolate sandy patch can be transformed into cultivable lands yielding the much needed food grains, cotton, pulses, etc., by execution of the protective measures. If exploitation of underground water is linked with the reclamation of sand dune areas, crop production can be increased manyfold. The waterlogged and saline lands can be reclaimed for growing rice, coconuts and plantains.

The length of the coast in Tirunelveli district is 150 kilometers from north to south. The

maximum temperature is 108° F and minimum 80° F. The west and south-west parts of the district are hilly regions with steep slopes and the coastal taluks have mild slopes. The area between the hilly region and the coastal taluks is the plateau region. Major part of the hilly regions is covered with natural vegetation and with plantation crops in certain parts. The plateau region is covered with field crops and so also the plains adjoining the coast. Several rivers and streams originate from the hills and confluence with the Bay of Bengal in the east. Notable among them are Thambiraparani, Manimuthar, Chittar, Jambunadhi, Ghatanadhi Pachiar, etc., besides other small rivers which serve as drainage courses.

Rainfall and soil

The distribution and amount of rainfall vary widely from the hilly region to the coastal plains.

The hilly region receives 1219 mm. of annual rainfall, the plateau region 977 mm. and the plains 600 mm. The coastal areas are benefited more by the north-east monsoon rains. The distribution of rainfall is quite erratic and uncertain. Every third year is a scarcity year, every 7th year a medium year and every 10th year a good one as far as rainfall and yield of crops are concerned in the coastal areas.

The soils of the district are formed from Gneissic rocks. Red soil is found in most parts (up to 62 per cent of the area) of the district and the rest is black soil derived from basic rocks found at the north and north-east portion. Kankar deposits are found in black soil areas at 2 feet depth. The coastal areas abound in sand dunes of varying sizes over the red soil areas and as such the natural soil formed cannot be seen. A very narrow portion of the coast is strewn

with white coastal sand. The soil is deep, adequately fertile, well drained and so any crop can be raised without limitation.

Agricultural practices

The total land area of the district is 28,21,000 acres and out of this 11,18,000 acres being under cultivation work out to 39.7 per cent. Out of the 11,18,000 acres, 6,006,186 acres come under irrigated crops and the rest under rainfed cultivation. Irrigation is provided through the Thambiraparani system and several tanks in the district. Most of the tanks are fed by canals drawn from the reservoirs. Rice is cultivated in 30.6 per cent of the area followed by cotton having 17.8 per cent and cumbu with 15.8 per cent area. Rice is grown in two seasons in a year.

Sowing in dry lands commences from September in the red soil tracts and in black soils sowing is taken up after three weeks. Of course the actual time of sowing is dictated by the onset of monsoon rains. In some parts, a few enthusiastic cultivators have sunk wells and have taken up the cultivation of plantains, chillies, rice and cholam. Some well to do people have constructed concrete structures of three inches thickness at 12 inches depth and have started cultivation of rice in the sand dune areas. Cholam, cumbu, cotton, groundnut and horsegram are sown under dry conditions. Large areas in the coastal taluks are left without

cultivation due to the deposition of sand and there are no irrigation facilities. The extension of sand dunes on the lands is the principal cause for neglecting these lands.

Palmyra is extensively grown in the coastal lands and is nursed like any other field crop with regular manuring and root pruning. Growing palmyra palms gives employment to thousands of people in these parts. Every part of the palmyra tree is useful and fetches revenue. Besides the sweet juice extracted from the flower stalk is used for neera and for making jaggery. The leaf is used as thatching material, making toys, etc. and the trunk is used as rafters in building houses.

Palmyra and Udai

Another interesting cultivation practice in the sand dune areas is the growing of Udai trees (*Acacia planiferons*) for fuel. The trees grow to full height in five years and the trees are cut for fuel leaving the stump for coppicing. Just after felling, brinjal is grown in the field for one or two seasons. No manuring is done to the field as there is good amount of leaf litter and organic matter. Cumbu is cultivated during the third year after felling and afterwards the trees are allowed to grow. The cultivation operations carried out for brinjal and cumbu aid better growth and perennial crops are grown in these parts with best advantage. The cultivator reaps handsome returns by this practice.

It is the coastal area of this district which is affected by a variety of problems. The chief of them are wind erosion, salinity and alkalinity, water logging and excessive infiltration capacity of soil.

Wind erosion

After the north-east monsoon rains, very little rainfall is received during the winter months and hot weather period. The cultivated lands are free from any crops after the harvest of the field crops during January. The vast stretch of uncultivated lands are also devoid of any vegetation during this period. Due to continued dryness, the soil in these lands become friable and loose. At this moment the wind starts blowing with velocity upto 75 kilometers per hour from the second fortnight of April upto

ANNA ON SOCIALISM

"Socialism I should say, is not merely one amongst many patterns of economic activity—it is as much a fact as it is a system. It demands not the head alone, but more especially the heart. It is not sustained by charts and graphs alone but by the sincerity and the spirit of the missionary. It is not bookish. It is born out of the notes of warning issued from the proper section—the groans of the down trodden."

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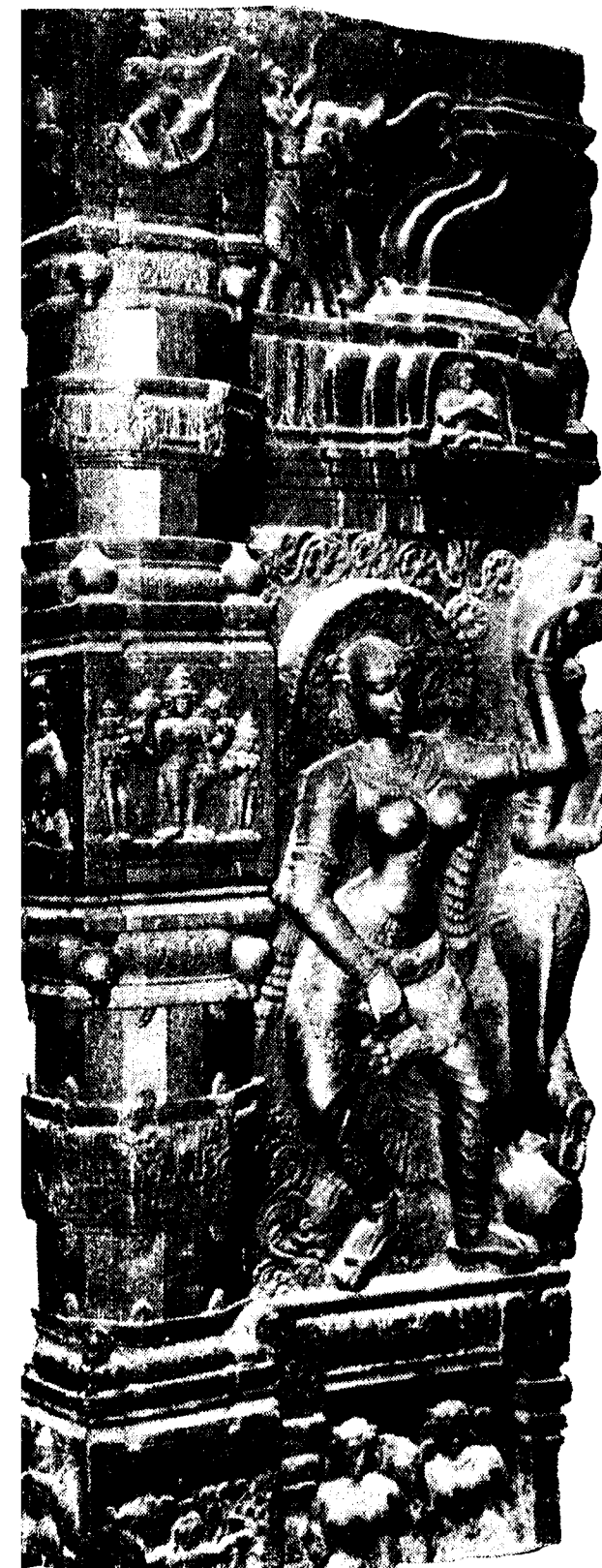
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Tamil Arasu

Vol. 1 SEPTEMBER 20, 1970 No. 6

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Cover Page.—Anna is ever with us.

September. In the absence of any vegetation to anchor the soil the loose friable soil is easily subject to detachment, transportation and deposition elsewhere, where the velocity of the wind is not able to keep the soil particles in suspension or to keep them moving. Further the blowing wind gains greater velocity as it advances through tracts in the absence of any obstructions. The wind becomes turbulent as it meets with uneven obstructions like houses, a few ill grown trees and sand dunes of varying heights. Further wind blows from the south-west and southern directions and when the winds from both directions meet, turbulence sets in and high dust storms occur. The land area is triangular in shape with hill at the western side and the pattern of the blowing wind causes severe soil erosion due to the turbulence. The soil from the cultivated land is subject to wind erosion and as such it contains all plant nutrients as in the case of the soil found elsewhere. The moisture retention capacity of the soil is much less due to the excessive infiltration capacity. Save this limitation, the soil is quite suitable to raise any field crop. The movement of sterile sand from the sea coast is only a fraction.

The soil movement is intensive along the coast to a distance of about 10 kilometers into the land; deposition of sand in some cases extends upto 22 kilometers inland. The height of sand dunes ranges from a few inches to 70 feet and the sand deposit has

—Continued on Page 42.



PEARL FISHERIES

Pearl fisheries and chank fisheries have been sources of revenue to the Tamil Nadu for ages. In the absence of any recorded history it is not possible to trace the origin of these 'industries'. In the very early days when Pandyas ruled South India, they were reported to have been trading in pearls. The Greeks, Egyptians, Moors, Arabs and Venetians have referred to the pearl fisheries in the Gulf of Mannar as among the notable sights seen during their travels. It was Marco Polo who recorded the first description of diving for pearl oysters in the Gulf of Mannar.

Pearl is the queen among gems. Unlike other gems, the pearl comes to us perfect and polished, direct from nature. It neither needs nor admits of any improvement by man. Its perfection

and purity, its soft gleam, its chaste and subdued beauty and its quiet dignity have fascinated and will continue to fascinate mankind for all times. Its magical charm has fascinated the uncivilised as well as the sophisticated and it is sought after and worn by the high and the low. Women of rank and refinement, of wealth and beauty, prize them more than even the dazzling diamonds.

The sources of pearls are fairly widely distributed throughout the world, but the places where profitable pearl fisheries occur are limited. In point of production and value and probably of antiquity also, the fisheries of Persian Gulf and Gulf of Mannar stand pre-eminent. According to London's Hatton Garden, the world centre of the pearl market, the pearls coming from the Gulf of Mannar are equal in quality to those coming from any other part of the world.



THE RAFFLE

The Tamil Nadu Raffle Scheme started by the Government of Tamil Nadu in the year 1968 was a new venture. The idea of the State conducting a raffle is not altogether new. The Scheme has been in vogue in some of the continental countries for decades and it has become a part of the normal routine of life of the people there. In India, the State Raffle Scheme started first in Kerala, though a raffle has been run in Orissa much earlier through private agencies. Now the Raffle Scheme has been introduced in almost all the States.

In the immediate and distinguished presence of Governor Sardar Ujjal Singh, the Scheme was inaugurated in Tamil Nadu by the late Chief Minister, Dr. C. N. Annadurai on 15th August 1968 in the Rajaji Hall. The Governor was the first to buy a raffle ticket from the Chief Minister.

Main features

The Scheme consists of a monthly draw. Though the draws

have been conducted in Madras till now, there is provision to conduct it in any of the District Headquarters. Twenty-one draws have so far been conducted up to the end of June 1970.

The Director of State Raffle is in charge of the Administration of the Scheme.

The tickets are issued in distinct and separate series. Each series is



THOSE TWENTY DAYS

M. KARUNANIDHI

4. COMBAT WITH LIONS

The vast open-air theatre called the Colosseum is an object of definite interest to all those visiting the City of Rome and no wonder tourists flock to have a look at the spot. Both the arena and the galleries of the Colosseum are gigantic in their dimension. This was the place where early Christians were thrown to battle bare-handed with ferocious lions while the monarchs who sentenced them to such cruel death, quaffed liquor and derived sadistic merriment from the sight of flowing blood as the savage beasts tore the martyrs to jagged pieces!

Standing in front of the Colosseum, I felt a surge of pity for the countless flowers of youth, branded guilty beforehand and thrust down the throats of lions in flesh and blood. "What morbid sport on the part of the kings of those times!", I mused. If the monarchs alone had been the spectators, it could be perhaps explained that they were after all arrogant beings, totally devoid of the milk of human kindness. But when we read that, besides the kings, citizens too used to throng at the amphitheatre in their hundreds of thousands to witness in unrestrained glee, the

gruesome spectacle of young lives caught between the teeth of lions and in the throes of mortal agony, we shudder in horror to think of the monstrous demonstrations of perversities, that are a blot on the history of ancient Rome.

MACABRE SIGHT

Only in course of time—during the 13th century, to be exact—did the Colosseum get transformed into a fortress for Rome; and when Renaissance swept through the Continent, earth for the construction of Churches came to be dug from the historic arena. In later times, the Colosseum was designated as a consecrated spot by the Popes, in view of the fact that innumerable Christian martyrs had laid down their lives there, the victims of the tyrannous verdict of heartless monarchs. With a goblet in one hand and a wench on the other arm and slowly succumbing to the intoxication of both, many thousands of citizens had gathered at the place, to revel at the macabre sight of their fellowbeings reeling under the powerful blows rained from the lions' paws and thrown down on the ground to bleed to death. Such a place was the Colosseum, 160 feet in height, 170 yards in diameter and having a circumference of 573 yards. It can accommodate 50,000 spectators in a single sitting. Facilities have now been made for tourists to visit the Colosseum at any time of the day or night.

The Rome Corporation had made all arrangements to receive us and take us round to the

places of interest. On behalf of the Council, they presented a Medallion to me at a reception. We saw many monuments all of them replete with paintings and sculpture and the sight-seeing mission was of such absorbing fascination that physical strain refused to make its presence felt on us.

BIRTH OF THE REPUBLIC

In many Art Galleries in Italy, the sculpture of a wolf claims prominence and there is an interesting background to this. According to a hoary legend of Italy, the City of Rome was founded by one Romulus during 54-53 B.C. Romulus was the first King of Rome and it is believed that the City was named after him. The same legend has it that Romulus was the son of Mars and Rhea Silvia, a vestal virgin. Abandoned by his parents for reasons beyond their control, the infant was suckled by a she-wolf and later, a hunter took charge of the boy and brought him up. Don't we find a parallel to this tale, in the epic of our own land, **Maha Bharata**, where Karnan, stated to be the son of the Sun, was abandoned by his mother and had to be brought up by a charioteer! In Italy, there are numerous works of art representing a wolf suckling Romulus.

Let us now have a brief dip into the history of Rome following the reign of Romulus. For about 40 years from the time of its founding, Rome was under Monarchy and the Kings, including Romulus, were seven in

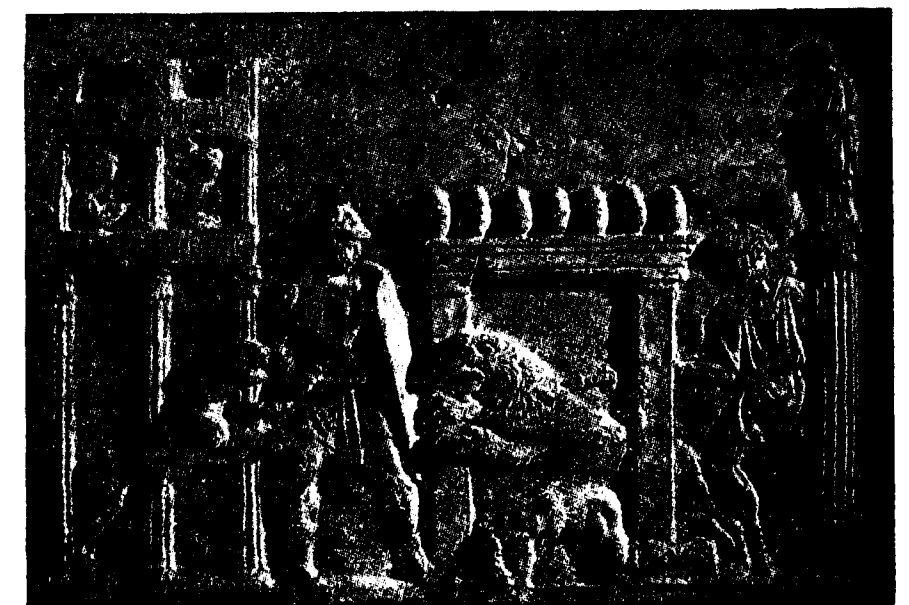
number. By 509 B.C. the citizens were roused against the tyranny of the Kings and they declared war on the institution of monarchy itself. The power and arrogance of the mighty kings, who had found heavenly bliss in the cup that inebriates and in the embrace of damsels, could not withstand the onslaught of the people's will. The maxim of Thiruvalluvar, that the tears of the oppressed would turn into swords and spears to erode the riches of the tyrant exploiter, took concrete shape and got into action in Rome and the result was that monarchy was swept to the corner of oblivion. The rout of the crowned kings marks a special chapter in the history of Rome and it signalled the birth of the Republic. The affairs of the Republic were managed in the main by the House of the people consisting of directly-elected representatives, the Senate comprising the lords, and functionaries

called "Consuls" who were elected from year to year.

HAVES vs. HAVENOTS

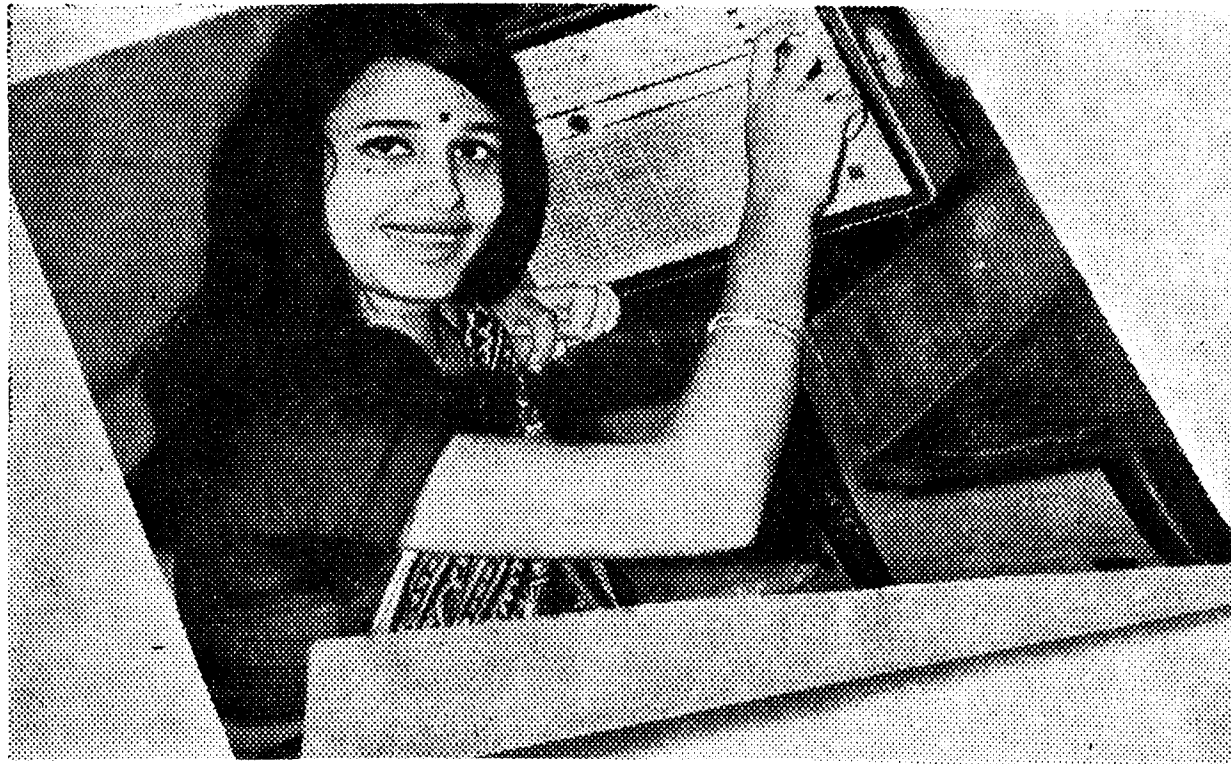
The important event in the history of the Republic was the struggle that took place between the haves—those who enjoyed political, social and economic rights—and the havenots to whom these fundamental rights were denied. May it be noted, however, that this struggle was conducted wholly within the ambit of the law and on the basis of absolute peaceability. Violence did not rear its ugly head at any point. Ultimately it was the havenots who won and there was complete equality of rights between the two classes.

Even while this struggle was on, Rome was engaging itself in the task of spreading its sway over other parts of Italy. The people of these areas, like the



The deadly Contest between lions and men in Rome's Colosseum as recorded in a bas-relief

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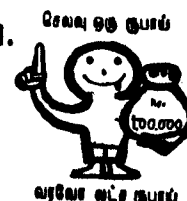
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The Director of Stationery and Printing, Madras, is in charge of printing the raffle tickets.

The price of a raffle ticket is Re. 1. The price of a ticket was however fixed at Rs. 2 for the nineteenth draw as a special case in which special Tamil New Year Bumper Prizes of Rs. 10 lakhs and Rs. 5 lakhs were offered.

Distribution of tickets

The Government decide the number of series to be released for sale for each draw, the dates for the movement of tickets from the Government Press to the districts and also the number of series to be released on various dates.

The distribution of the tickets in each series among the districts is done in accordance with the scale fixed for each district with reference to the nature of the district, the predominance of urban areas in the district and its size, population, etc.

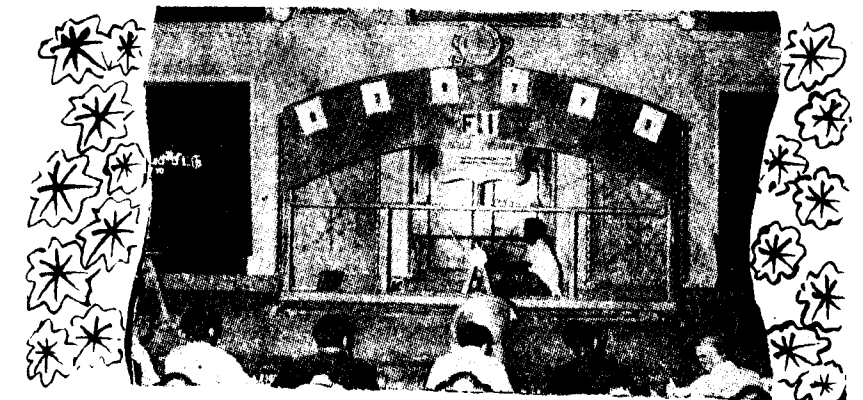
The Treasury Officer, distributes the tickets among the Sub-Treasuries in accordance with the scale of distribution made by the Collector of the District concerned. The Sub-Treasury Officers sell the tickets to the agents direct after collecting from them the value of the tickets less 10 per cent commission allowed to them. There is also a provision for Government to sell tickets direct to whomsoever they want. Till now this provision has not been made use of.



The New Year Bumper Prize of Rs. 10 lakhs being distributed.



The Pongal Special Prize of Rs. 5 lakhs being distributed.



The new mechanical draw machine.

latins, Samnites, and Etruscans existed the domination of Rome and the wars that were sparked off as a result, ran their course through 250 years. But final victory went to Rome which crushed all opposition and extended its rule to the whole of Italy.

RISE AND FALL

The domineering zeal of Rome did not stop with that. Rome sought to fly the flag of its influence over the Mediterranean region too. The Phoenicians, Macedonians and Syrians who were the prospective victims of this wave of Roman aggression, rose in militant strength to check the onslaught. But after a long-drawn-out fighting through 150 years, these regions too had to accept defeat and the disc of Rome's dominance started whirling in right earnest, in the Mediterranean landscape. Even at this stage, Rome's greed for imperialist glory was far from satiated. It proceeded to bring countries like Sicily, Spain and Greece under its domination and in the end, Rome was transformed into an Empire, with a vast number of countries in the shade of its overweening umbrella.

Decline set in soon afterwards on account of administrative defaults and lapses providing the raison d'être for popular dissatisfaction and unrest that built up into a revolution. The fire of this revolution kept blazing for a hundred years and this was responsible for the majority of changes that came over the Roman

Empire. In the beginning, leadership for the revolutionary movement was provided by Tiberius Grachus and Gaius Gracchus who had the welfare of the people at heart. But as the days passed, the control slipped into the hands of those who were steeped in selfishness and lust for power and as a predictable result, the course of the revolution took an ugly turn since it was coached to believe that success could be wrested through violence and armed strength. The upshot was that the centre of power shifted to the hands of the Army-Generals. That was the commencement of military domination which gave rise to a long line of Commander-Rulers, up to the time of Julius Caesar.

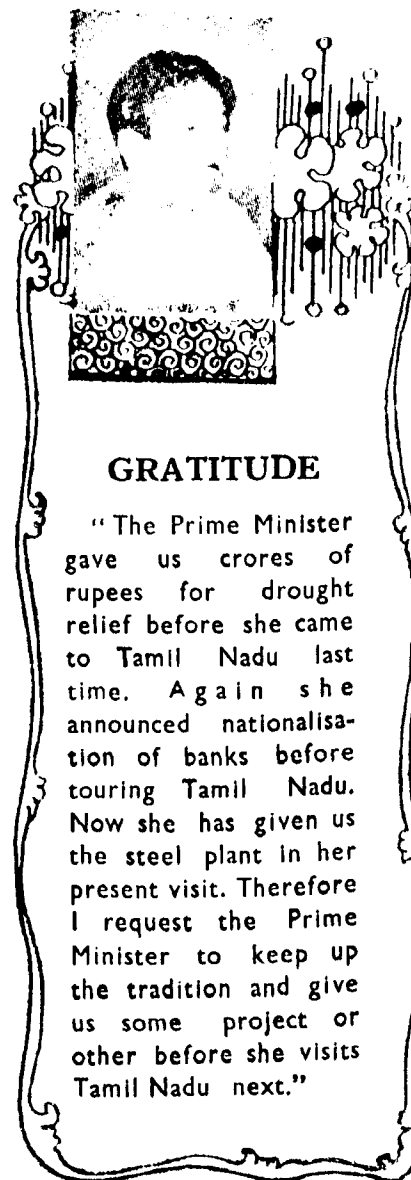
PRESENT-DAY ITALY

The Italy of the present times juts into the Mediterranean Sea to an extent of about 725 miles from the North-West to the South-East. The breadth of the land varies from 80 miles to 135 miles and in the extreme north the breadth is as much as 375 miles. The countries on the northern borders of Italy are France, Switzerland, Austria and Yugoslavia. Italy is a peninsular country and the total length of its sea-coast is about 2,500 miles. The peninsula has the Tyrrhenian Sea on the West, Ionian Sea on the South and Adriatic Sea on the East. I may seem to be digressing into history and geography; but should it not also be the object of my travelogue to study the tales of Italy's heroic valour, to pinpoint the stages of decline in the country's

long and ancient record and then to relate what I have observed, to the extent possible?

Monarchy yielding place to Republic then the Republic making way for Army-rule, still another change at a later point of time and today, a totally different type of political set-up Let us see special chapters on aspects such as these, in the weeks to come.

(To be continued)



GRATITUDE

"The Prime Minister gave us crores of rupees for drought relief before she came to Tamil Nadu last time. Again she announced nationalisation of banks before touring Tamil Nadu. Now she has given us the steel plant in her present visit. Therefore I request the Prime Minister to keep up the tradition and give us some project or other before she visits Tamil Nadu next."



THE RARE, RED PLANTAIN

BY

Perarignar Anna

(Translated from Tamil by T.G.N.)

It was a plantain sapling that would yield the rare, red fruit and Sengodan tended it as if it were his own favourite child. Even when he returned home at dusk after a full day's hard toil, in the fields he would not surrender to fatigue and seek rest; on the other hand he had made it a regular habit to go straight to the back-yard, there to minister to the sapling

eyes and his wife Kuppi was surprised and puzzled that he showered greater love and care on the tender tree than on his first-born Karian. To be precise, she even felt a little jealous on this account.

Sengodan's voice would brim over with pride as he instructed his wife about how to look after the sapling while he was away at

work. "Be vigilant against stray cattle that might come and trample the sapling", he would say, "what a precious plantain it is, you know! Its yield would be in large bunches and the luscious fruit

would be thick and round. Such succulent taste would be packed inside the shining peel that to have a mere glimpse of the red fruit would satiate one's palate."

Sengodan's vivid description of the treasure to come would find a ready echo in his four children. Not stopping with joining their father in chorus the children

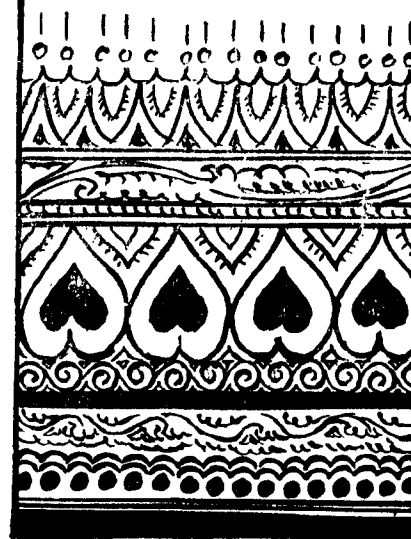


The Secret of Kanchi Silk

Kanchipuram, in Tamil Nadu, is famous for its silk sarees. The raw silk as well as the gold lace have to be imported by the weavers of Kanchipuram. Why did Kanchipuram become such an important silk weaving centre, though the main raw materials have to be imported?

The Sericulture Expert of the Government of Tamil Nadu stationed at Hosur says: The chief attraction of silk fabric being its lustre, and raw silk being dull in colour, the water used for degumming and dyeing of raw silk ought to have certain properties in order to impart lustre to silk. The water used at Kanchipuram possesses this unique quality of imparting lustre to raw silk and this may be one of the reasons why silk weaving has taken firm root in Kanchipuram.

An exhaustive article on Kanchipuram silk industry will appear in the next issue.



The tickets are sold through agents appointed by the respective Collectors, in accordance with the scales prescribed for the areas of the Panchayat Unions, Townships, various grades of Municipalities and the Madras Corporation. The Government may also directly appoint any registered co-operative society as agent for such area as may be specified.

The Government have permitted the appointment of agents outside the State to sell Tamil Nadu Raffle Tickets. 107 agents have been so far appointed outside the State to sell Tamil Nadu Raffle Tickets.

The total number of prizes offered till the tenth draw held in July 1969 was 556 with a total prize amount of Rs. 2,50,000 for each series. The prizes were however increased to 611 for each series with increase in the prize amount to Rs. 3,50,000 with effect from the eleventh draw held in August 1969.

Draw and results

The date of draw is fixed as 25th of every month from the Draw held in November 1969 onwards. The draw is supervised by a Committee consisting of five members constituted by the Government for each draw by nominating high officials of Government, Bankers, Industrialists and eminent men in public life.

The results of the draw are published in leading newspapers apart from what the news papers themselves publish by gathering

necessary particulars through their correspondents at the time of draw.

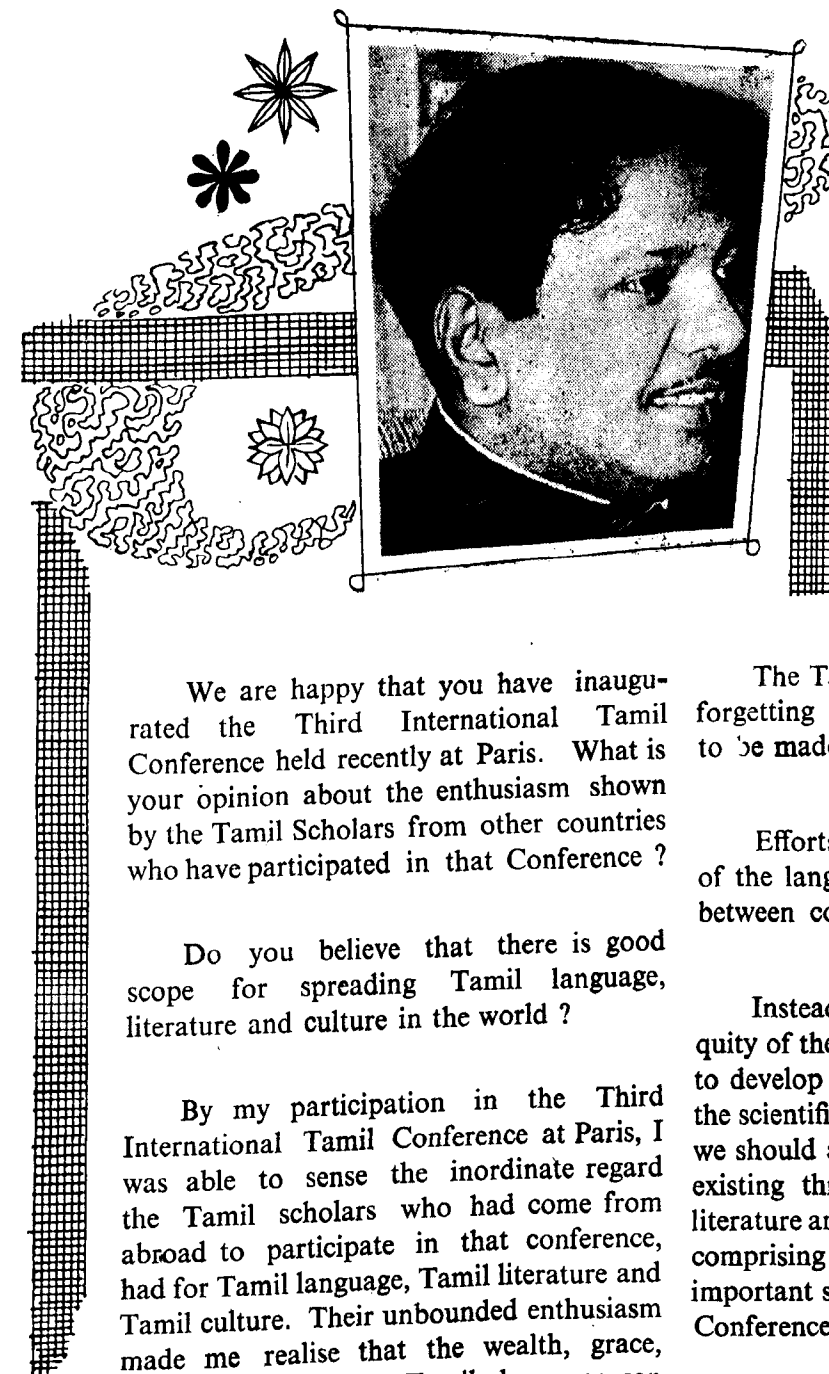
Payment of prizes

The first and second prizes are paid by the Director of State Raffle by crossed Cheques drawn in favour of the claimants. The third and fourth prizes can be claimed by the winners in any Sub-Treasury in the State. Special functions are organised for the distribution of special bumper prizes.

Each series having a gross income of Rs. 10 lakhs fetches a net revenue of about Rs. 4½ lakhs after meeting the expenditure of prize money, commission and Bonus to agents, cost of printing the tickets and other administrative expenditure including publicity. The net revenue to the State is estimated at more than Rs. 300 lakhs per year. It is proposed to spend entire receipts for developmental purpose.

With effect from the 1st April 1970, the Government have created a special Fund called 'The Tamil Nadu Special Welfare Fund' to route all the receipts and expenditure transactions relating to the State Raffle Scheme and to utilise the accretions in the Fund for the following purposes:—

- (i) Provision and expansion of medical facilities;
- (ii) Elementary School buildings;
- (iii) Slum clearance; and
- (iv) Any other development programmes approved by Government.



Spreading Tamil Across the Seas

Chief Minister's interview to the A.I.R., on his foreign tour, broadcast on 27 July 1970.

We are happy that you have inaugurated the Third International Tamil Conference held recently at Paris. What is your opinion about the enthusiasm shown by the Tamil Scholars from other countries who have participated in that Conference?

Do you believe that there is good scope for spreading Tamil language, literature and culture in the world?

By my participation in the Third International Tamil Conference at Paris, I was able to sense the inordinate regard the Tamil scholars who had come from abroad to participate in that conference, had for Tamil language, Tamil literature and Tamil culture. Their unbounded enthusiasm made me realise that the wealth, grace, beauty and charm of Tamil language can attract anybody to its fold.

I believe, even as you imply, that there is good scope for Tamil Language, literature and culture to flourish all over the world. But it is my desire that the people who are engaged in this noble purpose should have a broad vision.

The Tamilians residing in foreign countries are forgetting to read and write Tamil. Efforts have to be made to educate them.

Efforts should be made for the development of the language by mutual exchange of students between countries.

Instead of harping on the richness and antiquity of the Tamil language, we should make efforts to develop Tamil as a modern language attuned to the scientific temper of the times. For that purpose we should add three lakh more Tamil words to the existing three lakh Tamil words of the Sangam literature and release an English-Tamil encyclopaedia comprising these 6 lakh words. These are the important suggestions that I had made in the Tamil Conference.

What is the reason for the World Linguistic Scholars for evincing such a great affection for Tamil language alone? Is it because Tamil people are residing in countries like Ceylon, Malaysia, South Africa and Burma? Or is it because Tamil is still continuing to grow from apart being a very ancient language?

The sapling grew
amidst tumultuous
affection.

carried the splendours of the plantain to the neighbouring huts. The children of a peasant could certainly not boast of their father's new automobile or their mother's ear-rings made of dazzling diamonds or the radio which their elder brother had purchased. So, as the subject-matter of their endless chatter, they had to make do with the plantain sapling which was to them the equivalent of car and radio and diamond-necklace.

The eldest boy Karian staked his claim for a full bunch of fruits, well in advance of the actual yield. His friend Ellappan, living in the hut opposite, would put in a petition : " Won't you let me have at least one fruit, Karian ? Have you forgotten that I gave you a whole mango but the other day, besides fried groundnuts hot and crunchy ? "

Karian's younger sister Kamakshi would wink mischievously and declare : " If you get one bunch, I will receive two —the first from mother and the second from father ".

The third boy Muthu was practical. He would warn them: " Don't set too much store by this sort of anticipatory arithmetic or you're in for a disappointment. Who knows, what all would be done by persons unknown, even before the plantain ripens ? " This warning was not uttered in jest—

he, had made up his mind to consume the largest share of the fruit, even if he had to turn a thief for the purpose !

The sapling grew amidst so much of affection and tumultuous publicity. Sengodan had to toil a great deal in the fields ; for the manager of the farm was a hard task-master. But the burden of the daily ordeal slipped off his back the moment he sighted the plantain. Whenever his little children cried, he used to console them by mentioning the plantain. And again, when the children were troublesome, it was the plantain that he called to aid for disciplining them. The children of his boss had access to apple and grapes at their will and pleasure, but could Karian and Muthu go anywhere near such aristocratic fare ? Sengodan was eager that his children should be able to enjoy in full measure the red fruit of the plantain and it was this ambition of his that drove him to rear and nurse the sapling as if it were his favourite child. He was a labourer after all and however much he may struggle, he would never be able to collect sufficient money to buy sweets and fruits for his children. His wages he received in kind and the paddy was hardly adequate to fill half the stomach. His wife Kuppi too had to engage herself in work in order to keep hunger from gaining the upper hand over the family.

Such was his lot. The bulk of his labours was spent in the fields and a very large portion of the fruits of his labours was diverted only to the farm. It was the plantain sapling that would return to him the entire fruits of his labour, for his boss, the owner of the farm, could by no means claim a share of this. The brief stretch of time left over from his toiling for the boss—that brief stretch of time when he would ordinarily stretch himself down on the floor in total fatigue—was utilised by him to tend the plantain and the supreme consolation that sustained his spirits during those moments was that at least in this one endeavour he could be sure of his reward in entirety.

It was not as if these thoughts rose concrete and precise in his mind. A vague feeling, along these lines, would come to surface and vanish like a film of smoke, but the contentment and pride which his heart registered whenever he looked at his sapling were very real indeed.

The sapling grew, in total innocence, and so did, Sengodan's joy. His children shifted their play-spot to the vicinity of the sapling for they too had become attached to it, just as damsels are fascinated by flowers and bees by nectar.

" Will it take one month to yield ? " Karian would ask his voice throbbing with the excitement of suspense. " Two months my dear boy ", Sengodan would reply, matching his son's enthusiasm.

The tree commenced to reveal its yield and Sengodan walked as if he was treading air. With great pride would he watch the cluster of plantains and the grandeur of Sengodan's demeanour on such occasions could not have been matched by his boss Paranthama Mudaliar, even when the latter admired the diamond-necklace adorning the golden complexion of his daughter-in-law Muthuvijaya. In Sengodan's eyes, the cluster of plantains was far more precious than Muthuvijaya's diamond-necklace.

As the plantains grew in size and shape, eagerness mounted amongst Sengodan's children and as a direct result there was an increase of arguments and quarrels in regard to their respective shares; and the parents had to listen and dispose of many an appeal from the juvenile litigants.

" When will the plantains ripen ? " the daughter would ask. And one of the boys would raise the query : " How long have the plantains to remain on the tree ? " Sengodan desired to distribute the fruit just at the correct stage of ripening and his thoughts ran as follows : " The result of our labour shall be reaped in full for the first time, with no middleman to knock off a commission and no boss to take away the major portion of the yield. The rare red plantain is different from the golden grain of the paddy fields for in respect of the latter, the labour is all ours whereas the produce goes to the landowner who condescends to throw a fraction of it to us. The

plantain is a symbol, of our toil coming to fruition and it is ours in absolute right and possession".

Sengodan decided that the plantains could be brought home in two days' time and the news was greeted with acclaim by the children. The message was broadcast with surprising rapidity and soon the children of the locality made a beeline for Sengodan's hut and everyone of them brought some " advance " in the shape of nuts or beaten rice or mango or tuber which Karian took charge of, as earnest for future issue of the plantain fruit.

During those two days, the red plantain kindled strange thoughts in Sengodan's mind : " We worked hard no doubt but the reward shall be ours. Can there be any joy equivalent to this ? The labour dedicated to this plantain is not even one-hundredth of the toil claimed and consumed by the fields of the boss; but just because the land is his possession whereas the exertion alone is ours, he derives maximum benefit from it. This plantain here, on the other hand, has been reared in our own backyard and hence its yield comes to us unabridged. If likewise, we had a piece of cultivable land and which we can call our own, will not our labour usher in security and happiness for life ? Would the day ever come when the land is for the tiller alone and it is decreed that one who does not actually work in the fields has no manner of right to call himself a farmer. and boss

In a garden of a variety of beautiful flowers are not women being attracted exclusively to jasmine? Likewise, the world's Linguists have an unbounded love for Tamil. Not only is it a rich language ; but is a growing language too. And it has still to grow is another reason for this love.

The inordinate affection the Tamilians in foreign countries have for their Mother Tongue is yet another reason.

Can you roughly say how many countries have sent delegates to the Paris Conference and the countries which have sent the delegates ?

Delegates from 39 countries have participated. About 200 delegates from America, Sweden, Denmark, Germany, France, England, Czechoslovakia, Austria, South Africa, Mauritius, Malaysia, Ceylon, Singapore, Japan and Tamil Nadu and Pondicherry in India have attended the Paris Conference.

Do they have any organisation to do research in Tamil in those countries ?

Some foreign Universities have established departments for research in Tamil. Some other Universities are doing research in linguistics. Tamil is one of the languages studied in such research institutions.

WORLD CITIZENS ALL!

Shelley and Byron, Keats and Coleridge, Emerson and Bacon—they are not foreign to us in the strict sense of the term. Is Tiruvalluvar a mere Tamilian? They are all World Citizens—World Teachers. And the language enshrining their thoughts is not to be discarded just because it comes from another country. That we are not going to accord a higher status to English is borne out by the fact that we have accepted and are implementing with due caution the principle of making Tamil the medium of instruction in colleges—progressively.

—Dr. C. N. Annadurai.

Tamil Research departments are functioning in the Universities of Pennsylvania, California, Chicago, Washington, Michigan, London, Stockholm, Upsala, Heidelberg, Prague, Paris, Moscow, Leningrad, Malaysia, Ceylon and Singapore. Japan and France are two other countries that are contemplating to introduce Tamil research departments. Tamil research is done at the Institute of Oriental Studies in Russia.

Will the Government of Tamil Nadu make any arrangement so as to help them if they wish to continue their research in Tamil Nadu or invite the Tamil scholars to their countries ?

There is a scheme in the proposed International Institute of Tamil Research, Madras for Tamil scholars from abroad to come to Tamil Nadu for research as also for the Tamil scholars going abroad. Tamil scholars from Germany, Denmark and America are due to come to this Country for doing research in Tamil. Denmark has invited a Tamil scholar from Tamil Nadu to do research in Tamil in that country.

Can you tell the ways in which the Government of Tamil Nadu have planned to render help to the proposed International Institute of Tamil Research to be set up in the Capital of Tamil Nadu ?

The Government of Tamil Nadu have accepted in principle the founding of the International Institute of Tamil Research. The financial and other aspects are being worked out. The UNESCO has come forward to take part in this venture with a sizeable contribution. It has been stressed that the Government of Tamil Nadu should have sufficient control over this Institute.

Westerners, apart from their research interest in the ancient Tamil Classics may be interested in the 20th century literary works, short stories, novels, poetry, etc. Will efforts be made to develop this sphere too?

I feel that Tamil Nadu is in the vanguard in the field of short stories, novels and poetry too. If there is an impression that Tamil Nadu is lagging

behind in this field, it is because these Tamil works have not been translated into foreign languages. Recently, English translations of some of my short stories and poems were read by the Westerners and have won their appreciation. Thus through the work of short story writers, novelists and poets of Tamil Nadu, steps will be taken for development of this field also.

Generally how will the experience gained by you in the countries you visited, be useful for the development of Tamil Nadu ? Likewise how far the people in the West understand our culture ?

During my travels in the West, I saw historical monuments of Rome, which remind its heroic past, the relics of events that were responsible for its decline as also the contemporary richness with which the country is living today without bemoaning over its past decadence.

Nature's wealth in Switzerland is so lavish that I felt as if Courtallam, Ootacamund and Kodaikanal had come along with me. I saw the spectacle of the miraculous and quick resurgence of West Germany, which was ravished by a terrible war. Roads, parks and factories all fascinated me. More than my experiences, the inspiration that I had derived is impelling me to shape Tamil Nadu on the same lines. Though foreigners have not understood our culture very much, they pay high tributes to it when they become acquainted with it. For example, a cultural programme in Germany included Bharatha Natyam and Kathakali performances. I too was invited to the function. The German people were very appreciative of our culture. The resounding claps with which they expressed their appreciation of these programmes is one that I can never forget.

It is likely that this tour would have provided you with ideas for certain plans of action. It would be better if you can tell something about them.

Western countries annually earn huge income from tourism. Foreign tourists come in thousands attracted by the monuments as well as the modern parks. Statistics show that the annual income of a small country like Switzerland earned through tourism is equal to what America earns by tourism.

UNITY IN DIVERSITY

Don't you think, Sir, that the unity of India will be severely affected if your demand for greater autonomy to the States is conceded ?

Look at a picture of art in front of you with different colours. Each colour stands out but yet it gives a full and pleasant view of one integrated picture. It is in this manner that I envisage the fullness of unity in diversity.

TRADITIONAL EFFICIENCY

Tamil Nadu is reputed for its good administration. What is the reason for it ?

It is due to the existence of stable Government and the traditional efficiency of the Officers of Tamil Nadu Government.

—From Chief Minister's reply to BBC interview.

Plans have to be formulated to increase tourist traffic in our country and to attract tourists in keeping with our cultural tradition. To cite an example, in those countries, natural scenery and interesting tourist spots are printed on post cards in multi-colours. It attracts the tourists to a great extent. I have written to the Prime Minister suggesting that such publicity should be undertaken here also on All-India basis and efforts should be taken to implement it through the postal department. That should not be confined to a few selected places but should be done throughout the country. My visit to England, Italy, France and Switzerland has helped me in my efforts to expand the schemes for the beautification of cities, to improve the methods designed to develop agriculture in the countryside, to improve housing facilities and to take up with the Government of India seriously the need for increasing the industrial potential of the State. I convey my regards to the people of Tamil Nadu and assure them that the Government of Tamil Nadu with the co-operation of the people will take efforts to bring to reality the experiences gained by this foreign tour.

over honest and hard-working peasants?" Even as Sengodan's thoughts toyed with such far-reaching concepts, the children watched the plantain with their mouths watering in anticipation.

Meanwhile Sengodan's boss Paranthamar was making arrangements for the grand celebration of his daughter-in-law Muthuvijaya's birthday. A special 'pooja' was to be performed in the temple and Paranthamar ordered his clerk to draw up a list of articles required for the occasion. Against the column 'fruit', the boss dictated "two bunches of plantain". At this point the obsequious clerk paused, to offer a suggestion, "But, sir plantain of quality is not available at present in the market. Only the green variety is there and that won't be up to the standard of the august occasion....." Paranthamar would not take serious notice of the clerk's seeming solicitude. He said straightaway. "The green plantain would do. Where are we to go for better variety during this season?" The official was not to be put off so easily. Bowing lower than before he ventured to offer a way out of the difficulty. "Sir there is a cluster of red plantains in Sengodan's backyard and could we not requisition it for our purpose?"

"Right ho!" said the boss and in that one expression he passed a multiple death-sentence on Sengodan's rare, red plantains, on his happy dreams, on the fruits of his unremitting labour and on the exuberance of his

innocent children. Sundaram, the clerk, had turned executioner and his noose of evil had fallen on the cluster of red plantains, the very sight of which had provided countless moments of unalloyed joy to Sengodan's simple family. The plantains had symbolised the aspirations and hopes of the family and now the cluster was in mortal danger.

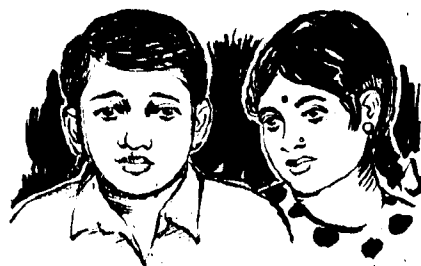
When Sengodan's children saw Sundaram talking to their father in the street, they never dreamt for a single instant that the topic of the conversation could be the red plantains. As for Sengodan he felt dazed when the purport of Sundaram's mission sank into his heart. Words came to him in a rush but they got caught in his throat and his tongue was drained of all strength.

Sundaram attempted to soften the blow by pointing out that the demand was on account of the 'pooja' in connection with the birthday-celebrations of the daughter-in-law of the boss. Poor Sengodan was on the horns of a dilemma and speech failed him in the predicament. For a fleeting instant, he dwelt on the abiding affection that had taken root and grown in his heart along with the plantain and on the eagerness in the eyes of his children as they watched the cluster of fruits and looked forward to the day of feast. But he could not pour out his thoughts in front of Sundaram for did not the demand come from no less a person than Paranthamar the all powerful landowner? Sengodan's fevered imagination projected a grim picture of the

entire town pointing an accusing finger at him and reviling him without mercy. "Look at this fellow who has been eating the salt of Paranthamar. That great man deigned to ask for as simple a gift as a cluster of plantains and this ungrateful wretch had the audacity to say no!"

Yet another picture clashed with this—the picture of his children crowding around him with tears in their eyes and heart-rending pleas on their trembling lips. "Father, it was you who raised the hopes in our hearts; please do not deceive us now. Haven't I also earned a share in the yield by watering the sapling and shielding it from stray cattle? Did you not yourself tell us that the plantains would be more sweet than any other eatable we had tasted so far and are you not aware that the fruits are so dear to the heart of our little sister? Everytime we looked up at the cluster of plantains, our mouths used to water and how can you bring yourself to shatter all our dreams at this stage? Did we ever trouble you to pay hard cash and purchase grapes and oranges

(Cont. on page 39.)



SMALL



The re-organised pattern of Family Planning as envisaged by the Government of India has been fully implemented in Tamil Nadu. Apart from the 13 District Family Planning Bureaus working in each of the 13 districts, Rural Family Planning Centres have been opened in all the 374 Panchayat Unions with 2,269 sub-centres affiliated to them. 249 Rural Family Planning Centres and 1,245 sub-centres were sanctioned between January and May 1970. Thus during the last 8 months there has been a three-fold increase in the extension to rural areas, counsel, action and supplies of the various family planning devices to the young married in our villages.

The Corporation of Madras is running 24 Urban Family Welfare Planning Clinics; Nine Municipalities are running 27 Family Welfare Planning Centres which not only fight against population explosion, but also counteract nutritional anaemia in mothers and children, through proper prophylactic measures. All the general health services in the State in the form of hospitals and dispensaries have been fully utilised for the family planning programme. Surgical

sterilisation facilities are available in 500 medical institutions in the State and it is proposed to provide all the 374 Rural Family Planning Centres also with the surgical equipment for sterilisation operations.

HEALTHY



The Family Planning Programme being one which calls for unabated attention and unceasing activity particularly on the part of its women staff such as, Women Medical Officer Auxiliary Nurse and Lady Health Visitor, it is programmed to construct staff quarters for all of them near their respective Rural Family Planning Centres. Such building schemes have been sanctioned for all the 374 units. Of these 13 buildings were completed in 1969 and 29 were in progress till March 1970. Building schemes have also been sanctioned in respect of 241 of the 2,269 sub-centres for Family Planning Programme. Construction work has started in 33 of these 241 building schemes.

The extensive dispersal of family planning sub-centres in the rural areas of the State, capable of providing supplies, services and advice on family

planning coupled with the group consciousness in favour of the small sized family, it has become possible to ensure for the married population, even in the remotest corners of the State, all necessary means to have a healthy and happy family. During 1969-70 more than 1 lakh married persons in the reproductive age-group were sterilised and it is expected that there will be 2 lakhs voluntary sterilisations in 1970-71. The conventional contraceptives and the I.U.C.D. (popularly known as the loop) will cover about 3

HAPPY



lakhs married women in this age-group, during the 1970-71 period.

A State-wide family planning fortnight is being celebrated between 14th September and 28th September when all the three aspects of the programme (1) knowledge, (2) attitude and (3) practice will be projected to as wide an audience as possible by employing all the available personnel in the task.

Family Planning Training

Strange, but true, is the fact that none of the seats of medical and nursing education have

(continued from page 34)

buried houses, tall palmyra trees, wells, etc. The sand dunes occur in three distinct forms: (1) those situated immediately along the sea coast (2) those situated a little further inland, i.e., the middle series and (3) those situated at the inland following the middle series. The first series of sand dunes are usually taller than three feet, large, extensive completely stabilised with adequate growth of vegetation and soil movement is practically absent. In the middle series, the area facing the sea is stabilised with natural vegetation and the area facing the inland is not stabilised. The third series is quite unstable and so this forms the nucleus of severe wind erosion. Dust storms occur often and the movement of human beings, cattle and birds is affected very much. The visibility is obstructed depending upon the density of the storm very frequently.

The wind erosion is very high from Kavalkinaru in the southern most part of the district upto Tiruchendur in the north. From Kavalkinaru upto Thiruvambalapuram there are only a few sand dunes and they are comparatively smaller in size. From Thiruvambalapuram upto Tiruchendur there are several sand dunes of varying sizes extending from small ones north of Tiruchendur upto Shanmughapuram in Koilpatti taluk. Soil erosion by wind is not a problem in these parts. From Shanmughapuram upto the northern boundary of Tirunelveli district along the coast, along narrow stretch of sand

dune is found and this extends into parts of Ramanathapuram district.

The total area affected by wind erosion is 23,718 acres in the coastal taluks of Nanguneri, Tiruchendur, Sreevaikuntam and Koilpatti. In parts of Valliyur, Perungudi and Kavalkinaru, the wind-blows with so much velocity that the field crops, especially the plantations are subject to heavy damage every year. The area experiencing this problem is about 1,000 acres. The total loss due to wind erosion in these parts is estimated to be Rs. 65 lakhs per year. This loss is apart from the deposition of soil in the tanks and on the highways, causing floods and disruption of communication. In addition to these, the sweeping wind deprives the soil of the moisture rapidly, increases the loss of water due to evaporation from water surfaces and thus the deleterious wind makes the life of the people highly miserable and insecure in all respects.

Prevention and control

Wind erosion can be controlled and prevented by having vegetative barriers planted across the direction of wind. The vegetative barriers in several rows meant to protect the field crops in extensive areas are called shelterbelts. The shelterbelt with five rows of plants of different species planted in a particular fashion will be able to lift and deflect the wind away from the ground surface. These shelterbelts have to be planted in series at intervals of about 400 feet across the direction of the

wind. For raising the shelterbelt, some area has to be cultivated with field crops. The cost of raising shelterbelt per acre will be Rs. 120 including the cost of raising seedlings, planting and maintaining the plants for two years. This will allow unhindered cultivation in 24,000 acres in 32 villages and the shelterbelts will prevent depletion of soil moisture and help increase recharge of groundwater storage in about 2.98 lakhs acres. This will facilitate gardenland cultivation by tapping the underground water resources. The problem of wind erosion is particularly severe in this part of our State mostly due to its geographic disposition and configuration of the land, aided by the physical conditions of the surroundings. If there is any improvement to be attempted for the welfare of this district, prevention of wind erosion should be the first.

—To be continued

HELP TO AGRICULTURE GRADUATES

The State Bank of India has started a scheme for granting loans upto Rs. 1 lakh to help agricultural graduates in setting up modern farms in villages. Under the scheme the graduates would have to settle down in villages.

To revive and preserve the ancient Art of Sculpture and Architecture

— By A Staff Reporter —

There has been a strong theory that the monoliths at Mamallapuram (Mahabalipuram) represent only the beginning of a grandiose conception and that what we see today bear ample testimony to an abrupt ending of the work, due to a cataclysmic event. Centuries have rolled by since then.

Sound of chisel

As we approach Mamallapuram now, the sound of chisel clanging on stone is heard, ending the torpor of centuries. True, the old master sculptors of Mamallapuram, like Kevatha Perunthachan, Sathamukkian, Kunamallan and Apajan have not resumed their chiseling. But something far more important is happening

there. Mamallapuram, the creation of great sculptors is now creating sculptors for centuries to come. For, the clang of chisel upon stone is emanating from the Government Sculpture Training Centre.

Sculpturing, as an art form was taken to great heights by Tamils and the resuscitation of this art form, which has held the world in thrall for centuries, surely cannot be attempted by anybody else. Established in 1957, the Sculpture Training Centre has turned out several batches of sculptors who have found ready avenues in original work as well as temple renovation work. The trainees of this centre have shown such superb crafts-

manship in some UNESCO sponsored temple renovations, that the august world organisation is now considering to teach at this centre some of its advanced techniques of temple preservation so that future trainees can be more useful in its work the world over.

"Our only aim is to revive and present the ancient Art of Sculpture and Architecture which has almost perished during the last two hundred years and to produce a number of artisans for future work", says Thiru V. Ganapathi Sthapathi, Superintendent-cum Master Sculptor of the Centre.

He takes me to a room where there is the drawing of a temple tower.

family-planning techniques in their courses of study. Doctors and nurses as well as a host of other para-medical personnel inducted to family-planning work, have to be given a course of training in this subject. In Tamil Nadu there are three such Training Institutions. One in Madras next to the Government Hospital for Women and Children, Egmore, the second at Salem (this was previously functioning at Adyar) and the third run by the Institute of Rural Health and Family Planning, Gandhigram. In these Centres, training is given to Women Medical Officers, Medical Officers of Primary Health Centres, Block Extension Educators, Health Inspectors, Lady Health Visitors and other para-medical personnel. The training comprises classes as well as field work. The classes are conducted not only by the staff of the Centre, but also by experts in concerned faculties from other medical institutions. In order to provide clinical experience to the trainees within the campus, sterilisation wards are under construction in the Madras Family Planning Training Centre. A separate building for holding seminars and symposia for the benefit of motivation leaders is also under construction here.

Top.—Trainees are taken out for field work.

Middle.—Advice on 'loop' is given to a young mother.

Bottom.—Trainees during their field work pay house-visits carrying the family planning message.



THE BREAK THROUGH

IN RICE PRODUCTION

Farmers, in Tamil Nadu are enabled to reap 2½ times more paddy per unit area than ever before and as a result Tamil Nadu stands second only to the Punjab in food production and first in rice-acre yield in India.

These achievements of the farming sector have been brought about mainly through the co-ordinated efforts of the farmers and, the agricultural scientists. The results of research are carried to the very doors of the farmers by the extension workers, and the farmers are acquainted with the latest modern methods of production and technological improvements in agricultural practices, so as to keep pace with the Green Revolution. Towards this end, the Tamil Nadu Government has made all-out effort and launched massive schemes. The role played by the State Department of Agriculture in this endeavour, is quite significant. It is not out of place to mention here that Tamil Nadu ranks first in rice-acre yields.

There is no short-cut to step up agricultural production. The twin methods to be adopted are (i) Extensive cultivation, and —(ii) Intensive cultivation. By extensive cultivation is meant bringing new area under cultivation. All the cultivable area

has already been brought under the plough, and, there is no scope for further expansion of the area cultivated. The next alternative is to raise more than one crop in the same land by providing irrigation. All the major rivers of the State having already been harnessed, and put to maximum use, lately, attention has been devoted to exploitation of the ground water potential. Large scale sinking of Filter Points and Tube Wells, and also open wells, has been undertaken by providing institutional credit.

Focus on Dry Lands

At present, only 42 per cent of the net area sown in the State is covered by irrigation. Agriculture in the rest 58 per cent of the area is still a gamble with the monsoon. In these areas massive soil and water conservation schemes have been launched, and improved dry-farming practices implemented with the aim of making the rain-fed areas more productive, and achieve a break through in the hitherto neglected sphere of unirrigated and rain-fed lands.

Under "Intensive Cultivation", attempts are made to increase the output per unit-area by :

1. Use of high-yielding varieties of crops ;

2. Use of fertilisers ;

3. Adoption of improved agronomic practices ; and

4. Plant protection measures.

The introduction of high-yielding and heavy fertiliser responsive strains marked the beginning of a break-through in the production of rice and millets in the State. With the success achieved during the past 3 years, a Crash Programme for rice with the wonder strain "I.R. 8" was launched during the Navarai season of 1969-70. The redeeming feature of this Crash Programme was that all the inputs required were made available on credit to the farmers at their very doors, and necessary follow up action pursued by the extension staff. As a result of this Crash Programme, the yield of rice per unit-area was increased by more than 2½ times. Self-sufficiency in rice was achieved, enabling the State Government to lift the control on foodgrains. It is apt to mention here that Tamil Nadu stands second in food production, first being the Punjab in the production of wheat. However, Tamil Nadu ranks first in "I.R. 8" rice production in the whole of India. The Crash Programme is being implemented during the year 1970-71 on a much larger scale.

we explain to students the traditional and fundamental aspects of sculpture and architecture with diagrams. Here, we strictly follow the principles as laid down in ancient works on sculpture and architecture" he says, while conducting me through one class.

"What are those ancient works?" the Sthapathi was asked.

"They are Manu-Sara, an 18th Century palm leaf manuscript,



Mayamatam, a 7th Century treatise attributed to the Master Architect Mayan mentioned in Silappathikaram, Manasara- 13th Century work on Architecture and such other books are our source materials" he adds. His father Thiru M. Vaidyanatha Sthapathi was the first Superin-

tendent of the institution. He was the Chief Architect of the Gandhi Mantapam at Adayar.

Then he takes me to the workshop where practical training is given to students in sculpture and architecture. There we find sculptures of different sizes in different stages of finish. The students are found immersed in their work.

The first year students are given training with soap-stone; the

second year students with green stone and the third and fourth year students are allowed to work on granite. Yes, the duration of the course is four years. At present 23 students are undergoing training there. The students come from various parts of the State. "This year", the Super-

tendent says, "two students will be coming from Ceylon under the Colombo Plan".

The students are given a stipend of Rs. 60 per month. There is a hostel attached to the centre for the students.

Every year the students are taken round on a study tour to important temples of the State and the final year students are taken to Halibed, Somanathapuram, Ajanta, Ellora and Konarak. These study tours help the students to widen their knowledge in the field. It also gives them the necessary opportunity to study and assimilate the various aspects of the art of sculpture and architecture at these ancient monuments.

While dwelling on these aspects of the training he finds me engrossed in a pair of sculptures. Immediately he comes to my rescue.

Sculptures for Madras Air-port

"Those two identical sculptures are the 'Deepa Nachiar' or Lady with Lamp. They are under preparation here in pursuance of the instructions of Dr. Karan Singh, Union Minister for Civil Aviation and Tourism for erection at the Madras Airport when it is expanded into an International Airport soon.

I take a close look at one of the sculptures. It is about 4 feet in height so beautifully hewn out of granite. The cost of a single sculpture including the pedestal is Rs. 4,500.

He narrates an interesting story: "We have supplied a statue of Hanuman to the Hanuman Temple built by Dr. Karan Singh at Hyderabad. He was very much impressed at our work. And that is how we again had this opportunity and we are doing our bit of service to our Madras Airport."

Lady with lamp

Sculptors, Thiru Kamalanathan and Thiru Perumal, ex-students of the Centre, had carved the Lady with Lamp statues in three months. Thiru Kamalanathan a native of Mamallapuram comes from an agriculturist family. When interviewed, he said that he joined the training centre out of his own interest. After finishing the course he was paid Rs. 6 a week then Rs. 8 a week and then Rs. 250 a month, for his work. He had worked at Dharmapuri, Badrachalam, Chittapal Poondi, Hyderabad and Varanasi getting Rs. 300 to 350 a month. "I feel that I have chosen an honourable profession and I am satisfied with it", says Thiru Kamalanathan with contentment.

Next, look at the Lady with Mirror (p.46). Four or five students are carving out the same sculpture. He says that they have sent one sculpture of the "Lady with Mirror" for display at the Sidney Fair in Australia. "As it was appreciated by one and all we are going to send 10 pieces of the same to Sidney Fair". These are exquisitely carved figures which breathe life and delicateness. The cost of each

piece is Rs. 500. At Sidney it will go upto Rs. 1,000.

Hundred models

With an unwilling heart to leave that wonderful world of creation we now enter the show room. There are many models of sculptures and architectures. There is a pair of bust size lovers which won the praise of Thiru V. R. Nedunchezian, Minister for Education and Health. There is the model of the toric (entrance) for the building of the Training Centre. The students will carve out the original toric for erection. All of the sculptural and architectural works of the building were executed by the students themselves. There is also a model of the Shore Temple. A replica of the Shore Temple measuring about 4 feet in height is on display at the Expo 70 Exhibition now being held in Japan. Its value is Rs. 9,000. So far only sculptures have been appreciated by foreigners. Now they are also evincing keen interest in our architectural designs. The Shore Temple architecture at the Expo' 70 has won the appreciation of the visitors. These are only a select sample of the many pieces kept in the show room.



There is also a Production Centre opened in 1969 which supplies sculptures on order.

Previously only foreigners have purchased these sculptures in large numbers. The sculptures of this centre have been exported to countries like United States, Holland, Australia, etc. So far, nearly 2,000 pieces have been sold out. Now, local demand is going up slowly. One Thiru Sarma of Madras for instance has placed order for a Jain image of 4 feet in height, costing Rs. 3,250. Formerly there was interest only in replicas. Now people are interested in originals.

Another important piece of work, the centre will be executing, is a 7 feet Lotus Girl sculpture for erection at the Kodaikanal Lake under the Kodaikanal Beautification Scheme.

An Expert's praise

The students of this centre have worked at Hyderabad,

Soil Conditions Remedied

Crops require large quantities of nitrogen, phosphates, and potash, for their successful growth. The requirement varies with the variety of crop. The soils of Tamil Nadu have been found to be deficient in nitrogen, and phosphorus, and, a large portion of our land has only a moderate content of potash. In order to assess the available nutrient status of the soil, and to recommend the required plant-nutrients, soil tests are conducted in the Departmental Soil Testing Laboratories. Soil samples from farmers' lands are analysed in these laboratories free of cost, and manurial schedules to suit the crops to be cultivated are recommended for adoption. Adverse soil conditions, if any, are also detected, and suitable remedial measures suggested. At present, eight such laboratories are functioning in the State, and it is proposed to open two more laboratories during 1970-71. For rapid analysis of soil samples on the spot in ryots' holdings, mobile soil-testing units are being set up.

The use of fertilisers in maximising agricultural production are well-understood by the farmers, as could be seen from the rapid increase in the demand for fertilisers, year after year. It has been programmed to meet this demand adequately. Hitherto, straight fertilisers and fertilisers-mixtures, were recommended for use by the farmers. With the advent of complex and compound fertilisers which enable the farmers to bring down the over-head charges of

transport, storage and application, great stress is being laid for their increased use by the farmers.

Package of Practices.

It is seen that for achieving best results, optimum population of plants has to be maintained in the field. Improved agronomic practices like proper spacing of plants are recommended. Inter-cultural operations like weeding, hoeing, mulching, etc., are popularised, and the farmers induced to carry out these operations in time. For each crop, suitable package of practices has been formulated and recommended to the farmers for adoption.

Crop plants are subject to the attack of insect pests and plant diseases. In modern agriculture,

the successful cultivation of crop plants, with costly inputs, necessitates adequate plant protection measures to save the crops from damage by pests and diseases. No single measure can adequately meet the situation. Disease-resistant and pest-tolerant types are evolved and recommended for cultivation. Prophylactic measures are adopted to ward off attack by pests and diseases. Control measures by use of chemicals are undertaken on a large scale. In carrying out control measures, individual efforts by farmers have been found to be inadequate. It is imperative to cover large areas within a short time to effectively control and prevent further damage. To achieve this object, aerial spraying of chemicals for pest control has been resorted to. It is programmed to cover extensive areas during 1970-71 by aerial spraying.

Soil Management Techniques

The methods of soil management which facilitates more efficient use of water, fertiliser, and other inputs essential for increasing the production, and decreasing the cost of production, are worked out and recommended for adoption. With a view to grow more than one crop and keep the lands under crops all the year round, double and multiple cropping programme are undertaken. Instead of one long duration crop of paddy, two crops of short-duration are raised. In Thanjavur district alone, the area under such double-cropping increased from three lakh acres to five lakh acres. For multiple cropping, different cropping

patterns for different areas have been worked out and implemented. A number of large scale demonstrations are laid out in the farmers' fields to educate the farmers. The farmers are also trained in the various centres instituted for the purpose.

The holdings of the farmers in our country are too small. The economic conditions of the farmers are such that they are not able to afford the necessary credit for the inputs required. To meet the situation, necessary credit is provided through the Commercial Banks, Co-operatives and Departmental loans, against Crop

A NEW PADDY STRAIN TO EXCEL I.R. 8

I.R.20, a new strain evolved at the International Rice Research Station at Philippines, can replace I.R. 8 in due course, as it has an yield potential as high as I.R. 8. Trials at the various Agricultural Research Stations gave an average hectare yield of 5,331 kgs. for I.R. 20 as against 5,263 kgs. for I.R. 8. The I.R. 20 crops grow to a height of 110 centimetres and mature for harvest in 125 days. It has a higher degree of resistance to borers and leaf hoppers. It has given a maximum yield of 7,166 kgs. per hectare at the State Seed Farm, Kancheepuram. The slight consumer resistance noticed in respect of I.R. 8 will disappear with I.R. 20, as it has fine grains similar to our famous strain T.K.M. 6 (Sanna Swarnavari).

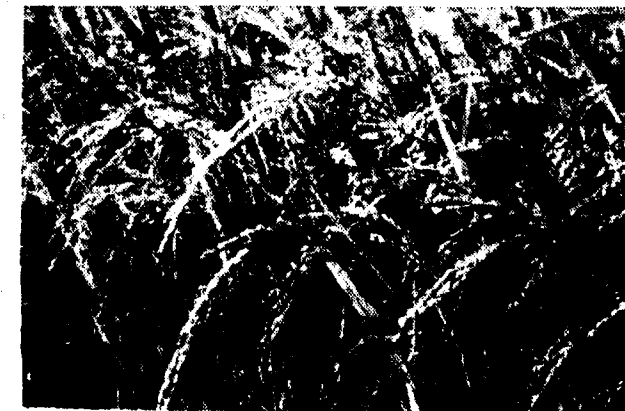


"CROP INSURANCE" IN TAMIL NADU

A pilot project for investigating the feasibility of introducing crop insurance is to be started immediately in Coimbatore District in the taluks of Udumalpet, and Dharapuram for Maize and Bhavani Block for Paddy for a two-year period in the first instance. The project will collect data on crop production, crop failures and prices for 20 years. This is the first pilot project of its kind in India except for a minor scheme implemented in the Punjab. Crop Insurance Schemes on compulsory basis have been working in Ceylon since 1959. There are also such schemes in developed countries like Japan, U. S. A. and U.S.S.R. The scheme is expected to provide useful data and experience for a more comprehensive crop insurance scheme which may be introduced later in Tamil Nadu.

RAIN-FED CUMBU CROP

Research conducted at the Regional Agricultural Research Station, Kovilpatti to evaluate the potential of H.B. 3 Cumbu as a rainfed crop conclusively brought out its superiority over H.B. 1 and K. 1. Under rainfed condition, H.B. 3 gave 60 per cent extra yield over H.B. 1 and K. 1 besides being resistant to rust, green ear disease, and tolerant to Surgery disease. H.B. 3 has out-yielded both H.B. 1 and H.B. 4 even under irrigated condition during the summer season of 1970. As such H.B. 3 has proved that it is eminently suited to be raised both as a rainfed and irrigated crop in Southern Districts. Hence farmers are requested to sow H.B. 3 Cumbu under rainfed conditions during September-October with the outbreak of the North-East Monsoon.





was possible only because we are strictly following the ancient tradition.

Varanasi, Kanchipuram, Kuzhambandal, Badrachalam, Vembalavada, Kanyakumari and other places in temple renovation and conservation work. Two of them went to Malaysia on invitation to build Maha Mariamman Temple. The conservation work at the Kanchipuram Chokkisar Temple and the Siva Temple at Kuzhambandal near Kanchipuram attended by sculptors, Rajagopal and Raman, has been very much appreciated by the UNESCO expert, Prof. Wright, who has suggested that, in future, temple conservation work should be entrusted only to the sculptors trained at this Centre. The expert has also sent a proposal to UNESCO suggesting the teaching of the Modern Conservation Techniques to the students by the UNESCO experts. The proposal is under consideration. What impressed him most is the way in which the original architecture of these two temples have been conserved. Thiru Ganapathi said that this

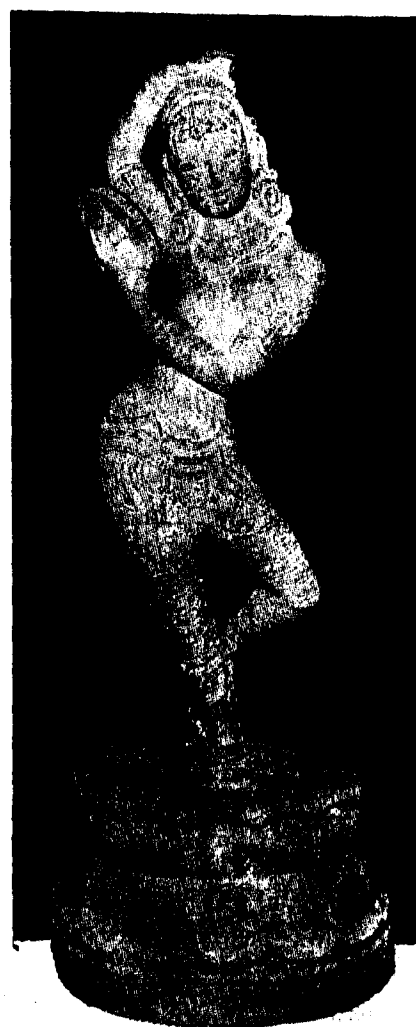
Many of the students of this Centre are now having their own workshops. One is at Mamallapuram itself which is State-aided. Such workshops are at Thirumurugan Poondi in Coimbatore district and at Karuvelamkulam in Tirunelveli district.

The tradition revived

At present, the Centre is giving out Proficiency Certificates to the trainees. The Handicrafts Advisory Board has passed a resolution for upgrading the institution into a College and to award Diplomas. Based on this resolution a proposal has been sent to the Government for upgrading the Centre as a College. The Centre is now teaching only the art of sculpture and architecture. There are two centres for icon making one at Swamimalai and the other at Tambaram. There is a wood carving unit at Nagercoil. A bell-metal unit is functioning at Kanchipuram. All these are

interrelated subjects. Integration of these centres in one place will not only result in economy but also help in teaching the students more systematically. And that can be possible only when the centre is upgraded as a college. Mamallapuram is most suited for such a college.

There are at present no textbooks for the students. To fill this gap a comprehensive textbook entitled "Sirpach Chennai" is under preparation. This, it is hoped, will meet one of the long felt and essential needs in the field of Art and Architecture.



Idol with mirror

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ON HIS 62ND BIRTH DAY



OUR TASK

We are in charge of the task of rejuvenating our culture and civilization—our entire thought. Instead of attempting that, we have been, for too long a period, doting upon the decayed forms attempting to defend them from critics and currents of new thoughts. And while other parts of the world, after persistent and patient search after truth, have arrived, at new conclusions and are scaling new heights, we are content to sit near the shattered rampart and narrate past glory.

ABOUT IDEALS

“When a great ideal is distorted, a doctrine debased, a creed kept as caricature to suit one’s purpose, taste and need, it evokes the most scathing contempt from friends and foes alike.”

THE CRUSADE

You may come face to face with the unpleasant sight of practices widely differing from the principles inculcated in you. You may find self-seekers enthroned and the patient worker decried. Tyranny of all sorts may stare at you and every step you take may be a struggle. I admit that the environment is such that even people with robust optimism will be discouraged and forced to take to the path of ease and comfort.

But we should also realise that a continuous stream of men and women endowed with the spirit of service have been carrying on the crusade successfully.



HEARKEN TO ANNA’S WORDS



THE AVERAGE MAN

He seems incredible but represents two-thirds of mankind. He lives in a hut. He cannot read or write. His energy is sapped by disease. He labours up to 15 hours a day. He works on land he does not own. He and his family are usually hungry. He dies young. But he still has hopes for his children—that they will be strong and healthy; will be able to read and write; will know individual freedom in a peaceful world! This is the world’s Average man!

ABOUT THE TAMILS

“Here are people who are affectionate, who are almost docile, who are delightful to move with, who are always prepared to give their best but who are always vigilant and watchful to see that their language and way of life are not disturbed, nor menaced; but when they realise that there is a real menace to their language, will get into—God forbid—a fury of a very great order before which no power on earth can stand.”



THE SCHOLARLY WAY

Our religion has degenerated into rituals, our society which was once classless and casteless has degenerated into watertight compartments of caste and creed, and all the while, we have kept either silent or have been supplying defence to superstition and orthodoxy by offering liberal interpretations in a scholarly way.



15/5/73/L

Dr. Nalini has an important message to all married couples:



"The problem facing millions of couples in the country is simply this: how to provide the essentials of life to everyone in the family. We talk about green revolution, but is it really going to help us because our increasing population wipes off all our surplus resources of food, clothing, and employment. At a rate faster than any Government can provide".

"How, then, are we going to give greater opportunities for our children and ensure our own happiness? Happiness is not just a national problem. Rather it is a matter of individual planning and adjustment. My advice to all couples is "Plan your family and live happily!"

Today you can have a child by choice, not by chance. That is when you desire one, and can give it the best care and attention. Ask your doctor. Ask any of your friends who have benefited by family planning. There are 10 lakh of them in Tamil Nadu. Visit one of the family planning clinics. You'll get free advice, help and other aids from trained staff.



Plan your family! And live happily!

Issued by: Director of Information & Publicity,
Govt. of Tamil Nadu, Madras-2.

PRIDE AND PRICE

Now I wish to congratulate all those new graduates who have received their degrees to-day. You will soon enter upon your professional life in which the knowledge and expertise that you have acquired at the Institute after years of hard preparation will be put to the test. Some of you will no doubt, go abroad for higher studies, but it is my hope that you will all come back at some time or other to serve your country to the best of your ability. The basic problems which confront us to-day are not merely elemental, like hunger and poverty, but deeply psychological. They touch upon the structure and form of our society and upon our

THE UNIVERSITIES

The role of the University today is not cloistered and confined as in the past. Its function has been enlarged not in its fundamentals but in its domain. It has to take into account the common man—not to perpetuate his commonness, but to trim and train, guide and lead him—for he is called upon to-day to perform uncommon tasks. He is asked to do his duty as the citizen of a democracy—a task which kindles sweet hopes



THE PRICE OF TOMORROW'S LEADERSHIP



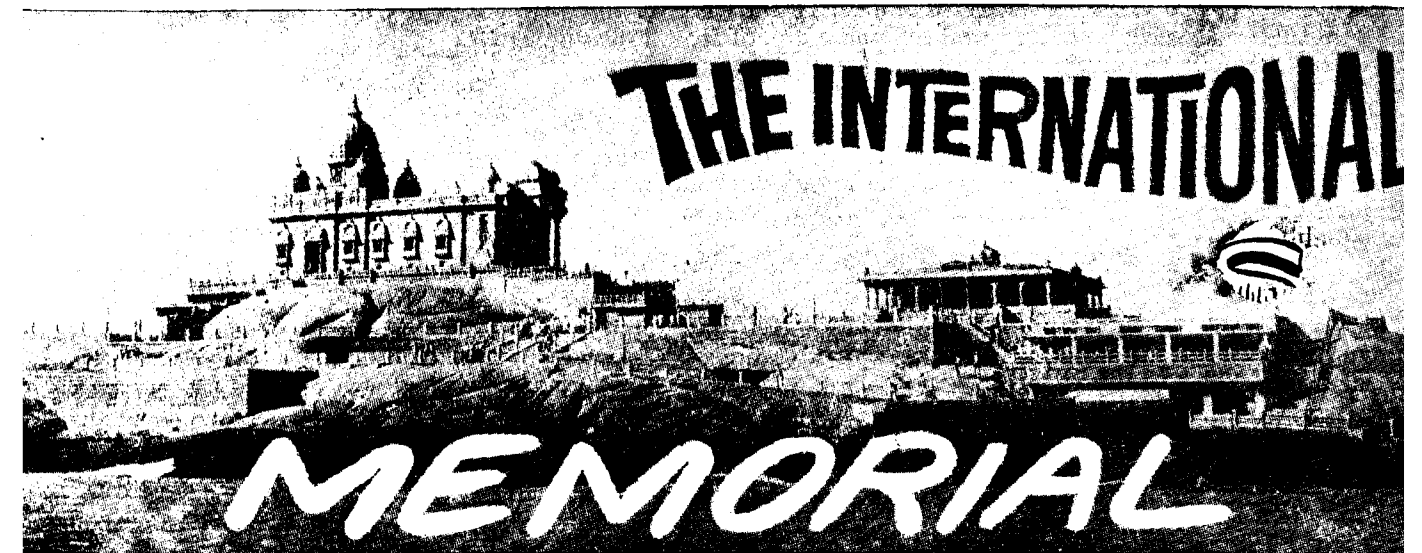
but which demands patience and perseverance, faith and confidence, faith in himself and in others and confidence in his inherent ability to

social and ethical values. They demand, in addition to the mastery of scientific tools and techniques, a sure understanding of ourselves and of the world in which we live. I have no doubt that the type of education that you have had here has not only made you professionally competent as engineers but has also equipped you with the moral, intellectual and imaginative powers that you need to face life successfully. You represent the future; yours are the opportunities; yours the challenges. This is the pride and price of to-morrow's leadership. (at I. I. T., Madras.)

President—

V.V. GIRI.

shoulder the responsibilities. The Common man has become the Ruler of the land—he holds his destiny in his own hands. Unlike in a bygone age, when rulers were born either in palaces or in mansions, to-day every hamlet and every hut has become the birth place of a potential ruler, and the duty to-day, the responsibility to-day of the Universities, is to fashion out of him an individual fitted and equipped for the task of making democracy fruitful and effective.



Speech of Chief Minister at Vivekananda Rock Memorial Function

It is my proud privilege to preside over this momentous inauguration of the Vivekananda Rock Memorial to-day (3-9-1970). Kanyakumari is a place of great antiquity. Tholkappiam, our ancient Tamil Grammar, refers to 'Thenkumari' as the Southern boundary of Tamil Nadu.

Washed by the three seas, stands this majestic rock where Swami Vivekananda got enlightenment before he passed to the world, his message of light and learning.

Swami Vivekananda's visit to the Parliament of Religions at Chicago was an epochal one, in the history of the world.

It was the good fortune of Tamil Nadu and this place Kanyakumari, to have played a notable part in the life of Vivekananda. The light that is lit in Tamil Nadu, never goes out.

The name, 'Vivekananda' means, one who can distinguish the right from the wrong. He was a noble sage who had universal vision, which ennobled everyone who came into contact with him, or with his teachings.

When this quite unknown young man of 30 appeared at the inaugural meeting of the Parliament of Religions at Chicago in September 1893, his strength and beauty, his grace and the dignity of his bearing, the dark light of his eyes, his commanding personality and the music of his rich voice took the audience by storm.

Wherever he went he was the first. Though he is not with us to-day, the flame he lit, is still alight and from his teachings have sprung the conscience of India, its faith in her unity, and in his great message, mankind finds solace and confidence.

The Memorial that stands here to-day will be a sentinel guarding not only our frontiers but also our culture and tradition.

The entire structure, I learn, has been designed by Thiru S. K. Achari of Devakottai and I am really happy to see the wide sweep of his skill brought to bear on this monument.

Tamil Nadu is proud that when Vivekananda went to Chicago, Tamil Nadu stood at his command under the leadership of our noble





Tamil Arasu

FORTNIGHTLY 5MAY 1970 35A.



Sethupathi, and to-day, I see before me, as if the whole civilised world has assembled at the southern most tip of Tamil Nadu to pay homage to Vivekananda.

Swami Vivekananda always had before him the great motto of "elevation of the masses." Many of his speeches were full of sympathy for the poor, the fallen and the down-trodden. His messages were always gospels of salvation, social elevation and equableness every one.

I am very happy to inform, on this historic occasion, that the Tamil Nadu Government is deeply wedded to the thoughts and gospels bequeathed to us by Swami Vivekananda. As we all know, PERARIGNAR ANNA clearly outlined in his life and works, that the salvation of humanity lies only in the salvation of the poor and the down-trodden. We see God in the smile of the poor and this Government has taken as its duty to make the poor smile.



Let me also greet all Sisters and Brothers present here from various parts of India and abroad. Tamil Nadu has always been a meeting place of great minds.

Thiru Karunanidhi said that when one looked at the confluence of the Bay of Bengal, Indian Ocean and the Arabian Sea in Kanyakumari from above, it was all one sheet of water. Similarly he said that though divided by many religions, mankind was basically one and that, that was the substance of Vivekananda's teaching.

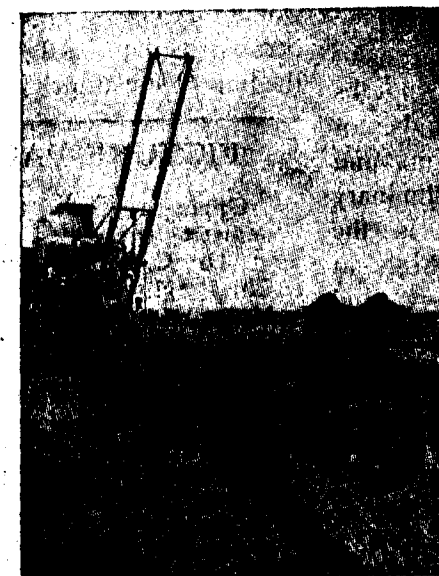
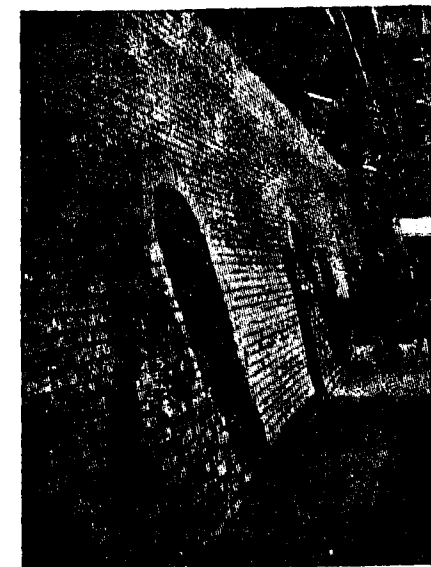
Vivekananda's vision was "All embracing" and his outlook "Universal". I would advocate very much at this hour, that class and caste feelings should be eschewed from all of our hearts, and a United India thus created, where every one feels equal in every respect, will be the rightful tribute. India could pay to the greatest of her sons.

It is very fitting, that the President of India, who is the embodiment of our rich culture is here to inaugurate this international memorial, since Vivekananda belongs to the entire human race.

Let us arise, awake and stop not, till our goal is reached.

STANDARDISATION OF INDIAN MEDICINE

The Indian system of medicine though potent in therapy, is not widely accepted, or practised with uniform results, as it has not been standardised. A scheme for standardisation and isolation of active principles of the indigenous drugs, used in the indigenous systems of medicine is being worked out in Tamil Nadu. As a first step in this direction, a pilot project of a Medicine-Chemistry Research Section utilising the facilities available in the Departments of Botany and Chemistry at the Madras Presidency College and the Departments of Pharmacology, Medicine and Research of the Madras Medical College has been started. It is anticipated that this pilot scheme will gradually grow into an Institute of Medicinal Chemistry Research introducing standards of allopathic pharmacology into the indigenous systems of medicine to make them more efficient therapeutic agents.



Coloured Bricks for HOMES

MECHANISED BRICK PLANT, THIRUMAZHISAI

The Mechanised Brick Plant was commissioned on 1st April 1968. It has a capacity to produce 66,000 Bricks per day. The total cost of the scheme is about Rs. 70 lakhs. All the machinery (worth about Rs. 10 lakhs) were imported from Yugoslavia. The erection of machinery, construction of dryers and kilns, and commissioning of the Plant were done under the supervision of Yugoslavian Experts.

The unit can also undertake manufacture of hollow blocks, ceiling blocks, partitioned blocks, facing Bricks, glazed trellis, etc. Recently Ceiling blocks were supplied to the Atomic Power Project, Kalpakkam.

At present, the Unit is producing, on an average, about 52,000 bricks per day. There is good demand for the bricks, as machine-made bricks are superior in crushing strength, texture, shape, etc. and have low porosity and ensure economy in construction. Most of the sales are to private parties. The Unit has orders for bricks for even 2 to 3 months ahead and has also received advance payment from some parties.

Fully mechanised Brick Plants of this type take about 4 to 5 years to reach their maximum capacity. From the progress so far achieved by the unit, it is expected that the unit will be able to achieve full capacity during the course of 1970.

Another unit of similar capacity is being erected close to the present factory. Machinery for this unit is being imported from Czechoslovakia. The Thirumazhisai unit proposes to put on the market coloured bricks also shortly. These bricks because of the colour, will need to be burnt twice, thereby they acquire a ceramic effect and walls will need neither plastering nor lime-coating when built with these bricks.

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COVER PAGE

The statue of the Chola King Raja Raja the Great to be unveiled near the Brihadeeswarar temple, Thanjavur, with the temple in the background.



EMPLOYMENT SITUATION IN THE STATE

The Employment Officers in Tamil Nadu registered 39,268 applicants and placed in appointments 3,921 registrants during July, 1970. Compared to June, 1970, registrations decreased by 12,499 and placements increased by 319.

The number of vacancies notified by employers to employment offices was 4,789, a decrease of 918 over the previous month.

The live register at the end of July, 1970 stood at 4,05,745 an increase of 12,986 or plus 3.3 per cent over the previous month.

Shortages of manpower were reported in the following occupations :

Medical Officer, Maternity Assistant, Pharmacist, B.T. Assistant (Physics/Maths.), Tamil/Telugu/Malayalam Pandit, Urdu Medium Basic Trained Teacher (Higher/Secondary Grade), Physical Education Teacher (Higher Grade), Stenographers (English and Tamil-Shorthand and Type-writing Higher), Laboratory Technician, Power Driller, Ferro Printer, Boiler Foreman and Electrician.

The Professional and Executive Employment Office, Madras, registered 934 and placed 26 professional and executive standard applicants during July, 1970. At the end of July, 1970 there were 3,217 applicants on the Live Register of this Office.

The University Employment Information and Guidance Bureau at Annamalainagar, Madras and

Madurai registered 303 and placed 3 applicants during July 1970. At the end of July 1970, there were 1,557 applicants on the live registers of these offices.

In the Occupational Information Unit, the study to identify new occupations suitable for Physically Handicapped applicants was in progress. The work in connection with the scheme for part-time employment for graduates, is also being attended to by the same unit.

The Vocational Guidance Units in Tamil Nadu gave group guidance to 15,694 applicants and individual guidance to 43 youths during July, 1970.

Nineteen registrants who were individually guided were placed in jobs during July, 1970. The number of persons who received individual attention during July, 1970 was 1,714.

Training Repatriates

Repatriates are at present undergoing training for 3 months in spinning. A total number of 60 repatriates from Burma and Ceylon have joined preliminary training for 3 months in the Co-operative Spinning Mills at Karur, Salem and Vellore and Private Mills at Coimbatore. Seventeen repatriates who have completed their three months preliminary training in Neyveli Lignite Corporation, Neyveli, were deputed on 27th July, 1970 to Technical Training Centre, Kota, Rajasthan.

NATIONAL AWARD FOR TAMILNAD FIRM

A bronze shield was awarded to P.S.G. Industrial Institute of Coimbatore for substitution of Generalised Electro Mechanical Energy Convertor, a useful aid for teaching and demonstrating principles of electric machines in Engineering Colleges. The indigenous equipment has the additional advantage of being used as 2 axis machine as compared to similar imported equipment. The price of the indigenous equipment is Rs. 21,600 as against Rs. 30,000 of the imported one. The saving in foreign exchange on account of this development is expected to be Rs. 3.60 lakhs per annum.

The award was made by the Board of Awards for Import Substitution. Established by the Government of India in 1967 with the primary objective of providing incentives for the development of substitutes of imported items, the Board has 11 members drawn from Government and industrial organisations. An evaluation Committee consisting of 13 members assists the Board in assessing the import substitutes for awards.

PICTURE PAGES

Opposite page : Pictures depicting the varied activities of Dr. C. N. Annadurai as Chief Minister of Tamil Nadu.

Centre spread : Views of Kancheepuram, the most ancient of cities in India.

Last page : More pictures depicting the fulfilment of many schemes of Anna for the welfare of the poor.

TWENTY DAYS

M. KARUNANIDHI

3. THE SPLENDOUR OF ROME.

The aerodrome in Rome has been named after Leonardo da Vinci. Leonardo da Vinci was the greatest light of Italian Renaissance ; he was one of the most competent painters the world has seen ; and his genius was many-sided in its splendour as may be seen from the fact that he was not only an artist and a poet but also a natural philosopher and a scientist of rare intellectual merit. A certain lawyer of Florence city, by name Sir Piero Antonio da Vinci, fell in love with the daughter of a peasant and Leonardo was the charming symbol and outcome of that union !

Leonardo was born in the village of Vinci and his native talents came to be recognised even in his early teens. The budding prodigy was placed under the tutorship of Verrocchio, the Florentine artist and soon he acquired sufficient proficiency in painting to assist his master and complete many an outstanding work of art. The "Adoration of the Kings" was among the early paintings of Leonardo and the "Virgin of the Rocks" was painted by him in Milan. "The Last Supper" was his *magnum opus* and the world still watches and wonders at the sweep of his

vision and the depth of his perception.

The wind of Renaissance swept through the continent of Europe in the 15th century and they who sowed the seeds of revolution in the realms of Literature, Painting, Sculpture and Music were masters like Dante, da Vinci, Michelangelo and Raphael. Just as Pericles was the *fons et origo* of the glory of Athens, Leonardo was the source of the effulgence of Florence. An imaginative scientist, Leonardo even designed a flying machine. And while in Milan, he prepared a blueprint for rebuilding the city on sanitary lines, with a scientifically superior system of irrigation, waterways and drainage and fortifications representing military strategy of a high order. The aerodrome in Rome, dedicated to the memory of Leonardo da Vinci, is indeed a monumental tribute to his



artistic genius and to his magnificent contributions to the treasures of his country.

Michelangelo is another name held in affection and reverence throughout the length and breadth of Italy. A contemporary of Leonardo da Vinci, Michelangelo too was among the foremost in the fields of painting, sculpture and architecture. When we stand face to face with the statues that came to life under his hands and when we look at the ancient buildings rearing their heads in proud splendour, we are ourselves reduced to graven images in astonishment, to think that these works of art are the result of human endeavour and that too of the 15th century. Michelangelo was born in poverty but before he placed his chisel aside and laid himself down to eternal rest at the age of 89, he had enriched Italy for all time to come. Italy is even now earning huge gains from tourist traffic attracted in steady stream and right through the year by his works of art. A visit to St. Peter's, that masterpiece of marble in Rome, was an experience of a lifetime for us and it was an impossible task to decide, which piece of art to look at first and for how long. It has to be mentioned here that, although modern civilisation has reached its peak in places like Rome, men and women who happen to have dressed themselves in scanty or see-through garments are not allowed admittance into St. Peter's.

As I stepped on the hallowed grounds of St. Peter's, they slung

a tape-recorder on my shoulder and the "speaker" of the instrument was inserted into my ear. I saw hundreds of tourists availing of this facility and there is a fee for use of the tape-recorder. As you walk through the church along a charted path, the tape-recorder recites into your ear a clear and comprehensive account of each object of wonder greeting your vision. The tape-recording is in the English language and for every four sentences, one sentence is about Michelangelo.

Wholesome praise is chanted—of Michel's painting or sculpture or architecture. We had only a few hours' time at our disposal to go round in the church and we could by no means be content with anything less than three days for the purpose. So much is there, of the intricacies of Art to see, mark and inwardly digest.

The cupola of St. Peter's seems to be suspended in mid-air and it challenges the very skies in its upright grandeur. The hall is





The shop selling glassware was a fabulous mansion stocked with diamonds, rubies and other gems of unrivalled splendour.

vast in dimension, without a trace of cross-beams. Marble in pristine purity speaks eloquence in the form of Virgin Mary and showers compassion on us through the eyes of Jesus. Statues numerous, smile down to us through the centuries and the sheer beatitude of their features conjures to create in us the impression that they are damsels in human form. The statues of the Popes of bygone times are set in such majesty as to kindle in us sustained feelings of spontaneous reverence.

Wondrous specimens of Art sublime are there in all the directions of the compass and one's neck aches, even if one is to

have a mere glimpse of the scene above, on the ceiling. As for the paintings and sculpture on the wall, it is a difficult task to take our eyes away from them. Hunger takes wing and flees to the region of the forgotten as long as one is in that temple of art and the more you are in the precincts, the more you feel like turning your back on the world and settling down in that sanctuary of venerated beauty, for the rest of your life.

But time, that hard task-master, is at our elbow and it reminds us of the engagement to meet His Holiness the Pope. Tearing our hearts away from that abode of enchanting loveliness, we set

out for the Vatican city. The Vatican where the palace of His Holiness the Pope is located is only a short distance away from St. Peter's. The Vatican is actually the name of a hill on the northern bank of the River Tiber. The township was set on this hill and thus did "the Vatican City" come into being. It is said that the City was constructed in the 12th century and renovated during the 13th century. The Vatican city became the place of residence of the Popes of Rome from the year 1377 onwards. The buildings in the city and the precincts of the St. Peter's church nearby have been added to and consistently beautified through the generations.

Hence we see here many a striking example of the architecture of different ages.

Michelangelo's cartoons on the ceiling of the Sistine chapel at the Vatican provide a vista of great charm. A vast library and museums add to the renown of the Vatican city. We were ushered into the palace of His Holiness the Pope who is the revered Leader of Roman Catholics the world over. After we had crossed a few halls, we were told that arrangements had been made only for me and my wife to have audience with the Pope. This piece of information came as a big disappointment to me and I suggested that even if my other companions were not admitted, an exception could be made for Dr. Abraham who belongs to the Christian faith. In a short while, a message was received that my suggestion had been accepted but I could not be oblivious of the fact that acute disappointment was mirrored in the faces of those friends who were to be left out. Although I did not tell them, I was confident that they could also be called in somehow; and accompanied by my wife and Dr. Abraham, I walked towards the Pope's audience-chamber.

His Holiness the Pope entered the room in a few seconds. Attired in pure white; and with a smile of absolute innocence on his lips and his face brimming over with grace, the Holy Father addressed us in accents soft that bespoke a heart of extreme purity and compassion. He made us

feel totally at home and after I introduced my wife and Dr. Abraham to him, he made kind enquiries about the welfare of children and other members of the family. He then proceeded to recollect the warmth of the reception accorded to him when he visited India and he conveyed his thanks once again for that reception. Reminded of Anna's meeting with him when Anna sought his kind intervention to secure the release of the Goan freedom-fighters jailed in Portugal, the Holy Father evinced happiness; and even during that fleeting instant I could sense how that happiness of the recollection stood annulled at the follow-up thought of Anna's departure from this world.

When I related the ancient historic links between Tamil Nadu and Rome, his face lighted up with the joy of fraternity that left a permanent impress on my heart. He presented a rosary to Dayalu and after enquiring how many children we had, he gave a handful of medals for the children. For my share, I received a medalion with his image printed on it. His compassionate eyes were ever searching for further gifts to us

and I availed of the opportunity to tell him that some others who came with me had to be left outside and could not have the privilege of meeting him. At once, his eyes uttered a gentle order and within a few minutes, all our friends came inside in ecstasy and paid their respects to the Holy Father.

After conversing with him for a while longer, we took leave of him. As we left the Vatican City, we kept wondering over his compassion and culture, his humility and his equipoise. Is it not because of these qualities that His Holiness is enshrined in the



The Pieta by Michelangelo, St. Peter's Church, Rome.



hearts of Roman Catholics spread throughout the world?

We had been told of a fountain in another part of Rome. The speciality of this fountain, it was said, derived from the statues installed in its vicinity. We felt that a visit to that spot would be worthwhile and when we made the trip we were not disappointed. The statues are tall and grand and the chisel has imparted an imprint of attractive mobility to them. Nearabout the statues are some fountains and a pond-like structure where the water collects and flows on. This pond is surrounded by walls of rock. Visitors turn their backs to this pond and throw coins into the water. The general belief is that this ritual would earn for them

yet another opportunity to visit Rome. Urchins of that area are always on the alert for these coins but there is a condition that no one should get into the pond. And so, these enterprising little boys have rigged up a contraption to get at the money in the pond. At the end of a fishing line they tie a small magnet and they throw the line in expert manner to attract and bring out the coins. The catch is substantial indeed!

Near this fountain is a shop selling glassware and we stepped into it more out of curiosity than anything else. The merchandise we saw was breathtaking in its variety and the articles there represented glass in all forms of permutations and combinations. A small tank

filled with water was on the shelf, with multicoloured fish swimming briskly. I went near the thing of beauty and lifted it gently, only to realise that there was neither a tank nor fish but only a piece of broad glass locking in its heart some deft designs. I desired to know the price of the piece and I was stunned to learn that it was Rs. 1000 at the prevailing rate of exchange. Without another word I replaced the article on the shelf and moved off to another section of the store. This section did not seem part of glassware mart at all. To all intents and purposes, it was a fabulous mansion stocked with dazzling diamonds and rubies and other gems of unrivalled splendour.

(To be continued)

HUMANE APPROACH TO SALES TAX COLLECTION.

In the process of collection of General Sales Tax and other Commercial taxes the Government have ordered that the assessee should not be harassed and at the same time revenue is not lost. In the case of small assessee who cannot be burdened with the maintenance of account books which are needed for proper assessment of sales tax, special provisions have been made in the Act enabling them to compound the tax due. It is enough for them to maintain purchase bills and purchase accounts only.

Rigorous check of accounts is also avoided in the case

of small dealers whose total turnover, does not exceed Rs. 50,000 in a year. Whenever evasion of tax is detected, the method of persuasion is adopted by the assessing authorities to make the assessee accept 'best of judgment.'

Research Cell

In his inaugural speech at the Conference of Deputy Commissioners of Commercial Taxes and Commercial Tax Officers held at Ootacamund in June 1969 the Chief Minister observed that one method of improving the finance was to undertake a scientific analysis of the pattern

of trade and revenue accruing from different sectors of the trade. The Chief Minister therefore suggested that a research cell should be set up for this purpose.

Accordingly, the Government have sanctioned the formation of a statistical cell for collecting scientifically processed data of production and the source of production for various commodities liable to tax under the Tamil Nadu General Sales Tax Act and Central Sales Tax Act and for preparing statistics, about the impact of tax on commodities and the pattern of movement of various produce.

Raja Raja The Great

A KING OF MANY-SIDED ACHIEVEMENTS

Arunmozhi was born to Sundara Chola and Vanavanmadevi in the Tamil month of Aippasi on the natal star Satayam. He was the second son to Sundara Chola, the first son being Aditta Karikala. An inscription in Tirunandikkarai corroborates the above date of birth. A copper plate inscription from Tiruvalankadu eulogises Arunmozhi as the incarnation of Lord Vishnu. Born with such prestine glory so as to wield his sceptre over the three worlds, the entire Chola kingdom rejoiced over his birth.

The childhood exploits of Rajaraja I might have been described in detail in a drama called 'Rajarajeswara Natakam', now not extant. While young, Arunmozhi was bereaved of his father Sundara Chola and his mother followed her husband in Sath.

Sacrifice

Two women took care of prince Arunmozhi. The elderly Sembian Madevi, wife of Gandaraditta inculcated in the mind of the prince a path of devotion and righteousness in

the Saiva ancient lores. Kundavai, the elder sister of Arunmozhi took great pains in metamorphosing the young boy into a worthy monarch.

Though Tiruvalankadu and Leiden copper plate inscriptions ascribe that Aditta Karikala ruled after the expiry of Sundara Chola, it is refuted by historians that Aditta Karikala was gruesomely murdered during the last days of Sundara Chola. Contrary to popular expectations Arunmozhi sacrificed his claim to the throne and allowed his eager uncle Madurantaka to rule the kingdom.

The death of Madurantaka in 985 A.D. after 15 years of rule, paved the way for Arunmozhi to ascend the throne as Rajaraja I. Innumerable are the titles of Rajaraja I as also the queens who adorned his palace. Queen Ulagamadevi adorned Rajaraja's

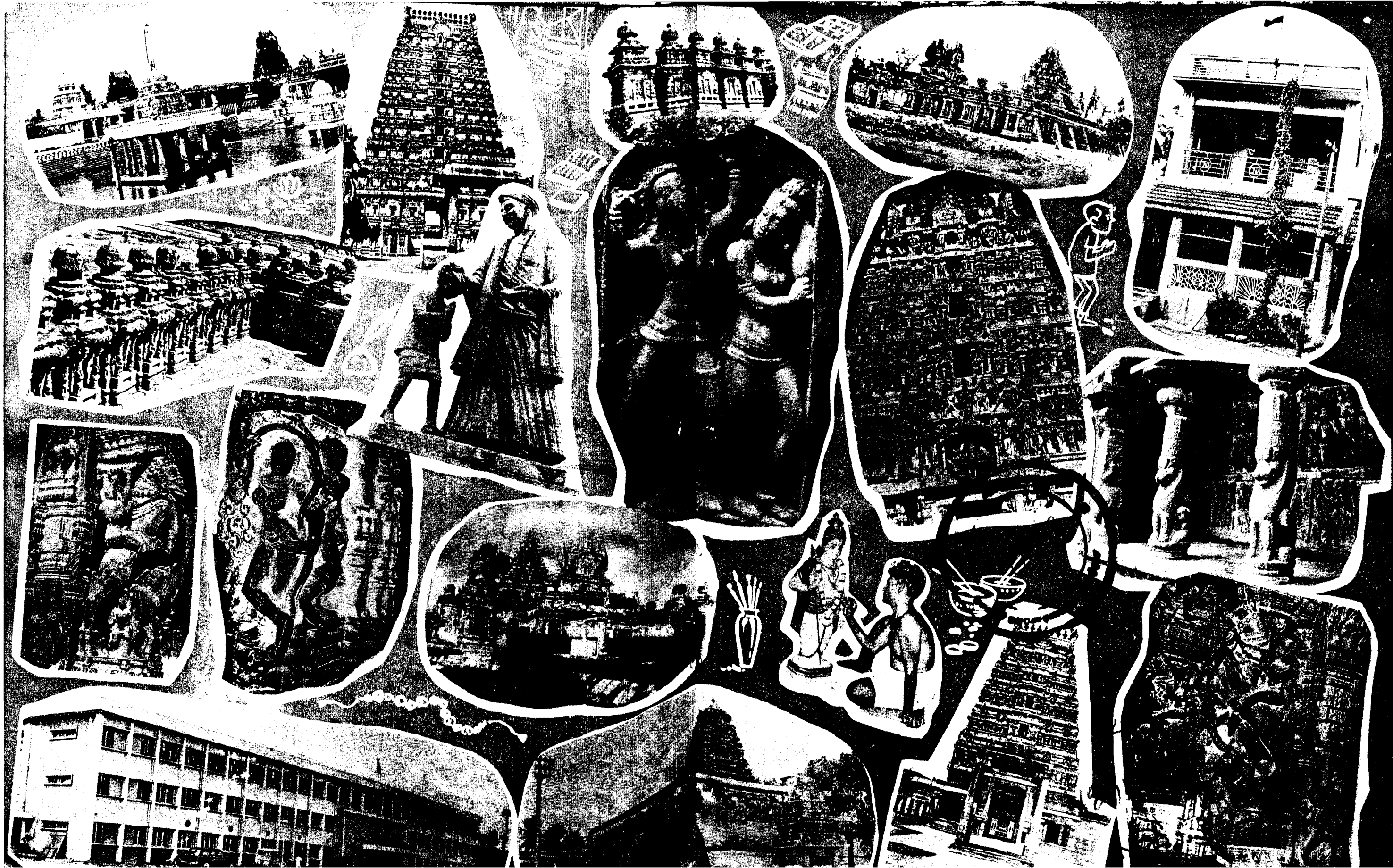
Court Hall. In the inscriptions Rajaraja is referred to as Ko Rajakesari and Ko Rajarajakesari.

His conquests

The first and foremost of Rajaraja's conquests is the renowned victory over the Chera king resulting in the destruction of the



The tradition of fine arts of the chola period continues.



latter's navy at Kantalur. Muvar-Ula and Kalingattupparani record the event. The land of the eastern Chalukyas was liberated from the Clutches of Danarnavan's murderer Jatasodabhima during a battle in 999 A.D. To strengthen the bonds of friendship between the two kingdoms, Rajaraja gave his daughter Kundavai in marriage to the Chalukya prince Vimaladitta.

The Ganga Chieftains and their Nulamba henchmen were conquered next so as to strengthen the boundaries of Chola Kingdom. Kudamalai, now popular as Kudagu, and Kollam too soon joined the map of Chola kingdom. During his conquest over the eastern Chalukya region, it goes without saying that Rajaraja I subjugated Kalinga too, then a part of Vengai Nadu.

The northern part of Ceylon (Ilam) was conquered by Rajaraja and was made a buffer zone from the evils of the Ceylon King Mahindra. His inscription in Polanmaruva, later called Jananatha Mangalam bears testimony to his heroic exploits.

In A.D. 973, a war waged against the Rashtrakuta kings, then ruling over the western exterior of Chola Kingdom, humbled their might resulting in the addition of Irattapadi Ezharai Ilakkan to the Chola Umbrella. During the last years of his reign Rajaraja I conquered

Munnir and Panniraviam islands. In all the inscriptions relating to Rajaraja I, his victories form the first part.

Great saiva devotee

Tradition has it that Rajaraja I resuscitated from ruin the works of Appar, Sambandar and Sundarar. Once on hearing the devotional hymns, the king was overwhelmed by their charm and yearned for the manuscripts. Guided by elders like Tirunaraiyur Nambi, the king propitiated Lord Vinayaka of the same place and guided by divine hand, reached Chidambaram and made bronze replicas of the three nayanmars. On Ardhra day, the hall was opened and he found amidst white ant ruins the palm leave manuscripts.

By Lord Siva's order he appointed a learned lady from Tiruerukkattampuliyur to set the verses to proper tunes. Further he appointed Oduvars and other artists to sing the hymns daily.

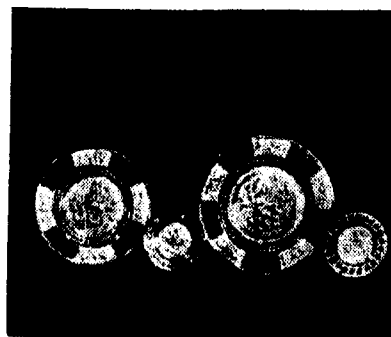
Great temple builder

The crowning stroke of Rajaraja's fame rests in his construction of a temple at Thanjavur for Lord Siva, renowned as Bilhadeeswarar temple. By its stature it has acquired the epithet Dakshinameru. Indeed it is a model for temple construction of the later ages, built as it was to every syllable of the Agama and Silpa texts.

The inscriptions in the temple, apart from the sculptures, etc., render ample testimony to his munificence and important events that occurred during his reign; and verily the temple stands as a fitting tribute to Rajaraja I as Rajarajeswaram.

The paintings depicting the scene of Lord Siva overpowering Sundarar during the latter's marriage the scene of Sundarar and Chera King ascending towards Kailasa-with their flowing beards realistically portraying the long journey, are but a few of the many other themes still preserved in their pristine glory.

The administration of the temple with all its multifarious lands, cows, sheep, etc., not to speak of the bronze idols that were gifted justifies the title conferred on him as Pandita Chola. Besides, the classification of his kingdom into Valanadu, Kurram, etc., with the respective lands measured and maintained to the minutest detail deserves emulation by the succeeding generations.



NEW METHODS EVOLVED

(In an interview for the Span, Dr. A. K. Ramanujam, Professor of Dravidian Studies and Linguistics in the Department of South Asian Languages and Civilisations of University of Chicago, and this year, also Acting Director of the South Asian Language Centre of Chicago says: Any study of India's multiple traditions would be incomplete without a knowledge of South Indian Languages. The recognition of such imbalance is one reason why Dravidian studies and particularly Tamil studies are increasingly receiving attention. Recently he was awarded a gold medal by the Tamil Writers Association of Madras for his English translation of the Tamil classic "Kuruntokai". Given below is an extract of the interview)

Dravidian studies are pursued in various ways in the several "area centres" in American universities. For instance, we teach Dravidian languages at Chicago (Kannada, Tamil and Malayalam). Besides myself we have on our faculty the eminent Czech Dravidianist, Kamil Zvelebil, who has done important work on Tamil inscriptions, Dravidian Linguistics, Tamil culture and literature. His Czech translations of Tamil literature were best sellers in Czechoslovakia. And he is a Secretary General for the International Association of Tamil Studies.

Some other schools which teach Dravidian languages are Wisconsin, (Tamil and Telugu) and at the University of California at Berkely, (I think they teach Tamil

and possibly Telugu). We also have three national, rotating summer schools every year for Indian studies where one or another of the Dravidian languages is regularly taught. This year they are being held at Seattle, Ann Arbor (Michigan) Rochester (New York). Some of the others are Pennsylvania, Michigan, Michigan State, Minnesota, Rochester, Duke, Cornell, Washington, Virginia, Missouri, Syracuse.

Collaboration with Madurai

There are also groups of colleges such as the Great Lakes Colleges which are engaged in a Co-operative Indian Civilization course, which reaches out to a great many undergraduate students in regions of America where it might not otherwise be taught.

I may also mention that the College of Wooster (Ohio) has an undergraduate year in South India, in collaboration with Madurai University. The Wisconsin College Year Abroad Programme sends students to Osmania University where they continue their Telugu. And Callison College of the University of the Pacific (California) has a sophomore-year programme in Bangalore.

We teach these languages according to new linguistic methods. We prepare and test our own teaching materials—something which has never been attempted for some of these languages before.

Another way in which Dravidian studies are promoted is by



All for one and One for all

In order to elicit in clearer terms, the Chief Minister's thesis "Autonomy for the States and Joint-rule at the Centre", a press correspondent at Bonn asked Thiru M. Karunanidhi as follows: "Are you for the principle of 'One for all and All for one'?"

The Chief Minister replied as follows: "All can have that which one is having. It would also be in order if one is having that which others are also having. But all should not be with one which others should have."

the constant addition to the libraries, of books in the four languages. For instance at Chicago, every year, hundreds—probably thousands—of books are added, keeping us up-to-date with the developments in the languages. We also get regularly the newspapers, magazines and literary journals in all the major languages.

Teaching Tamil

In addition, American universities emphasise not only teaching but also research. Research is done by both faculty and students. Scholars are sent out regularly to the areas of their study. For instance, at this time there are six or seven students from Chicago in different parts of South India working on different subjects. Some of them are historians, some anthropologists, political scientists, and some linguists.

Of course, there are also those of us who translate from the various traditions I have mentioned. I might also mention the one-year old Association for South Indian Studies, which has brought together scholars from all over the U.S. specializing in South Indian studies. Their first annual symposium was held in 1968 in Austin, Texas.

It would be really presumptuous to say that any one person promotes these studies. It is a cumulative, co-operative affair. At Chicago for the past seven years my colleagues and I have taught Tamil and we have recently added Malayalam and Kannada also.

Dravidian studies

Many of the students who take to Dravidian studies are graduate students. We also have undergraduates taking these languages and this is one of the most hopeful things happening now. These are the students who would normally have taken French or some other European language.

Of course, the number is not large, but this is the seed time. Most of these students who are with us are going to be teachers. Four of my students are teaching Tamil in four different universities now.

We get students who are squarely interested in Indian studies and who come directly to the Department of South Asian Languages and Civilizations at Chicago.

However a great many of our students are drawn from other disciplines like anthropology, linguistics, art, political science history, and the history of religions—to name only a few of the eighteen departments we draw from.

For instance, one of our students who did a study of Murugan—the South Indian deity—was a divinity student. He had learned Tamil and he came here to study the Murugan temples and the relevant classical texts.

In linguistics the greatest name, of course, is M. B. Emeneau (Berkeley, California), who worked probably for over 35 years in the field and whose Dravidian etymological dictionary in collaboration with Mr. Burrow of Oxford is a classic in the field, and his work on particular languages, the Toda for instance, is well known. Leigh Lisker of the University of Pennsylvania is another, and there are many others, for instance William Bright and William McCormack, who have published works on Kannada.

Tamil-Sanskrit relation

But I think the best is yet to be: the next generation of linguists and teachers is going to contribute a great deal. In fact, a great deal of work on subjects like Tamil syntax and Malayalam phonology exists already in the form of dissertations and will be published in the next few years.

One of the things we are trying to do—especially in Chicago—is to encourage students to do

both Sanskrit and Tamil. We have a number of Sanskrit students who know Tamil, and vice versa. For a total picture of Indian civilization and Indian linguistics we have now a doctoral student working on a dissertation on the relation between Sanskrit and Tamil with particular reference to certain texts like the 'Perunkathai' and the "Bruhatkatha", another on a comparison of Sanskrit and classical Tamil poetics.

Tamil Books in U.S.

Earlier research workers depended a great deal on material available in English. Now they are beginning to realize that these are partial and scanty, and the great part of Indian expression is not in English. For instance, if you want to study the Therukoothu of Tamil Nadu you will find probably four or five journalistic pages on the subject in English. However, even if there is no material on it in Tamil, one can go out and actually see a performance, record it and study it. The live material, the living cultural performance, is in the languages.

In Chicago, for instance we have a permanent department for South Asian Languages and civilizations. This is true of several other universities I have mentioned. Indian studies are fast becoming a part of the university scene in the United States.

Generally the books are published by the university presses although there are also commercial presses undertaking such work.

For instance, the New Directions of New York—a commercial press—has brought out the Tamil epic Silappadikaram and Harper and Row has brought out the Malayalam novel Chemmeen. The Asia Society has a very useful bibliography of Asian books translated into English and published by American publishers.

But you never can tell. Sometimes you come across unexpected audiences. The Interior Landscape, my book of translations from classical Tamil, was used in a New York high school by one of the scholars who had come to South India and fallen in love with this part of the country. In a course introducing foreign literatures and cultures, he tried materials from various languages and finally found—The Interior Landscape. According to him, the students were very excited and wanted to learn all about the Tamil tradition. It is very exciting to feel that a poem written 2,000 years ago and 10,000 miles away spoke to young, fresh kids in New York.

Expanding and growing

There is great interest in translations these days, particularly in America. My Tamil and Kannada translations are probably among the first introductions to Dravidian poetry for many.

I am now working on translations of the classical Puram poets, the great heroic poems of early classical Tamil. I am also continuing my work on a collection of Tamil and Kannada folk materials, especially folk tales. I have on tape many of these

tales which I am gradually transcribing and analysing.

So one doesn't yet actually know what one's market is and where one's audience is. It is an expanding and a growing audience. There are always surprises.

To enable American students to obtain a correct picture of India's multiple linguistic traditions, we need all the different linguistic traditions to be represented, not only Sanskrit but also Dravidian traditions, and the tribal traditions which are just beginning to be explored. And not merely the classical or the written but also the folk traditions.

The recognition of this need is one reason why Dravidian studies and particularly Tamil studies are increasingly receiving attention.

Democracy

"Democracy is not a form of Government alone—it is an invitation to a new life—an experiment in the art of sharing responsibilities and benefits—an attempt to generate and co-ordinate the inherent energy in each individual for the common task. Hence we cannot afford to waste a single talent, impoverish a single man or woman or allow a single individual to be stunted in growth or held under tyranny and the Universities should, through graduates sent forth year after year annihilate the forces that attempt at aggrandisement and tyranny, fight against cant and hypocrisy and enthrone human dignity.

—Dr. C. N. Annadurai.



THE
BIRTH PLACE
OF
INIMITABLE
LEADERS

The City of Kanchi along with the port of Mamallapuram had played a decisive role in the history of South India for six centuries. Kanchi was during all these six centuries the proud capital of a great dynasty of rulers, the Pallavas whose period is considered the most creative epoch in our history. More than all these things, it was Kanchi which was able to maintain close political and cultural relations with South-East Asia and transmit South Indian Culture overseas. Kancheepuram is now the headquarters of the district of Chingleput and is going through a phase of all round expansion.

Kancheepuram is referred to in early Tamil literature and inscriptions as Kanchi, Kachchippedu, Kanchi, Kanchinagar, Kanchinaganagar and Kancheepuram. The earliest reference is found in Perumbanatrappadai as Kachchi

and later in Manimekhalai. During the British Days it was called Conjeevaram.

Kancheepuram and its surrounding region has been generally known as Tondaimandalam according to our ancient classics Ahananuru and Kuruntogai. Tondaimandalam has always been held to be distinct from the other South Indian kingdoms of Chera, Chola and Pandya. Based on literary and other evidences, scholars aver that by about 180 A.D. Tondaiman Ilantiraiyan was ruling this country with Kanchi as his Capital. He is described in the Perumbanatrappadai as superior to the three other crowned kings of the Tamil Country. Recent excavation (1962-1963) at Kancheepuram have taken the antiquity of Kanchi to the last phase of megalithic culture. Also, the presence of Roman pottery leads us to believe

that Kanchi had contacts with the Roman world in the early centuries of the Christian era.

Seat of Power

Kanchi, during all its regnant centuries has been the seat of learning and power, plenty and prosperity. It was the place where a particular type of educational institution known as the Ghatika, developed and flourished. Literary tradition holds that the assent of the Ghatika was sought by the rulers of Tondaimandalam for succession. The foundations of Dravidian architecture and art forms were truly laid in this region from the 7th Century. The germs of local Government later developed by the Cholas appear to have had their beginning around Kanchi. It was a meeting place of many different cultures.

GOVERNMENT OF TAMIL NADU

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FLY ASH

AS A BUILDING MATERIAL

A seminar was held in Madras at Rajaji Hall from 3rd to 5th August 1970 to promote the use of Fly Ash which is a waste product in Thermal Power Stations.

A waste becomes a utility product

The quantity of flyash available in India at present is about 30 lakh tonnes per year. Neyveli Thermal Station alone throws out about 130,000 tonnes of flyash and Basin Bridge about 35,000 tonnes per annum. The Ennore Power Plant adds another 3 lakh tonnes of flyash annually. Some useful disposal for this large quantity of flyash has necessarily to be thought out; otherwise, it may cover up large tracts of useful land and create unhygienic conditions in the surroundings. If suitable avenues of utilisation of flyash are established, considerable economy in several industries may be effected.

The use of ash in construction has been known since the time of the early Roman Empire. Volcanic ash mixed with lime formed the chief mortar for many of the structures raised in ancient Rome. In America, all the flyash produced is consumed in the construction of buildings, dams, roads and also used in reinforced concrete structures. In India its use is not yet popular, because the potentialities of flyash have not been sufficiently understood.

The research undertaken in different laboratories of the

country, during the past few years, has indicated that the flyash can be used advantageously in the following civil engineering works:—

1. Manufacture of concrete blocks, bricks, tiles and pipes.
2. Manufacture of clay bricks.
3. Manufacture of light weight aggregates.
4. Manufacture of Portland flyash cement.
5. Replacing cement in mass concrete and reinforced concrete.
6. Production of cindered flyash aggregates.

7. Production of cellular concrete.

8. As a fill material in embankments.

9. As a filler material in the asphaltic concrete pavement.

In the Highways Research Station, Madras, tests were carried out on the use of flyash as Admixture to cement mortar, part-substitute for cement in mortar and concrete, and part-substitute for sand in mortar. The cement content of plain concrete could be cut by 20 per cent by weight by adding 30 per cent flyash. The strength of



Yuan Chwang, the great Chinese traveller, visited the city in the 7th century and said that this city was 6 miles in circumference and that its people were famous for bravery and piety as well as for their love of justice and veneration for learning. Buddhism took deep root in Kanchi about the 1st century A.D. and continued to exist till the end of the 13th century. During Hiuen Tsang's visit, when the country was under the Pallavas, there were hundreds of Sangharamas (Hostels) and ten thousand Thera priests. Kanchi was proud of producing Dignaga the famous Buddhist logician, Bodhidharma and Dharmapala who set high standard in the mastery of Buddhist learning. Dignaga served in Nalanda University with distinction and was well versed in the Mahayana and Hinayana systems and wrote many standard works which are admired by the Chinese and the Japanese even to-day. Dharmapala abandoned worldly life in his youth and became a great teacher at Nalanda on Buddhist logic and metaphysics. At Thirupparathikundram, a suburb of Kancheepuram Jain Temples are to be found.

The city was under the Cholas from the 10th to the 13th century. The Cholas evinced keen interest in the development of religion, as is evident from the inscriptions on the walls of the temples.

Brief History

From the 14th to the 17th century the city was under the

Vijayanagar kings. These kings adorned the temples with lofty towers, beautiful halls and mandapams. The 180 feet tower of Sri Ekambaranatha temple and the beautiful hundred-pillar mandapam with its exquisite workmanship in Sri Varadaraja-swami temple are the best specimens. During the 14th and 15th centuries Kanchi faced severe attacks from Malik Kafoor and Sultan Mohamed Sha of Bijapur. Again it was captured by the Sultan of Golconda around 1645; by the Maharattas thirty years later and still later on by Zulfikher Khan, a general of Aurangzeb. The city continued to remain under the Moslems till the middle of the 18th century when the British took it over. The temples were used as forts for defence and attack during the Carnatic wars. The city was sacked by the French twice, before it came under the British. This in brief is the historical past of the great city.

Saivite and Vaishnavite saints with their great learning flourished in the 6th and 7th centuries; they made Kanchi a great seat of learning. Saint Appar has sung of the city as the Centre of boundless learning.

The great Vaishnavite reformer, Ramanuja, who was born in Sriperumbudur spent his early years in Kanchi and had his education and spiritual enlightenment here. Alavandar, one of the greatest of the Vaishnava Acharyas, stayed here. This is the place where the great devotee Tirukkachi Nambi, an elder contemporary of Ramanuja, spent his life and evolved the six great

principles of Visishtadvaita Philosophy.

The birth-place of illustrious savants who blazed a new trail in all the diverse fields of thought, Kancheepuram had the proud distinction of being the birth-place of one of the most revolutionary thinkers of our era—Dr. C. N. Annadurai. Like all the previous torch-bearers of new thought that were born in Kancheepuram, Anna had the satisfaction of seeing most of his new thinking becoming an accepted pattern of our society. Unlike his predecessors—the illustrious line of Kancheepuram-born philosophers—Anna was fortunate to have held the reins of office in Tamil Nadu and translate some of his most cherished thoughts into action. Kanchi was dormant for five centuries after the 15th century, and the soil may yet, having begun with Anna, produce more such illustrious sons to redeem Tamil Nadu and make it prominent in the annals of our country.



In the whale-back of a rock in Mamallapuram, about 130 species of animal forms find place in bas-relief, including the deer shown above.



Mamallapuram is one of the earliest surviving examples of the Dravidian type of architecture of the 7th century. These temples are of two types—those hewn out of solid rock and stone built structures.

The mandapams which are no higher than 15 or 20 feet are remarkable for the shape and design of their pillars and roll cornices and for the blending of figure-sculpture enclosed within plasters and mouldings on the interior walls of the Durga and Varaha mandapams which represent the finest achievement of the Pallava style.

The Architecture

The architecture of the monolithic rathas is based on the older Buddhist monasteries (viharas). They are square or oblong in plan and pyramidal in elevation but varying in size and some minor details. The largest and most complete of them is what is called the Dharmaraja Ratham, which has all the features of the Pallava

style—the Pillars in the portico with rampant lions, the pyramid tower and the turreted roof.

The second phase

The second phase of Mamallapuram architecture which followed the architecture of the rock-cut style favoured structural temples which provided a larger canvas for the display of the sculptor's skill. Of these structural temples the most outstanding example is the shore temple at Mamallapuram.

The solidity of the masonry of the shore temple at Mamallapuram is vouched for by the fact that for over twelve centuries it has withstood the pitiless onslaught of the monsoon, the battering of sea waves and the treachery of drifting sands. In fact, the temple was rescued from tons of accumulated sand, and a semi-circular dyke was constructed in 1944-45 to protect it from further sand accretions. Two additional shrines attached to the cellar create a most pleasing effect. The structure of the tapering vimana, which is light, elegant

and well-proportioned, set the model for later temples.

World's largest

But the *piece de resistance* at Mamallapuram is the world's largest stone bas-relief measuring 80 feet long with an average height of 20 feet.

It is a masterpiece of composition. This huge whale-back rock has been covered thickly with fine sculptures. Subjects portrayed are forest scenes, animals, serpents nymphs, hermits and celestial beings. This has been called a fresco in stone and its vitality makes its figures appear to be alive.

Situated on an open sea-beach at about 37 miles south of Madras, Mamallapuram has been more visited and oftener described than any other place in India.



A figure in the stone bas-relief shows a hermit drying his locks by twisting cloth round it.

brick work in lime water with the flyash used as partial replacement of sand or lime gave encouraging results.

In Madras, using flyash from Basin Bridge it would be possible to effect a financial saving of 8 per cent in concrete and 6 per cent in cement mortar.

Flyash, added to local soils, clay or sand, with 2 or 3 per cent lime may give a stabilised road-base material of very good strength. For example, a well laid road base having 80 per cent sand, 18 per cent flyash and 2 per cent lime may have a strength equal, if not superior, to the conventional water bound macadam road-base.

Experimental road constructions using flyash from Neyveli and Basin Bridge have been tried in the Rameswaram--Dhanushkodi road in the Rameswaram Island and in the Adayar (Central Polytechnic)—Mahabalipuram Road and their performance behaviour is being observed.

The Seminar on Flyash

The seriousness of the problem of disposing the large quantity of flyash is understood and at the same time the potential use of flyash in the various construction activities is being recognised. However, there is no marked progress in the use of flyash on a large scale. This is due to the lack of knowledge of the uses of flyash on the part of engineers and industrialists. In order to arrive at a proper solution to the problem of useful disposal of flyash, the Seminar was organised in which research workers, flyash

CELLULAR CONCRETE

A Cellular Concrete Plant is under erection at Ennore, Madras, with collaboration from Poland by the Tamil Nadu Housing Board, at a cost of about Rs. 3 crores. The programme is to manufacture cellular concrete wall blocks of 59cm x 24cm x 19cm and reinforced roof slabs of size 299cm x 59cm x 12cm. The proposal is to adopt the sand technology having sand, lime and gypsum as the main constituents for blocks and gypsum substituted by cement in the case of roof slab. The capacity of the plant is 1,38,000 cum. per annum and will require about three acres of coastal land for sand quarrying per annum. The plant is located just opposite to Ennore Thermal station to find use for the huge quantities of flyash that will be produced by the Ennore Thermal Station. It is proposed to substitute flyash for sand in the manufacture of Cellular concrete.

Technology

Flyash, Lime and gypsum are ground to size and mixed with water of required quantity. To this, Aluminium Powder and

producers, industrialists in the fields of cement and concrete, and building materials and top-level engineers participated. The Seminar was held for three days from 3rd to 5th August, 1970. Dr. K. L. Rao, Minister for Irrigation and Power, Government of India inaugurated the get-together and Thiru S. Madhavan, Minister for Industries, Tamil

'Sulphapol' solution are added and mixed thoroughly and the slurry is poured into the moulds. Time is allowed for chemical reaction liberating hydrogen gas and for the initial setting of the mass. The over growth of mass above the moulds is cut off. The sides of the mould frames are removed and the mass is cut into required sizes. It is then subjected to steam curing in autoclaves for 17—18 hours at 12 atm. pressure and 190°C. After autoclavisation, the product is ready for use.

The total quantity of flyash produced in the Ennore Thermal Station will be about 1,700 tons per day when all the four boilers, work on three shifts. Out of this, about 1,300 tons is to be collected in the mechanical separators and the balance about 400 tons in electrostatic precipitators. The Cellular concrete Plant may be in a position to use about 350 tons per day of flyash out of about 1,300 tons collected in the mechanical separators only, as the ash from the electrostatic precipitators will be too fine to be suitable for Cellular concrete manufacture.

Nadu Government presided. Thiru Madhavansaid that licences need not be insisted on for starting of industries using flyash.

The participants in the Seminar called for the setting up of a high-power body to tackle the problem of disposal and utilisation of the flyash-waste, treating it as a national problem.



Demonstration on nutrition.

Speaking at the Fourteenth Convocation of the Madras School of Social Work, Arignar Anna observed that :

"Social Work is distinct from Social Reform. While Social Reform tends to create animosity, social work would create friendship as it brings solace to the afflicted, education to the illiterate, and light in the midst of darkness. Social Work distinguished from Social Reform is very much needed, as our society is just emerging out of the clutches of habits and traditions. We are not a backward community as we have solved problems with which backward nations are still grappling.

"If we analyse the psychology of our people, we will find two different characteristics—one, a sense of frustration and the other one of exasperation; both are explosive and it is a wonder that there has not been a social and political convulsion. This is

because we are a balanced people to whom patience comes naturally but this patience should not be mistaken for docility or surrender. Unless people trained in Institutions such as the Madras School of Social Work could carry the message of humanity and service and put them into action quickly, we may be left panting and gasping in the midst of a people justly roused."

In a nutshell

In a nutshell, this is the problem facing us. Because social work happens to be a solution to the problem, organised and trained social work as rendered by institutions like the Guild

of Service, the State Social Welfare Board, the Social Service League Units in the colleges, etc., are becoming all the more necessary.

To give such a practical bias and trained orientation to the work of these institutions a team of highly experienced young women with a tried *modus operandi* visited Madras last month. They brought with them a new dimension in social service. They are sponsored by the Grail Movement.

The Grail Movement

The Grail is an international movement of women, which expresses through its programmes, a sense of responsibility of its members, to collaborate with others on many different levels, working towards the process of full human development. The unit is staffed by specialists and represents the "outside help" that is available to back up and stimulate existing efforts in the field of rural development. There is a "felt need" for this kind of technical assistance in this field.

The group comprises three Indians, an Australian and an American who are available for advice and help to small agricultural projects.

**A FORMIDABLE
FORCE FOR GOOD**

Four Crore Project FOR SALT

40,000 Acres for Salt farms in 15-year Scheme

Salt Industry.—The Tamil Nadu Industrial Development Corporation engaged Thiru Gurunath and Sons for the preparation of feasibility report on the development of salt industry in Tamil Nadu. On the basis of the field and case studies of the existing salt factories in Tamil Nadu the consultants have prepared a detailed report on the salt industry of Tamil Nadu, reflecting the existing position and prospects for development. The consultants, have recommended *inter alia* (1) for effecting improvements in the working of the existing salt factories, (2) projection of suitable plans for the development of existing salt factories, (3) introduction of modernisation and mechanisation to the extent desirable and possible in the salt industry, (4) methods for increasing the output of salt and also to improve the qualities of salt in the factories and (5) methods and practices to be introduced for better maintenance of the salt fields in general and the salt crystallisers in particular.

The consultants have also suggested a 15-year programme for the development of 40,000 acres of new land, with a total investment of Rs. 5 crores, for cultivation of salt in the coastal tables of Tamil Nadu. Consequent on the scheme, 16 lakhs tonnes of salt and 60,000 tonnes of gypsum are expected to be produced on an estimated investment of Rs. 4 crores.

MACHINE TOOL PLANT

Based on the project report of Thiru Toshiba Machine Company, Limited, Tokyo and that of Hindustan Machine Tool, Bangalore, the Tamil Nadu Industrial Development Corporation has been examining the possibility of obtaining foreign collaboration to participate in the equity capital and also supply of machinery, process knowhow, etc., for a machine tool project. ●

Machine Tool Accessories

The Hindustan Machine Tool, Bangalore has furnished

a preliminary report. Based on the data furnished by Hindustan Machine Tool, the Tamil Nadu Industrial Development Corporation has applied to the Government of India for the issue of a Letter of Intent to establish a plant at Arkonam for the manufacture of machine tool accessories at Arkonam at an estimated cost of Rs. 96 lakhs. ●

Sodium Hydro-Sulphite

As Sodium hydro-sulphite is in great demand particularly by the Textile Industry, the T.I.D. Corporation arranged for a feasibility study and preliminary report. Based on it a letter of intent for setting up the factory at Ennore at a cost of Rs. 140 lakhs has been sent to the Government of India.

The feasibility of setting up salt based industries and a Seamless Tube Mill in collaboration with Bharat Heavy Electricals is also under consideration of the Tamil Nadu Industrial Development Corporation. ●

The Accident — Free



WORKSHOP

The Central Labour Institute in Bombay was unusually festive on 11th August 1970. The Union Minister for Labour, Thiru Sanjeeviah was awarding prizes to factories in which accidents causing loss of life and injury to limb of workers were avoided or less during 1969.

Two of the recipients worth mentioning were from the State Transport Central Workshop at Chromepet, Madras. They were not engineers of executive heads of the factory. They were artisans, one a carpenter, Thiru Sarangapani, working in the Body-building section and the other Thiru Dharmar in seat-fitting section of the State Transport Central Workshop, Madras. They represented the employees of the workshop. This is not the first time that the Central Workshop at Chromepet has received awards for keeping accidents at bay. It has received awards four times from the State

Government and six times from the Union Government. The number of prizes received from the Union Government, this year is four, one rolling shield and three cups. It won awards for the lowest frequency of

accidents, longest accident-free period, highest percentage of reduction in frequency and point rating.

The construction of bus-bodies is the major work here. Every month about 40 buses are constructed using Leyland and Benz chassis.

The Workshop was started in 1948. In the beginning, only two buses per month were constructed here. It has grown and expanded so as to construct 40 buses and to overhaul about 50 engines a month.

Express Buses, Double Deckers, Trailers, Ambulances, Standee Buses for the State Transport Department and Motor Vans needed for other Government Departments are made here.



Body-Building Section.

The team holds courses for a duration of 10 days to three weeks. The courses are intended for the training of village level community education workers, National service volunteers, teachers and voluntary agency personnel.

The State Social Welfare Board, Tamil Nadu, invited the team of the Mobile Unit to conduct a course of Social Service Training at Madras. Almost all the colleges in the city responded and sent their representatives.

The lectures were on how to work with a community, community service, food and nutrition, child development and kitchen, gardens, etc.

Demonstration classes

Demonstration classes on preparation of cheap nutritions, food for children, making a smokeless chula, a village refrigerator and improved cooking practices (cooking in a hay-box) were held for the students.

The students also discussed the working of extension methods and working with the community.

Full of enthusiasm and joviality, Miss Margot Harrison from Australia is incharge of Health Education. Miss Harrison had come to India with some of her young friends who worked in the Cheshire Home. Asked about her

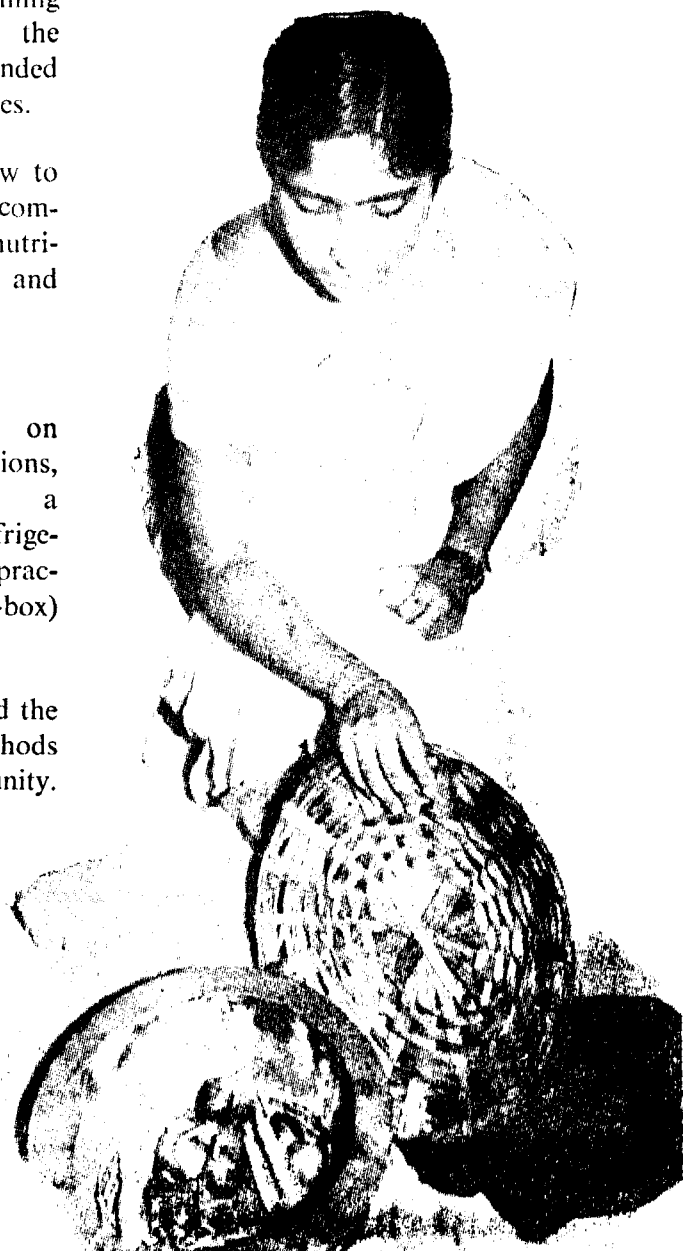
experience here she said, "This has brought India and its fascination very close to me and I am thrilled to have had this opportunity of seeing India and even more at the prospect of meeting so many of its people all over."

Living experience

An important function of this team is to provide a living

experience for well qualified and educated young women to learn from being together, working, teaching and travelling for 6—12 months at a time, providing useful service to their country. In short, to give a lead to the young women of our country an idea of 'professional' social service, as distinct from dedicated social service, which of course becomes secondary in their approach.

Miss Romilla Kapoor has specialised in poultry and small agriculture. Graduating from Delhi University, Miss Kapoor spent four years working with resettlement of Tibetan refugees, in the Hills of Himachal Pradesh. In the course of her work she came into contact with the Grail Team and joined it after finishing her work at Himachal Pradesh. Miss Kapoor had travelled with the team in various States. She says that the response to their courses has been very encouraging indicating the enthusiasm for social work which is building up amongst the people.



Village refrigerator for keeping vegetables fresh

The students who participated feel that they derive mental satisfaction in rendering social service. Thiru Venkataraman from Vivekananda College says that he feels that, doing social work is a challenge since there is vast scope in doing service to the humanity.

Coming from rural areas, he says he has an idea about the needs of the people and the improvements to be made in the sanitary and hygienic surroundings. As a member of the

college Social Service League he has rendered help to the rural people to conduct adult education classes and in keeping their surroundings clean. He had also attended the International Seminar at Delhi on Community Development.

Views of the trainees

Miss Bhuvanewari a member of the Social Service League of Stella Mary's College is very enthusiastic and keen about the classes. She says that she finds the programme very interesting.



Hay-box for rice cooking

"The lectures make you think for yourself and how to approach the people."

When asked how she became interested in social service, Bhuvanewari says that the conditions in the slum in her neighbourhood prompted her to take to social service. Asked whether she has had previous experience, she says that she has worked in two slums: "I was put in charge of supplying milk to the undernourished children. And also have the experience of working in a nutrition programme. I have also worked in a hospital at Athkudi."

She feels that there should be more response and co-operation from the people. Unless they are convinced that what we do is good for them, they will be difficult to approach.

A formidable force

Thiru Nityanadam of Loyola college is a member of the Prosperity Brigade and has worked with the members of the Brigade in repairing the banks of the Canal in Perambur. He has also helped in laying kitchen gardens. About the Grail Movement's course in Madras he says "Well, it is not just the usual course. It is rather a foundation. This gives you the correct picture of how to approach the people. It helps you to educate the people to do things rightly."

While the student who comes from the rural area is eager to help the rural society to lead a

They saved the ancient banyan tree and now their daring knows no bounds

'Let it stand,' someone said of the banyan tree as the site was being cleared for the Hindustan Lever Research Centre, at Andheri.

So the tree still stands—and it stands for quite a lot. For one thing, the tree signifies that we can't easily get away from what is home-grown. Appropriately, therefore, the Centre will tackle problems rooted in India—the kind that can only be solved here:

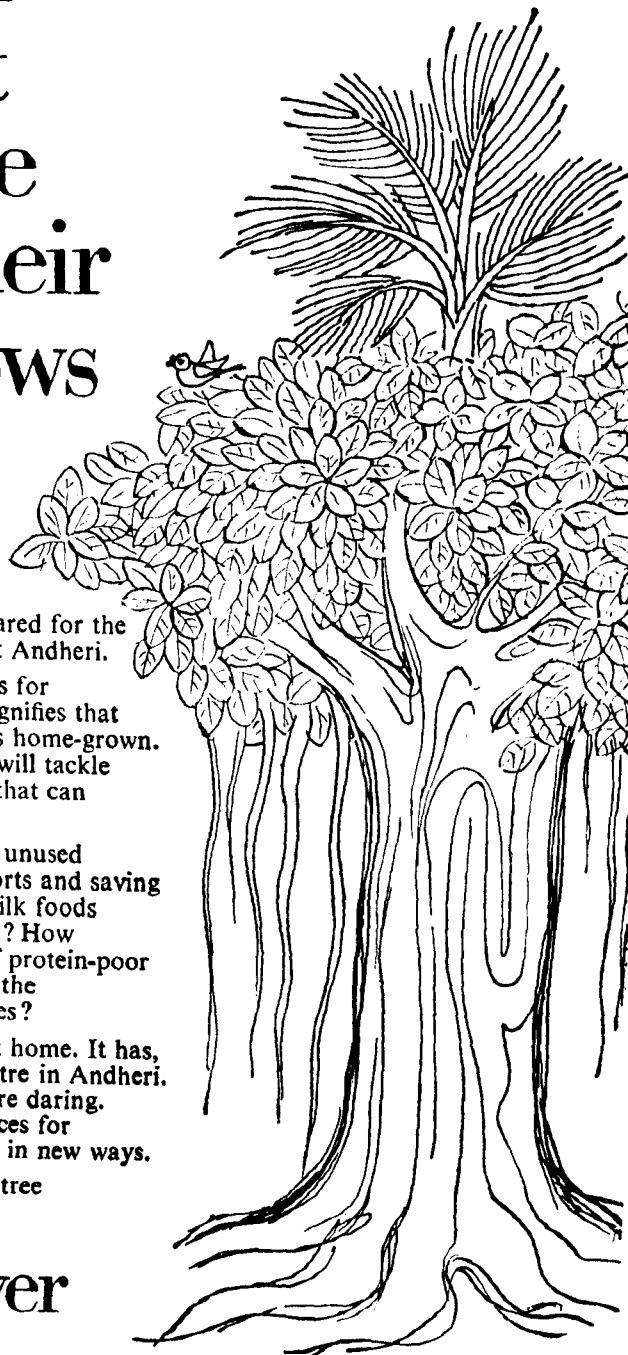
Can we discover and exploit hitherto unused local sources of oil, thus cutting imports and saving foreign exchange? Can we develop milk foods that are ideally suited to Indian needs? How can we improve the nutritive value of protein-poor foods? Can we develop processes for the preservation of Indian type food dishes?

Research on all this can only begin at home. It has, at the Hindustan Lever Research Centre in Andheri. The sweep and thrust of the studies are daring. The scientists are producing new devices for old, making traditional things happen in new ways.

They have, of course, left the banyan tree alone to grow by itself.

Hindustan Lever

Lintas-HLL/PR, 9A-140



Apart from this, the workshop has built vehicles for other States also, 14 vans for Madhya Pradesh and one to the Andamans.

The Tamil Nadu State Transport Central Workshop covering an area of 28 acres is one of the biggest of such workshops in Asia and the largest of State Transport Workshops in India.

An Award with A Difference

The workshop has the distinction of affording employment to the handicapped, to a larger extent than any other workshop in India, and has been the recipient of an Award for this also.

The workshop reduces purchases to bare raw-materials and undertakes all manufactures and semi-manufactures, firstly to save on cost and secondly to provide more employment opportunities. In bus construction the cost factor is such that a 20 per cent saving is effected when compared with similar construction in the



Engine Overhaul Section.

private sector. With a thousand employees on its rolls, the Central Workshop's buses are built to withstand 6 years of constant running.

The welfare of the workers draws special attention here. There is a dining hall and recreation centre for workers. Incentive bonus is given to encourage quick execution of tasks all along the line. The prize money awarded by the Union Government last year was divided and distributed to the workers.

This growing workshop in the public sector sets a worthy example to the private sector too.



Suitable Employment is given to the Physically handicapped.



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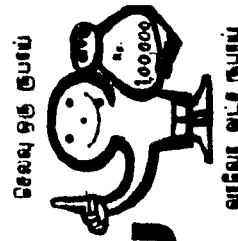
Date of Draw: 25-9-1970

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Issued by: Director of Information & Publicity,
Government of Tamil Nadu, Madras-9.



ARTHRITIS

Arthritis otherwise known as Keel Vayu is one of the many afflictions, more dreaded because it strikes one unawares and that too in the prime of life, be he man or woman. It is, therefore, classified as one of the "chronic ailments".

In olden days

During Pre-historic days, Keel Vayu was considered as a Karma disease. In the 12th Century when South India was under the supremacy of the Cholas the renaissance of Tamil medicine was at its zenith and the metallic preparations were used in the therapy of Keel Vayu extensively by renowned Siddha Physicians like Theraiyar, Yugimuni and with the reports of successful results there developed a flurry of renewed interest in the Keel Vayu disease. It would be surprising to note that Kundavi (Sister of Raja Raja Chola the great) had given a treatment to her father when he was suffering from chronic disease like Keel Vayu.

Keel Vayu by definition means inflammation of a joint or disturbance in free movement of the joint either with pain or without pain. Keel Vayu indications are pain in the joints or swelling in the joints or restricted movements of the joints due to abnormal activity of the "Uyir Dhathus" (Vatham and Kabam) especially Vatham. The other names of this disease were Amavatham, Mega Soolai,

Narithalai vatham, Santhuvatham and Muttivatham. Even those who hail from the villages also freely use the term vayu for all types of Keel Vayu.

A merciless disease

Keel Vayu is a merciless disease, the worst form of which strike in the prime of manhood or womanhood having not the virulence to kill the patient but only to cripple, disable and wrack with pain. Keel vayu affects nearly all aspects of life from employment to recreational activities. It blights the victim's life.

It is here to be remembered that the Siddhars have expressed vividly, that among the Uyir Dhathus especially Vatham is dormant in some parts of our body. When the murunthu (ligament) is afflicted leading to Keel vayu, the pain is not felt but the patient experiences or feels the restricted movements of joints. As soon as the murunthu is destroyed or eaten away then the pain is experienced by the patient. So much so, the patient in the beginning stage never comes to the physician for treatment because of the absence of pain.

Immobility of joints, disturbed sleep, sometimes rise of temperature these symptoms will be present.

Feeling the pulse

Feeling the Nadi, in all these Keel Vayu cases it invariably

denotes the predominance of Kabam being vitiated and to a lesser extent Vatham being at its lowest ebb. This Kaba Vatham is felt in the beginning stage of the disease and Vatha Kabam is felt in the advanced stage of the disease.

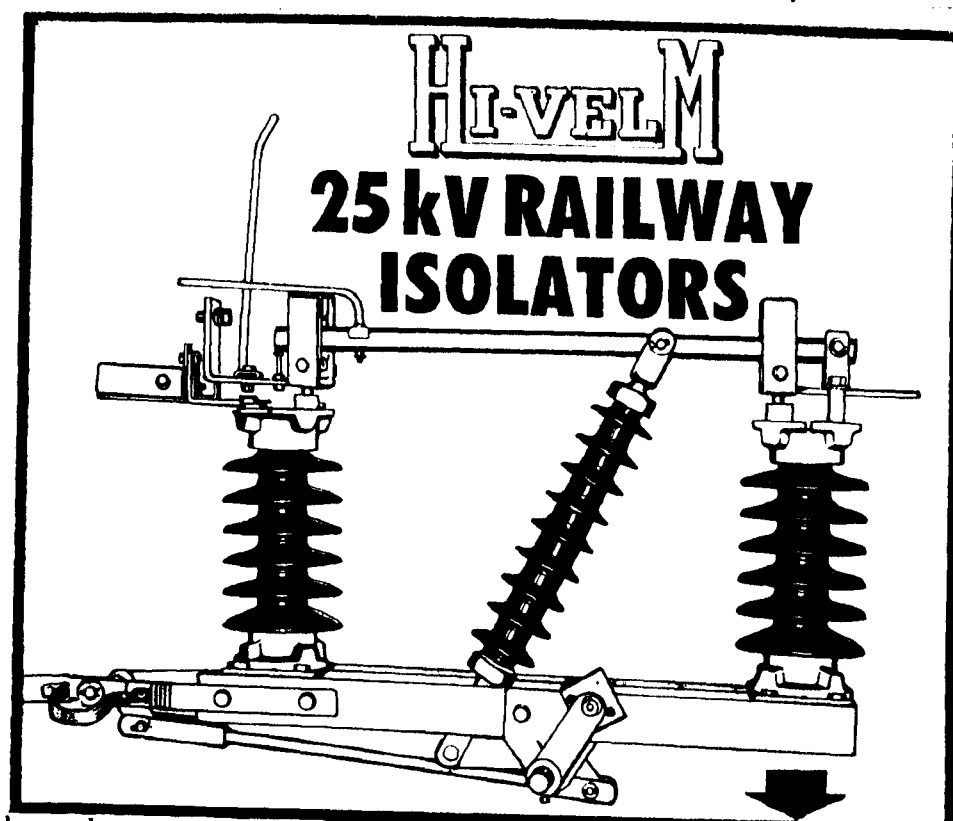
In the urine examination by Theriyar Neikuri Method, if it is in the beginning stage a drop of oil will slowly spread into a uniform circular disc whereas in the advanced stage it will rapidly spread haphazardly into irregular discs. By the first instances the resultant test indicates Kaba Vatham which is the disturbed factor and the second instance Vatha Kabam as the disturbed factor.

The affected joints should be kept at rest by the application of splints and by bandaging the part. Care should be taken not to give drastic purgatives. Talent is required to select a type of purgative which will not deteriorate further the general constitution of the patient.

In these cases, Merugulli Ennai is the best and next is Vella Ennai. The base element in both cases is castor oil.

Line of treatment

(1) Rest to the patient and as well rest to the part affected, (2) To eliminate the disturbed Dhathu and Udarkattugal and bring them to normal stage, (3) To promote repair and regeneration of the degenerated tissues, (4) To increase the vital resistance of the body fluid and tissues and (5) To tone up the affected Udarkattugal and Dhathus.



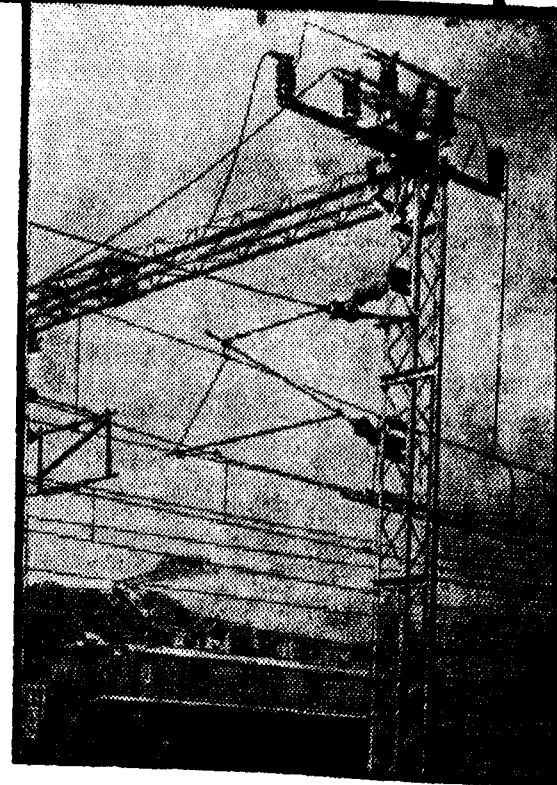
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SOIL CONSERVATION IN SERVAROYAN HILLS

'Soil Conservation' is a comprehensive term including all improved measures that are necessary for the proper land and water management in order to make the best use of the lands to produce, without at the same time depleting the soil. Soil Conservation as such denoted good land husbandry and land improvement measures to prevent soil erosion, conserve moisture or dispose excess water and also provision of irrigation and drainage channels, saline and alkaline land reclamation wherever necessary, etc., these land improvement measures should be followed by improved farming practices.

Check-dams constructed

Servarayan hillocks lying in Yercaud Sub-Taluk in Salem District, is of hilly nature, consisting of ups and downs and agricultural practices are being carried out in the slopy lands in respect of both commercial as well as food crops. Since the area is receiving considerable rainfall, there is

every possibility of erosion of soil, in the slopy area and the crops in fields are also getting damaged, apart from the fact, due to frequent erosion of soil, the same is losing fertility gradually and finally also become unfit for agricultural operations. Taking into account all the above factors, soil conservation measures were introduced. An area of 3,363 acres have been covered under soil conservation measures upto 1969-70 at a cost of Rs. 25.36 lakhs. Under Soil Conservation measures, construction of stone walls and construction of check dams wherever felt necessary have been taken up. Three hundred and fifty-seven check dams have been constructed in 43 villages out of 67 villages in Yercaud.

The entire expenditure of the scheme will be borne by the beneficiaries, the State Government and the Government of India as detailed below which is the existing financial pattern governing the soil conservation schemes.

	PER CENT
Ryots share ...	60
Government of India's share.	15
State Government's share of subsidy.	25

The farmers' share of expenditure will be initially met from out of loan to be given by the Government of India to the State and will be repaid in accordance with the usual terms and conditions.

The farmer's share of expenditure will be recovered from them in 10 equated annual instalments, the first recovery commencing from the third year of the completion of works, with interest at the prescribed rates.

Benefits of Soil Conservation works.—

1. Prevention of progressive loss of productive soil by erosion.
2. Disposal of excess water causing soil erosion.
3. Eradication of stones and boulders from field enabling cultivation.
4. Proper utilisation of land capability.
5. Avoiding silting of land pond and reservoirs in catchment area.
6. Permanent improvement in agricultural lands.
7. Increase in crop yield and food production.

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from the market? Do not the red plantains belong to us, having been brought up by us in our own backyard?" And to this Sengodan's wife added her share with anger flaring up in her eyes: "Do you think it is fair or just on your part to make the innocent children suffer such anguish?"

The compelling reality before Sengodan was however the clerk of the farm. With footsteps falling heavy on the earth, Sengodan picked up his sickle and went to the backyard. Not aware of the load on his mind, the children trooped behind him, giving vent to shouts of sheer merriment: "Father is going to fetch the red plantains!" The children danced round the tree in glee as Sengodan plied the sickle and in their cheer they did not notice the tears coming to brim in his eyes.

With the cluster of plantains firmly in his grasp, Sengodan stepped into the hut and threw the sickle down. "Set the plantains carefully on the floor father; let us touch the fruits and get their feel, to start with", called out the children. But he would not accede to their pleading. Stroking the back of his firstborn, Sengodan said in a soft voice, "My boy, the boss wants this cluster of plantains and I have got to take it to him. Don't cry, for in just another month the sapling next to the tree would come out with its yield and that shall be yours for certain." Saying which, he set out at a rapid pace, not having the courage to look back or stop to hear the sobs of the deluded children.

Sengodan's hut wore the appearance of a place of funeral that day. It was only late in the night that he could muster sufficient strength to return home and when he saw his children stretched out in uneasy slumber born of fatigued grief, tears rolled down his cheeks. Controlling his sorrow, he laid himself down on the mat but could not sleep. A thousand thoughts swarmed in his mind. He had reared the plantain as if it was his favourite child but to what purpose? The cluster of plantains, of trifling value to Paranthamar rolling in wealth, who could have easily purchased it with the least effort. But, Sengodan the single cluster was priceless in value, for it was the ultimate result of his toil and the object of his dream that bore its magic spell around his children too. All his labour had been sold for a trice!

Four days passed, Muthuvijaya, the beautiful damsel, sailed in the direction of the temple with a silver platter laden with a bunch of red plantains.

In a certain shop, a solitary cluster of rare red plantains was hung up for sale. The shop-keeper had purchased it from Sundaram, the clerk of the farm who had been resourceful enough to abstract a sizable share of the fruits, soon after Sengodan left them in Paranthamar's house. Sengodan's son Karian stood in front of the shop, casting eager glances at the red plantains but the shop-keeper who was a greedy churl, chased him away

saying. "One plantain costs an anna, fellow. Do you think you can get it for a measly quarter anna?" The poor boy had no means of knowing that the red plantains now exhibited in regal splendour in the shop had had their origin in his own backyard. Karian himself had watered the sapling many a day and all along, his fond hope had been that the fruits would reach down to his hands in due course. The plantains were in the shop now, far beyond the boy's reach. The quarter-anna in his pocket could buy nothing more than a handful of groundnuts and Karian returned, munching the nuts. When he entered the hut, his father was coming from the backyard carrying plantain-stalks in his hands.

"Father, is this also for the house of the boss?", asked the boy. Sengodan answered; "No, my boy, it is for the coffin of the old lady Parvathi who expired today."

The coffin had its own macabre decorations, and pride of place among them was accorded to the stalks of the red plantain. Tears and sobs all around the coffin.

Karian and other children followed the coffin at a respectful distance. The boy pointed out the coffin proudly to his friends: "See the stalks of our plantain there. We gave the cluster of the rare, red plantain fruits to the house of the farm and as for the rest of the tree it is there tied up in that coffin!"

The boy was too young to realise that the lot of Sengodan's rare, red plantain was a common occurrence in the world of labour.

"Where is the fountain that throws up these flowers in ceaseless outbreak of ecstasy"?

Rabindranath Tagore.



Tamil Nadu is entering the export market for cut flowers in a big way. This potential has been created by recent efforts, with the creation of a separate Floriculture Section in the State Agriculture Department.

Floriculture in Tamil Nadu was not attended to as much as it deserved in spite of its export potential. In the course of last year, Floriculture Section has been established in Tamil Nadu with a view to concentrate research work on the development of commercial flowers. As a prelude to large scale export of our highly rated tropical cut flowers, which are growing in Tamil Nadu very successfully. The first trial consignment of exportable roses along with a set of colourful cut flowers was selected and sent to the Ghent Floralis Exposition held from the 25th April to 4th May in Belgium. There is keen demand for the above cut flowers and the scope for entering the European market is considerable.

It is programmed to assist the flower growers in growing choice roses and cut flowers which are ideal for export, by supply of pedigree plant material and free technical guidance. The active assistance of the State Trading Corporation in this connection for the export of flowers has been enlisted.

Flowers possess a mystic charm to attract everyone. The more one looks at a flower, the more one feels fascinated by its natural beauty. It is a wonder of God's creation. Flowers take us to God, and to humanity. A flower is that rare combination of the Holy and the Beauty. It was a small flower which inspired Lord Tennyson to write :

"Little flower-but if I could understand

What you are, root and all,
and all in all

I should know what God and
man is".

In poetry, flowering trees were frequently mentioned. There were the tall pale-flowered sirisa the fragrant orange flowered Kadamba and the red kimsuka. Many varieties of jasmine and the white atimukta were also mentioned. Most beloved of all flowers and symbolism of religion and beauty was the lotus or water-lily which the poets were never tired of mentioning by many synonyms and epithets. From these poets men learnt enough to flatter a girl as flower.

In the present age, the late Prime Minister, our beloved Jawaharlal Nehru with a red rose in button hole has shown us the place of flower in our life. As one travels in India, one will be struck by the variety of flowers in the plains, hills and coasts. In our daily life we use flowers in many ways. Birth, death and marriage are marked by flower decorations, wreaths, etc.

The poet, the artist and the devotee have each prized flowers of diverse hues and of differing intensity of fragrance to provide them inspiration and atmosphere. While Indian tradition lays stress on offering the best that nature provides and man creates to God, modern life and living would regard objects of beauty and freshness as decorative materials.

In most Western countries as also in the Far East, notably in Japan, flower decoration is considered as a fine art and cultivated with great care and enthusiasm.

USES OF CUT FLOWERS.

Just as we use the economic flowers such as the jasmine, chrysanthemum, etc., the use of

As a result, floriculture has grown into a gainful industry in many foreign countries. In all the important cities of these countries there are big cut flower stalls. They are also growing flowers exclusively for export.

In the United States cut flowers worth Rs. 20 crores are produced every year. Apart from this they are also importing from countries like Australia, South Africa, France, Israel and Germany. About 75 per cent of the flowers grown in Netherlands is being exported. Israel alone is exporting cut flowers worth Rs. 2 crores annually.

In our country almost all the varieties of flowers are being grown in about 20,000 acres. But the major area is under jasmine, rose and such other economic varieties. In our country though about 11,000 tonnes of flowers worth about Rs. 9 crores is grown annually we are not exporting flowers to foreign countries in an appreciable manner.



Export flowers must have long stalks!

cut flowers are very popular in western countries. Patients and convalescents usually get cut flowers from kith and kin. Women wear cut flowers such as the orchid in matching colours on their dresses on special occasions and parties.

In England and some other European countries from December to March, being winter they could not grow flowers during this period. During this season England, Canada, West Germany, Sweden, Switzerland, Italy, France, etc., will have to depend

on imported cut-flowers such as the coronation, Agepanthus and Watsonia.

RANGE OF PRICES

In West Germany flowers like the chrysanthemum fetch Rs. 72 per dozen. In the winter season the Germans are prepared to pay up to Rs. 150 for hundred roses. The orchid varieties fetch Rs. 20 per flower. Therefore floriculture if developed on proper lines will be a profitable business. For example, roses grown in an acre will yield about Rs. 15,000 as income. The expenditure will be about Rs. 1,500 to Rs. 2,500 depending on the variety.

In our State there is good scope for floriculture in and around Ooty throughout the year. It will help farmers of Ooty, Coonoor, Kotagiri, Yercaud, Kolli hills and other such hill tracts to increase their income considerably. And



Our Chief Minister during his recent tour abroad paid special attention to Cut-flower uses in foreign Countries.

Tamil Nadu will become a leading cut-flower exporter. There is also considerable internal market in other States for the flowers of Tamil Nadu.

The only snag is that these cut-flowers should reach their destinations whether in India or abroad within 24 hours. Since the State Trading Corporation is ready to help in arranging the export of cut-flower by planes this will not be serious problem in the way of developing floriculture on a wide scale. Our plane services are such that flowers cut in Ooty in the morning can reach Calcutta, Bombay or Delhi the same evening, and also travel further to reach London or New York the next day. All that is needed is cut-flowers for export should have stalks intact, be in bud-condition but ready to blossom in 24 hours, and must be rushed to air-conditioned boxes immediately on being cut. Most important of all, export flowers must be cut with a long length of stalk.



Beantles from Ooty

ANNA, OUR FRATERNAL LEADER

History is itself the biographies of great men, it is said. The life of ARIGNAR ANNA (Dr. C. N. Annadurai, M.A., D.Litt., Chubb-Fellow, Yale) is an apt illustration of this saying. Anna was born in Tamil Nadu nay, Tamil Nadu, as it is today, was born on 15th September 1909 at Conjeevaram. To know the history of To-day's Tamil Nadu one has to know the biography of Anna. It is no exaggeration to say that Anna was and is Tamil Nadu. But for Anna, Tamil Nadu would not have come to be called by her own name.

It was Anna who roused the slumbering Tamils to realise their past history and glory, and it was Anna who re-named the Madras State as Tamil Nadu and helped Tamil Nadu to be known to the world by her real and original name.

The term 'Anna' in Tamil means elder brother, and C. N. Annadurai was endearingly called by the Tamil masses only as Anna (elder brother).

The very name 'Anna' inspired millions of people. He was also known by another term 'Arignar' meaning genius. Yes, Anna was a genius of a high order. He was an erudite scholar, an able politician, a wise statesman, a powerful orator, a great journalist a revolutionary writer, a fine novelist, a noted play-wright, a social reformer, an efficient administrator, a rationalist,



ANNA, THE RATIONALIST

staunch socialist, an eminent leader, a wonderful diplomat, true democrat and above all, an affectionate elder brother (Anna) of the Tamils in and outside Tamil Nadu.

After taking his M.A. Degree, Arignar Anna, instead of seeking the usual refuge in the white collar profession, plunged head long into politics devoting himself to moulding the destinies of the masses. He became a staunch follower of Periyar E. V. Ramasamy, the revolutionary social reformer of Tamil Nadu.

A Rationalist

Anna was a rationalist, and after finishing his education, he boldly took the hard path of social reform. The Self-Respect Movement started by Periyar attracted him much. He threw his heart and soul in propagating and spreading the ideals of that Movement. He travelled throughout the length and breadth of Tamil Nadu to preach to the masses the ideals of that movement facing devastating opposition. He wrote many articles, stories and plays to popularise the Self-Respect Movement. He made use of all media of propaganda, the press, the stage and the screen to spread his ideals.

Anna founded the Dravida Munnetra Kazhagam (D.M.K.) to achieve his goals in the social, economic and political spheres.

Anna gave a vivid picture of the glorious past and the degraded present state of Tamil Nadu. In his own words :

"Our literature, art and architecture are fine specimens of human intelligence—but they bear the ravages of time and also the effect of currents and cross currents so that, to-day, we have to listen to the foreign historian or scholar in order to realise the glory and grandeur of Tamil Nadu. Our culture and civilisation are hoary but we have allowed scars and wrinkles to disfigure them. It is our duty therefore to re-discover and re-construct what is ours."

"Truly great has been our achievement in the field of literature. To be able to announce to the world that we, the Tamilians do possess great literature, and to represent to the world the great Thirukkural which is a code of conduct for the entire humanity are something about which we can have pardonable pride.

"Many a foreign scholar has borne testimony to the perfection with which Tamil Language has been developed into an instrument of precise and subtle thought and to the beauty and richness of the literature which is contained in it. Dravidian literature and philosophy, art and architecture, offer therefore a rich and fruitful field for exploration and critical investigation."

Portraying the picture of Tamil Nadu in his unique style, Arignar Anna made a clarion call to the young graduates, in the following words:—

"Graduates, please, carry on the crusade against caste which cannot co-exist with democracy, against superstition, which cannot co-exist with science and against tyranny of various dimensions which cannot co-exist with liberty, equality and fraternity."

Anna's call attracted a continuous stream of enthusiastic young men with the spirit of service. Anna was the only leader who knew best about the youth and channelised their energy for constructive purpose. Anna was not born with a silver spoon in his mouth—instead he was born with a silver tongue! He was equally proficient in Tamil and English. With his gift of oratory Anna attracted—nay, hypnotised—any kind of audience, young and old, literate and illiterate. His speeches were interesting, instructive, inspiring and thought-provoking.

Fore-runner of Reforms

Anna's pen was literally mightier than the sword. With his powerful pen, he produced a number of books. His speeches and writings are characterised by exuberance of vocabulary and beauty of expression. As a writer, Anna has been compared with Bernard Shaw, Ibsen and

ANNA, THE ADMINISTRATOR

Galsworthy. As an orator Anna was a combination of Demosthenes, Ingersoll, Winston Churchill, Edmund Burke, Macaulay—all rolled in one. All his speeches are there in volumes. Euphonic alliterations and rhymes, apt and arresting similes and revolutionary thought are the special features of his speeches and writings.

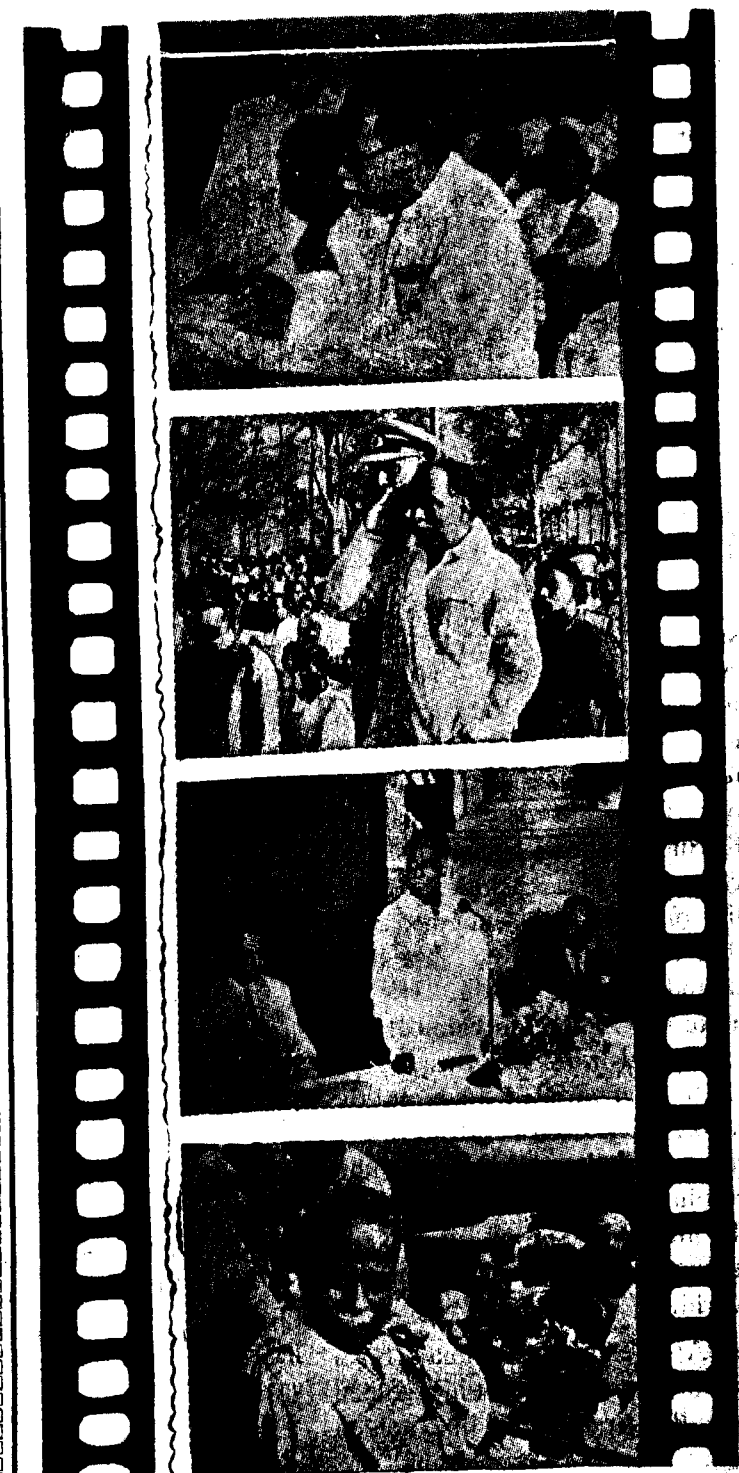
Anna is the fore-runner of the renaissance in Tamil Literature and art. He developed a style of his own. His writings and speeches are emulated by a host of his grateful successors. His oratory is inimitable in anyway.

Anna translated his ideals into action. He ushered in a new era and he toned up the society. Apart from the social changes, Anna brought about a glorious revolution in the political sphere, the least violent, the most beneficial change.

After ascending the seat of power, Anna encouraged inter-caste matrimonial alliances. As an able administrator, he gained renown throughout India.

His amiable disposition, his tact, sobriety, statesmanship, brotherly feelings for his party associates, and magnanimity even for his opponents endeared him to all. He was claimed by all India.

It is not possible to describe his qualities of head and heart in one single attempt. He was an embodiment of all the faculties personified.



ANNA IS EVER WITH US

Anna revived and rebuilt Tamil Nadu and he presented the grandeur of Tamil Nadu before the foreign delegates on the occasion of the Second International Conference Seminar of Tamil Studies.

It is a matter of pride and pleasure to record that the Yale University in the U.S.A. honoured Anna by conferring on him the Chubb-Fellowship. It shows his greatness.

Anna's motto of the three D's (Duty, Dignity and Discipline) is a source of inspiration to the Tamils.

But the cruel icy hand of death snatched our charismatic Leader Anna away from us. His death has created a void; yet he had left behind a strong band of followers under the leadership of our Chief Minister Kalaignar Karunanidhi who will nourish and cherish his ideas and ideals. The life of Anna was entwined with that of Tamil Nadu. He lived in and for Tamil Nadu. His last ambition was to see Tamil Nadu christened with her own name. He himself christened her and the whole Legislative Assembly representing all parties seconded his resolution unanimously. Anna the illustrious son of Tamil Nadu left as an eminent leader of the world.

"At the time of Anna's birth Tamil History was not in a golden age. But Anna left it in a golden age. At the time Anna was born the Tamils had not realised

the greatness and depth of their history. When he left, Tamils realised their history and were extraordinarily proud of it." Anna made them feel proud of it.

The Tamils are proud of Tamil Nadu. They are proud of Anna. Thousands of Tamils flock together daily at his tomb to pay homage. That place attracts millions of those who follow his principles. His Birth day is celebrated on a wide scale in a variety of ways. In families, in factories, in farms and also in the fashionable circles, each in its own way remember Anna on September 15th with fervour and devotion. As for the Tamil Nadu Government since last year it has become a practice to launch some scheme of importance to the people on September 15th. This year it is the Salem Steel Plant that is being inaugurated to coincide with the Birthday—the 62nd Birthday of Anna.

Anna's Mastery of English

"...What many of us, who had been taught by our Tamils to appreciate the linguistic talents of Arignar Anna were not aware of, was his quite extraordinary mastery of English. Then came the Second International Conference-Seminar of Tamil Studies, at the concluding session of which, we were privileged to hear the (then) Chief Minister speak in English.

After this no delegate to the conference would fail to understand how he had gained such a

in his mother-tongue.

For, this was a great performance, mingling humour with sentiments, wit with profundity in a way that no native speaker of English present on the occasion could have surpassed, or even equalled.

Dr. A.E. ASHER,
Edinburgh University,
Scotland.

CO-OPERATIVE TEA FACTORIES

Among the Industrial Co-operatives, eight co-operative Tea factories in the Nilgiris have been doing good work. These factories served 3,433 small Tea Growers owning approximately 9,000 acres of tea gardens. The value of total production in the Tea factories in 1968-69 amounted to Rs. 129 lakhs as compared to the total production of Rs. 94 lakhs in the previous year. An integrated scheme for development of Co-operative Tea factories for the benefit of Small Tea Growers at a total cost of Rs. 165 lakhs has been prepared and sent to the Tea Board for sanction. The scheme is pending with the Tea Board. Under this scheme, it has been planned to start eight more Co-operative Tea Factories for the benefit of Small Tea Growers and to give assistance to the existing Co-operative Tea Factories for expanding their business. The Central Society continued to render service to the existing factories by distributing manure, etc.

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Government of Tamil Nadu, Madras-9

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OF TAMIL NADU
Tamil Arasu



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★Subject to issue of 5 series.

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Cover Page—Father of the Nation.

Back Page.—Inauguration of work on Salem Steel Plant.



1. Mahatma Gandhi

Gandhi was well built, with fine muscular bulging chest, thin waist, and long thin firm legs, bare from sandals to short, tight loin cloth. His knees were pronounced bulges and his bones wide and strong; his hands were big and the fingers big and firm. His chocolate-coloured skin was soft, smooth, and healthy. His fingernails, hands, feet and body were immaculate; the loin cloth, the cheese cloth cape he occasionally wore in the sun, and the folded, moistened kerchief on his head were bright white.

His body did not look old (written when Gandhiji was 73). He did not give one a feeling that he was old. His head showed his age. His head was large, wide at the top and tapering down to a small face; big ears extended away from it abruptly. His upper lip, covered with a black-and-white stubble mustache was so narrow that it almost met the fat, down pointed nose. The expression of his face came from his soft and gentle eyes, the sensitive lower lip which combined self-control with strength and showed a suffering, and the ever-present smile revealing naked gums.

His facial features, with his quiet, confident eyes, whether he was speaking or listening, was always alive and registering activity. He spoke with a low, singsong, undistinguished voice (many Indians have the same singsong when they speak English), and he gestured eloquently but not always, with the fingers of one hand. His hands were beautiful.

TWENTY DAYS

M. KARUNANIDHI

5. Italy of Today

Before I proceed to refer to the Chapters of Italian history wherein the undaunted braves of that land wrought political changes as varied in magnitude as the rise and fall of the waves of the sea, would it not be better if I were to describe in some detail the political and economic conditions of the present-day Italy?

The Italian Republic to-day contains within its territory the sovereign, independent Republic of San Marino and the sovereign, independent State of Vatican City.

The beauteous natural seaports Naples, Leghorn, Laspazia, Genoa

and Savona adorn the mountainous west coast of Italy. Dotted on the low-lying Adriatic coast are the natural seaports, Venice, Bari, Brindisi and Taranto.

The official language for the whole of Italy is only Italian and it is the language spoken by the vast majority of the people. Different languages are spoken in different parts of the country, but Tuscan of the Tuscany region is said to be only a version of Italian, distinct on account of quality. French is spoken in the Piedmont regions and actually it is the second official language in the valley of D'Aosta. German

is widespread in the Upper Adige regions and Latin holds sway in the northern and north-eastern areas.

The dailies available at news-stands and the books sold at the stalls are all in the Italian language. The use of English is limited to those fields of activity that have to be in contact with the outside world; and the feeling is deep-rooted in Italy that for all other purposes, the mother-tongue is eminently adequate.

Roman Catholicism is the State Religion in Italy and 99 per cent of the people happen to be Roman Catholics.

Constitutional monarchy had been functioning in Italy from 1861 onwards but it was put an end to on 2nd June 1946 when, through a referendum, the people of the country ushered in a Republic. A Constituent Assembly was also elected at the same time and the new Constitution became effective from 2nd January 1948.

The Italian Republic is headed by a President who is elected on the basis of two-thirds majority of the Parliament comprising the Senate and the Chamber of Deputies. The term of the President is 7 years. In the electoral college for choosing the President, three representatives from each of the regions of Italy are also allowed to participate, apart from the members of the Senate and the Chamber of Deputies.



Democrats and placed them in power ; but ideological squabbles from time to time led to the attenuation of the party's strength. The Italian Communist party takes the second place there, in terms of political quantity ; it has also the distinction of being the largest of the Communist parties in West Europe.

There are two rival parties, both subscribing to the creed of Socialism. The bigger of the two is the Socialist party and the other is the Social Democrats Party. Apart from these, the other parties in the political arena are the Republicans the Liberals and the Radicals.

When I visited Italy, it was the Christian Democrat Party that was in the seat of Government were, to provide employment opportunity for all, to eradicate the economic disparities between the North and the South, between the Industrial and the Agricultural sectors and to create equal opportunities for all sections of the community. The foreign policy of Italy has been committed to the task of striving for peace, ensuring defence and preserving liberty. At the time of my visit, the stability of the Government was very much in the balance.

The political parties that came into being in the wake of Benito Mussolini's fall in 1946 were national liberation groups forming part of a broad alliance of those parties that had been in existence before the emergence of Fascism. However, after 1946 when Elections were conducted for the Constituent Assembly, the political parties were grouped in three separate categories, namely, the Leftists, the Neutrals and the Rightists. Amidst this, the Christian Democrats' Party enjoying the support of the Roman Catholics has shaped itself into a separate influence of substantial strength, under the leadership of Gasperi. The results of the parliamentary elections held in 1948, 1953 and 1958 favoured the Christian



With the way side Painter.

Parity Economy.

By way of securing parity with its agricultural economy, Italy has attained widespread Industrial productivity in the several sectors. Of the total labour-force of the country, 38.20 per cent is engaged in Agriculture and 33.10 per cent in Industry. Farming is concentrated in the Central and Southern regions whereas industrial potential is located to a large extent in the north.

Fifty per cent of the farmers in Italy have an average holding of 1.20 acres of land each. Of the industrial workers 76 per cent are engaged in small industries and that too, small industries of

the scale employing not more than two. Heavy industries have also been developed to impressive dimensions.

Industry has registered spectacular growth after World War II, and this is all the more noteworthy when we learn that Italy has to import the bulk of its requirement of raw materials. Coal is imported to the extent of 90 per cent and other items like petroleum, cotton, copper, phosphates, wool and iron have also to be obtained from other countries in large proportion. Natural resources of minerals like sulphur, mercury, lead and zinc are very limited indeed.

The labour-force in Italy is made up of 20 million and 15 lakhs workers. Of this 10 million and 90 lakhs are engaged in factories and the rest in Agriculture and other fields of work. There are 4 major trade Unions in the country and it has been estimated that their total membership is of the order of 60 lakhs of workers. The factories are on a 6 day schedule during a week and work is for 8 hours in a day. The holidays are 16 for the year and of these, four are paid holidays. The minimum age for employment is 14 years. Women and children are not allowed to work in the factories on night-shifts.

The Red Hall

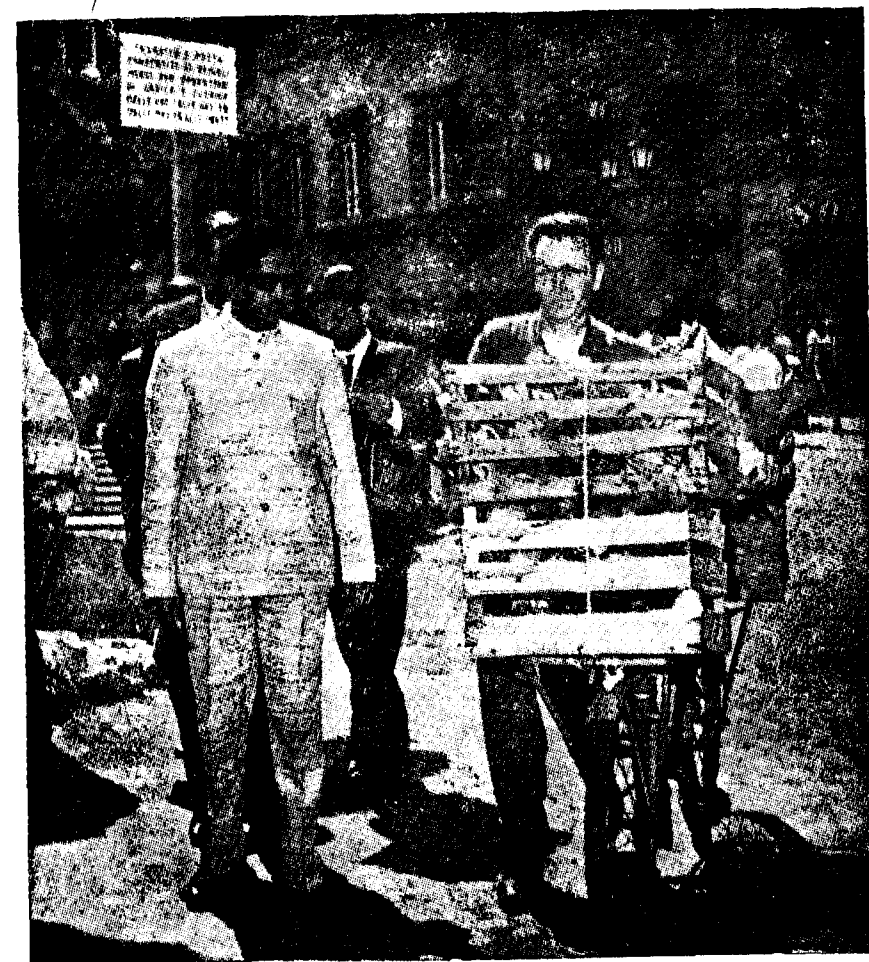
Such is the political, economic, industrial and agricultural background of Italy and it was in Rome, the capital of the country

that the corporation accorded a reception and presented a medallion to me. The function was arranged in the 'Red Hall' where the dazzling paintings and the sculptures relating the history of the ages held our sustained attention. Not a single marble has been wasted there. Every slab, every piece has been rendered eloquent.

It is literally impossible to describe the magnificence of the paintings there in the 'Red Hall', depicting the battlefields where the warriors of Rome performed their deeds of valour and collected

the trophies of war in the form of wounds on their chest. A battle-scene has been painted on an entire wall of the Hall and looking at it, I came to feel that I was actually standing in a sector of the battle itself. Impressed beyond words, I captured the painting in the Camera but my desire to reproduce the print, for all to see and admire, could not be fulfilled. I don't know what exactly happened to the picture-whether it was lost amidst the hundreds of snapshots or whether those who accompanied me left it behind, through forgetfulness !

I tasted the pleasures of walking freely. . . .



Walk Free

After viewing the grandeur of the 'Red Hall', we decided to take a walk for a brief while, on the streets of Rome. To walk freely on the streets of Tamil Nadu has been an impossible task for me, since identification leads to hundreds of kind people surrounding me and deluging me with their affection. I was confident that such would not be the position in distant Rome and for the first few minutes of the stroll, I could experience the exhilaration of the bird set at liberty. But after that, strange to say, I noticed quite a few citizens men and women, almost closing in on us and walking in our footsteps. It was of course an agreeable surprise to me that there were people, even in far away Rome, who knew me by sight; but the pleasure, alas, was short-lived. For, what had attracted the attention of the followers was the 'Tilak' and the saree of my wife, I told my wife: "Well, back in Tamil Nadu I am the object of the people's attention when I step outside, but here you seem to have taken my place!"

After walking along a few more streets, we got into the car again and drove to the office of the F.A.O. The Organisation is meant for the advancement of Agriculture. The

Officers there not only accorded us a warm welcome but availed of the occasion to put questions to me by way of seeking information and clarifications; and it almost became a regular seminar. Dr. Poduval who was formerly working in the Annamalai University is now a senior officer at the F.A.O. and he explained that, although the Organisation is not in a position to render direct financial aid for many projects, it does come forward to provide financial assistance through the World Bank, for agricultural development and progress.

When in the course of the discussions, an officer happened to mention that North Italy was way ahead in economic development whereas South Italy had lagged somewhat behind, I could not help commenting; "Perhaps, everywhere North and South would be found only in such circumstances!" The interjection was received with broad smiles by those present.

Reply to Critics

Another officer pointed out that it is being stated that democracy in India is in danger and that disunity and poverty are proving intractable problems. When he desired to know my views in the matter, I answered:

"The task of eradicating poverty is rendered rather difficult, as a result of the Leftists and the Rightists being extremely tenacious in clinging to their respective policies. But there are definite possibilities of evolving unity amidst diversity in India." Towards the close of the engagement, I told the gathering: "Although stability of Government is not a strong point in Italy, the economic development here has been substantial and impressive. But as far as India is concerned, I cannot say that economic development has been up to the mark. When I return, I would communicate my opinion to the Government of India that India would do well to adopt such ways and means for development as have been evolved in Italy."

After the reception at the F.A.O., we once again set out to see the sights of Rome. The Republic Square is one of the places in Rome where a festive atmosphere prevails in the evening in such abundant measure that it cheers the heart and kindles the enthusiasm of the visitors. Thus a trip to the spot is a must for tourists and it was at this Republic Square that a youth engaged in painting became an instant friend of mine.

(to be continued.)



GANDHIJI ON TAMILS AND TAMIL LANGUAGE

No other Indian can equal the performance of the Tamils in this fight (Sathyagraha in South Africa). It therefore occurred to me that I should read Tamil with close attention, if for no other reason than to tender sincere thanks to them at least mentally. Accordingly the last one month was devoted mostly to the study of Tamil. The more I learn it, the better I appreciate the beauties of this language. It is a very fine and sweet language, and from its structure and from what I have read in it, I find that the Tamils have produced, and still produce, a large number of intelligent, thoughtful and wise men. Moreover, since India is going to be one country, some Indians outside Madras should also learn Tamil.

—from Indian Opinion, dated 5-6-1909.

GANDHI MEMORIAL SCHOLARSHIPS FOR HARIJAN PUPILS

A special scholarship scheme for Scheduled Caste students was announced by the Tamil Nadu Chief Minister Thiru M. Karunanidhi on 2nd October 1970 in connection with the observance of the 101st birth anniversary of Mahatma Gandhi.

Known as the "Gandhi Memorial Scholarship Scheme" it will be available to two students belonging to Scheduled Castes in each district—a boy and a girl—who secure the highest marks in the P.U.C. examination.

Each student will get Rs. 100 per mensem besides a cash grant of Rs. 500 to meet the immediate expenses for continuing the study in degree classes. The assistance under the scheme will be available to a student for a maximum period of six years.

Thiru Karunanidhi announced the scheme at the all-party public meeting at Seerani Arangam, organised by the Tamil Nadu Government to celebrate Gandhiji's Birthday and said the winners of the Gandhi Scholarships would be eligible for the usual concessions available to Scheduled Caste students.

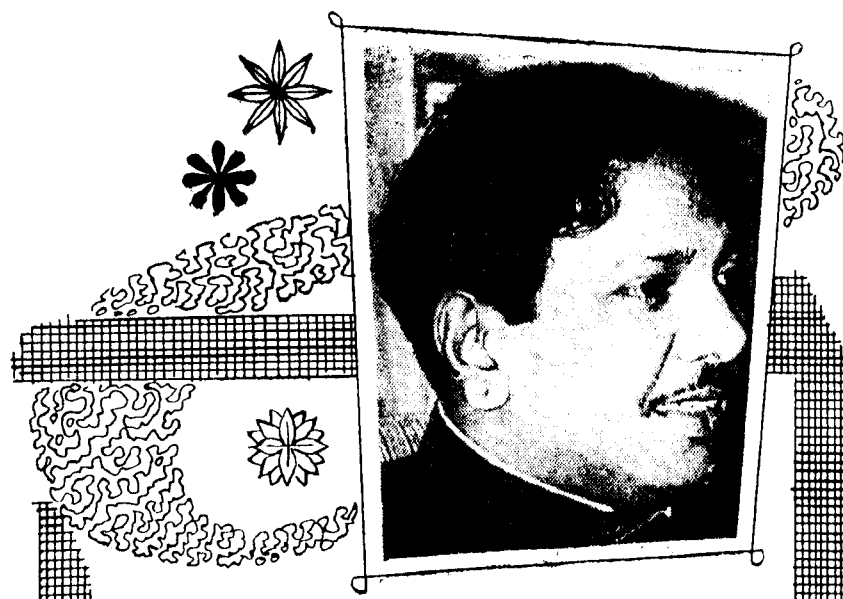
He said the Tamil Nadu Government had decided to institute the above scheme in memory of Gandhiji who had dedicated his life in the cause of Harijans and the down trodden.

The Chief Minister also said the Tamil Nadu Government wanted to continue the various concessions enjoyed by Backward Classes and Scheduled Castes in the matter of education and appointments until the "social inequalities" were completely removed.

THE HUMAN TOUCH IN SALEM IRON

The Government have reassessed the land requirements for the Salem Steel Project and have decided to restrict the requirements to 16,964 acres, as against 24,446 acres originally notified for acquisition. The areas released from acquisition comprise heavily built-up areas, developed agricultural lands, areas having semi-industrial complex like powerloom, weaving, etc. This puts an end to the 10-year misery of the people of Kanjamalai who could not raise money on their property, as a result of acquisition notice.

Anticipating the need for encouraging several small industries, an intensive campaign was organised in Salem for the registration of small industries, supply of machinery from National Small Industries Corporation, etc. In one sitting lasting six days 489 small-scale units were registered!



TAMIL NADU SCHEME TO RELIEVE UNEMPLOYMENT

The Tamil Nadu Government has drawn up an ambitious programme to relieve educated unemployment in Tamil Nadu. The scheme will cost Rs. 1 crore per annum.

Under this scheme, 6,000 teachers (graduates and others) and 2,400 technically-trained men including engineering graduates are to be given job opportunities immediately.

Under the scheme 6,000 teachers will be taken in immediately. This would be in addition to the 7,000 already recruited.

These newly recruited teachers would serve an apprentice period for two years and would have first preference in the appointment of teachers in the regular cadre.

The graduate-teachers would receive Rs. 175 a month, secondary trained teachers Rs. 125 and higher elementary teachers Rs. 100.

The Government has already a two-year stipendiary training scheme for graduate engineers, diploma-holders, and I.T.I. Craftsmen. Under the scheme 2,000 of them would be given job opportunities before the end of the year. The Government is also examining ways to find them more employment in public and private sector undertakings.

Under the scheme, the graduate engineers will receive Rs. 250 per month, the diploma-holders Rs. 150 and the Craftsmen Rs. 70, up-wards.

Gandhi is for all

The Gandhiji Birthday celebrations in Tamil Nadu this year, though it followed the pattern set in the previous two years was memorable in that it was elevated to the stature of an event of national significance, transcending party and ideological loyalties. In fact, this spirit of supra-party consciousness for paying our homage to Mahatma Gandhi was initiated by Anna, when he issued the clarion call of 'Unite for Gandhi', to mobilise the entire State towards the Gandhi centenary celebrations.

The Tamil Nadu Government went to a lot of expense this year to instill the fact that Gandhi is for all, through newspaper advertisements, posters and other means of publicity. These advertisements stressed the fact that the Government had been convening all-party public meetings in connection with Republic Day and Independence Day to enable all to identify themselves as belonging to one nation and one country. On top of all this, the invitations to the function went out in the warm facsimile of the Chief Minister's hand writing and signature. Thanks to all the publicity and persuasion, virtually all sections of the population turned out to the public meeting on 2-10 1970 held in honour of the Father of the Nation. All the leaders of political parties who were invited to participate in the function, responded and spoke on the occasion. The Chief Minister also announced that the Birth Day of Pandit Jawaharlal Nehru would also be celebrated in similar 'common-for-all' function.

The Salem Steel Plant which was inaugurated on 16th September 1970 will produce special steels of high value as against structurals and merchant sections originally envisaged. The product mix and the capacity of the plant are still under study. The capital outlay on the plant will be in the region of Rs. 100 crores.

The Kanjamalai Iron Ore, on which the present Project is based, has been known for more than a hundred years. With it is associated the name of an enterprising resident of Salem, Arunachalam Achari, who as far ago as the beginning of 19th century, produced steel from these iron ore deposits and fashioned it into articles of every-day use. Subsequently, the deposit of iron ore attracted the attention of a number of foreigners, one of whom in 1830 erected an iron works at Porto Novo, and demonstrated that pig iron could be successfully manufactured from the Salem Iron Ore with the help of charcoal. A company was started in 1833 under the style "Porto Novo Iron and Steel Company" but this company was wound up in 1866. Even



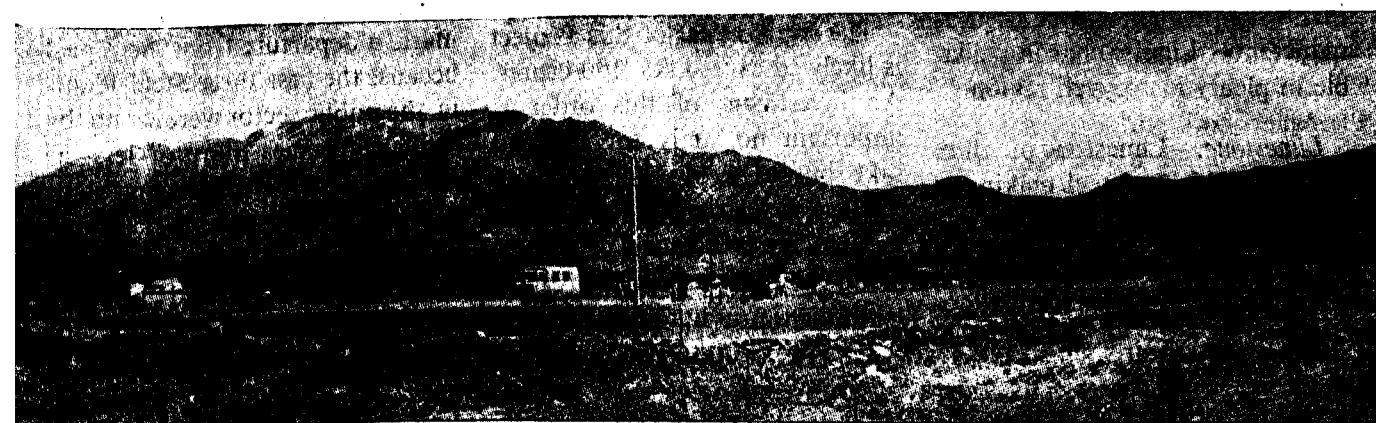
subsequently, sporadic attempts were made to prove the iron ore deposits and exploit them.

The proposal for a steel work based on these ores could not take shape on account of the non-availability of an important element for steel manufacture, namely metallurgical coking coal in the region. The discovery of extensive reserves of lignite, estimated at about 2,000 million tonnes in Neyveli provided this basic input.

In view of the fact that the iron ore deposit in this area, has very low phosphorous and sulphur content, it is ideally suitable for the manufacture of special steel.

Pending Central approval of a steel plant, the State Government decided to set up a plant for the concentration of the magnetite iron ore at Kanjamalai and for pelletisation for export in the form of pellets.

Seven possible sites were studied for locating the steel works. Out of them, the Kanjamalai site was considered the best in view of its potential advantage such as lower assembly cost of raw materials, access for both Broad Gauge and Meter Gauge lines without need for transshipment, adequate supply of power and water and ready access to the main market centres





in South India. The Kanjamalai site has also the lowest ton kilometre of movement for raw materials assembly.

The availability of raw materials water and power have been proved beyond doubt. The ore reserves at Kanjamalai have been proved as 144 million tonnes. Other reserves in Godumalai Theerthamalai, etc., all situated within a radius of 50 miles, are estimated as 170 million tonnes. The other probable reserves in Perumamalai, Rasi-puram, Namakkal, etc., would account for another 190 million tonnes. Thus, there are estimated reserves of 500 million tonnes of iron ore deposits in Tamil Nadu.

Lignite.—For the Salem Steel Plant, lignite char will be used as reductant. Lignite char is available in plenty in Neyveli region.

Limestone.—Limestone of flux grade suitable for steel making is available in Salem district itself and also in the neighbouring States of Mysore and Andhra Pradesh.

The other requirements such as magnesite, bauxite, etc., are available in Salem district itself. Manganese could be obtained

from Tumukur in Mysore State and Bentonite from Rajasthan.

Water.—Mettur reservoir will be the source of supply for water for the steel plant. Water will be pumped to a reservoir to be located at Nangavalli/Sitamalai region from where it will be gravitated to the receiving tank in the plant site. The total distance of the conveying main is 27 k.m.

The maximum power demand for the Steel Plant is of the order of 97 MW which could be obtained from the Madras Grid.

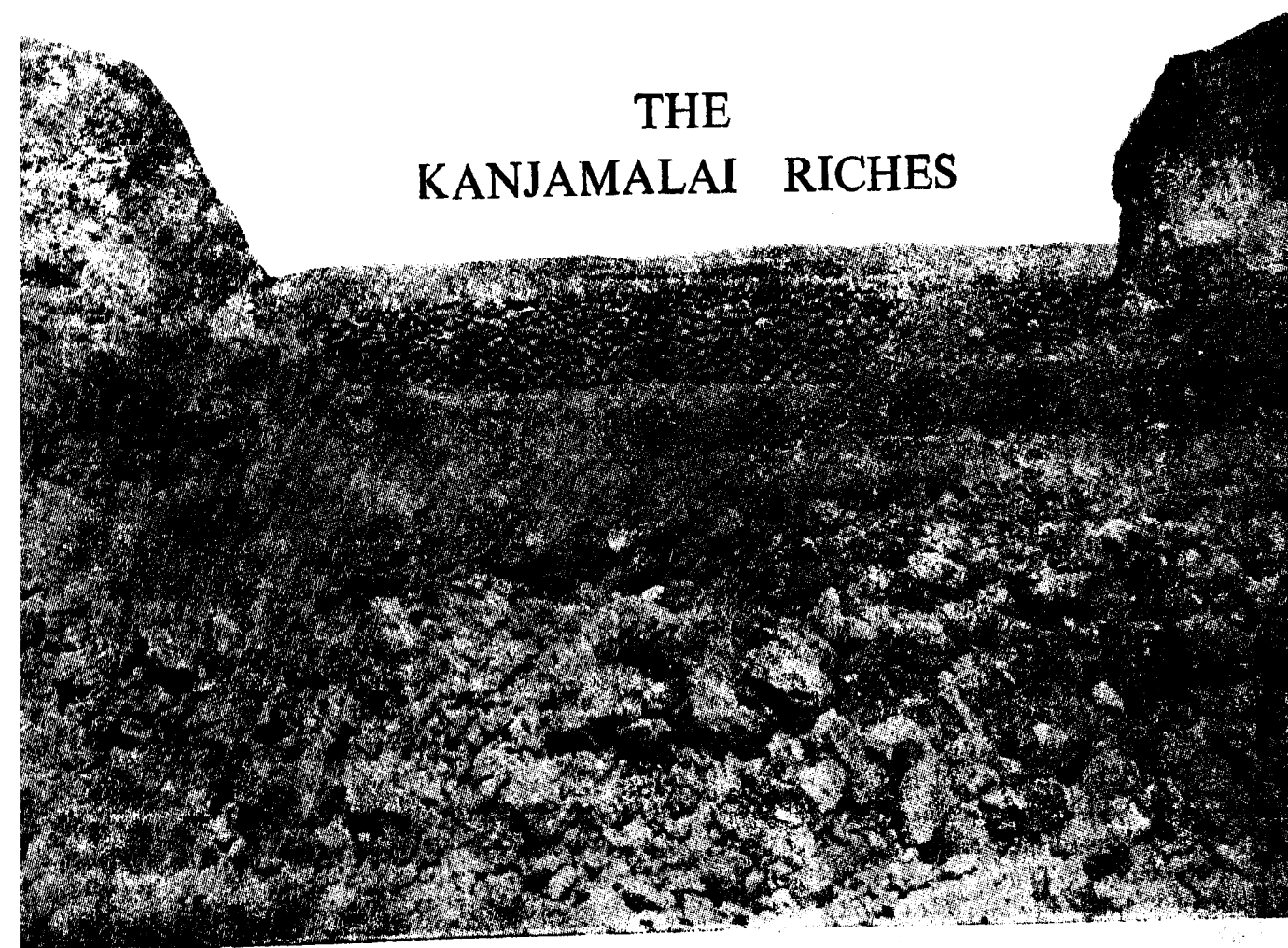
The plant may take about 6 years to go into production and is likely to provide employment opportunities for about 5,000 people in all categories put together.

The capital cost of this Project is likely to exceed Rs. 100 crores. An investment of this order is important not only for its own sake but as a big step towards further industrialisation of this area. This investment in a commodity like steel will not only have multiplier effect but perhaps, what is more important develop technology and skill in various spheres which will help diverse ways to develop other industries.

Inauguration of a project of this nature is always a landmark in the industrial development of the country. It is, however, more so in the present case because the technology proposed to be used in this plant will be new to the country. Instead of the conventional method of reducing iron ore with the help of coke in the blast furnaces, it is proposed to use lignite char for pre-reduction of the magnetite ore which will then be smelted in electric furnaces.

Latest Technology :

Another new feature of this plant along with the two plants to be set up at Hospet and Vishakapattinam is that it will be designed, engineered and later managed by indigenous talent. This will mark a departure from the past because the first three Steel Plants in the public sector were set up by foreign agencies more or less as turn-key jobs. Even the first stage of Bokaro depended to a large extent on the Soviet Union. The sense of discipline and also the skills for which the people of Tamil Nadu are noted will be harnessed in this mammoth venture, to earn for Salem Steel a world renown.



THE KANJAMALAI RICHES

The Salem Steel works will have several distinctive advantages even when compared to the existing steel works in the country. The proposed location of the plant at the iron ore mines coupled with the availability of large deposits of metallurgical grade of limestone, bauxite, etc., at close proximity secures for this plant the advantage of the lowest raw material assembly cost in the entire country.

Plant. *Transport requirements Ton-km. per ton of steel ingot.*

(a) Existing :

TISCO	...	592
IISCO	...	724
Rourkela	...	880
Durgapur	...	881
Bhilai	...	1,617
Bokaro	...	842

(b) Proposed :

Salem	...	161
Vizag	...	3,090
Hospet	...	3,293
Goa	...	4,216

Inestimable are the riches of Kanjamalai in the form of Magnesite Iron ore. In addition there are vast quantities of limestone in the Tiruchengode-Sankari area only about 30 kms. from Kanjamalai. There is also the advantage of the neighbouring magnesite deposits which are used for the manufacture of fire bricks necessary for steel plants. Large quantities of magnesite ore are already being used by refractory manufacturers in different parts of the country and it has been estimated that about 20,000 tonnes of

fire bricks will be required for medium-sized steel plants. Lignite char will have to be transported to the Kanjamalai area over a distance of only 170 kms and it has been estimated that 320,000 tonnes of lignite char will have to be used for smelting purposes.

There will be no shortage of iron ore for smelting purposes over a long period as there are already proved reserves to the extent of 370 million tonnes. It is estimated that nearly 100 million tonnes of iron ore will be available in the first band of Kanjamalai hill. There are two other bands which together may yield about 40 million tonnes of ore. Similarly, the reserves in Godumalai and Thirthamalai hills are estimated at 60 million tonnes in each place. These ores occur in the form of magnetite quartz containing 35 to 40 per cent of iron. Since then additional deposits have been located in the form of underground reefs in the neighbouring areas over long distances up to Tiruvannamalai. Thus even a plant of 1½ million tonnes can be easily fed.

Not of Low Grade

It is incorrect to say that Salem ore is of low grade and is not economical for smelting purposes. Even without the Salem Steel Plant being erected, the Japanese were interested in buying this ore because of its special quality and the scope for exporting beneficiated ore through Madras and Cuddalore Ports.

The Salem Steel Plant will be inducing a chain reaction which will have far-reaching consequences for the regional economy.



A pilot mine has been cut open in the Southern flank of the Kanjamalai hills to determine the behaviour of the mineral while blasting, the most suitable method of winning the iron ore and the equipment required for the purpose. The Neyveli Lignite Corporation Limited has been entrusted with the work of executing the pilot mine. Photo on top shows dynamite being put into the mine. Bottom photo shows the mine after the blast.



AFTER SALEM WHAT?

The Salem Steel works presents the opportunity of opening up new industrial horizons in the rapidly developing Southern region of the country. Compared to other Indian Steel works, Salem has the advantage of lowest raw material, assembly and product distribution costs. The available raw materials can be utilised with advantage through the application of new technology to produce quality products at competitive costs.

The richness of an ore is only with reference to what use we make of it. It is as rich as we make of it depending on the

following items of heavy engineering industries were generally recommended by the Techno-Economic Survey in 1961:

- (a) Malleable iron castings.
- (b) Alloy tool and special steel.
- (c) Steel Press work.
- (d) Grey iron castings.
- (e) Steel castings.
- (f) Steel forgings.

(a) Malleable iron castings:

The Malleable iron castings is in great demand in India. They are very useful in the manufactures for railways, automobiles, agriculture, Posts and Telegraphs, Electric High Tension fittings,

imports annually about 280 tons of these special steels at a cost of Rs. 15 lakhs. In fact an Alloy industry for tool and special steel can be started in the Salem-Neyveli belt which can supply to the whole of India and can even export. It is well-known that Salem has supplied such excellent steel to the Greeks, the Romans and Egyptians from times immemorial. A new plant for such tools of the capacity of 2,000 tons can be started at a cost of Rs. 3 crores.

(c) Steel Press Work :

It has got a demand of 4,000 to 5,000 tons per annum. This is

INDUSTRIAL PROJECTS IN SALEM-NEYVELI COMPLEX

method of extraction and smelting. What may be a poor ore with reference to one method of extraction and smelting may be quite rich by a different method. In America it appears many low grade ores are being worked to produce iron. In addition to the small scale industries, engineering industries which provide the most essential foundation for any organised or planned scheme for industrialisation may be started. They comprise generally of castings and forgings of components and parts required for making or assembling machines required for manufacture. The

Transmission fittings and hard fittings. We are importing nearly 7,000 to 8,000 tons of malleable iron castings every year. It is estimated that 10 tons of malleable iron castings per day may meet the needs of the whole State. An industry can be started for this purpose in Salem-Neyveli industrial belt.

(b) Alloy Tool and Special Steel :

In regard to Alloy tool and special steel the country's requirements are of the order of 9,000 tons of finished products. At present most of the requirements are met by imports from abroad at high cost. Tamil Nadu alone

an allied industry to engineering industry. An additional capacity for 2,000 tons per annum at a cost of Rs. 3 crores could be started.

(d) Grey Iron Castings :

Grey Iron Castings can be divided into three divisions; heavy, medium and small. The heavy unit can be located in Madras. The medium and the small scale industries can be started in Coimbatore. An additional capacity for 10,000 tons per annum may be found necessary which can be started at an estimated cost of Rs. 3 crores.

(e) **Steel Castings and Steel forgings.**

The Railways and the Automobiles concerns consume large quantities of steel castings and forgings which are now imported from abroad. The Railway equipment committee constituted by the Government of India has stressed the need for self-sufficiency with regard to steel castings and steel forgings. The Railway has estimated that its demand would be of the order of 42,000 tons per annum, while the indigenous capacity was only 31,000. Hence it was thought the licenced total additional capacity of 13,000 tons per annum may be provided for a new steel castings industry in the Salem Engineering Belt.

However, the National Council of Applied Economic Research have recommended a capacity of 6,000 tons per annum of steel castings at a cost of Rs. 6 crores which can be increased in course of time. In addition, Automobile and Accessories, Motor Vehicle bodies, Scooters, Cycles, etc., may be thought of in this area.

Manufacture of Machine-tools, Cotton Textile, Power Drill, Carbide Tips Plant, Aluminium Industry, Heavy Electrical Project, Electrical Motors and Pumps, Switch Boards and Gears, Transformers and Switch Gears, Electrical Steel Sheets, PVC Cables and Materials, Insulators, Fertilisers and a few chemical industries can also be thought of in this area.

After technical appraisal, the Council has recommended the creation of additional capacity in Tamil Nadu for the following engineering goods industries:—

Ball and Roller Bearing (one million units); Bolts, Nuts and Rivets (6,000 tons); Shot and Chilled Iron (1,000 tons); Tea Processing Machinery; Power Station Equipment; Industrial Gas Cylinders; Industrial Blowers; Air Compressors; Machine tools; Diesel Engines; Power Transformers (1 million KVA); Electric fans (1 lakh units) and ACSR conductors (5,000 tons).

In addition to the above mentioned new units, the Council has suggested substantial expansion of capacity in the following engineering industries:—

Bicycles; Machine Screws; Railway Wagons; Steel Pipes and Tubes; Structural Fabrication; Metal Containers; Sugar Mill Machinery; Automobiles and Accessories; Pistons and Piston Rings; Power driven pumps; Dry batteries; Storage batteries; Galvanized and Barbed Wires; Textile Machinery; Agricultural tractors and Enamel wares. It has recommended doubling the installed capacity in respect of the following engineering industries:—

Automobiles and trucks, Motor Cycles; Vehicular type of diesel engines; Electric Motors; Abrasives; Small tools and Distribution transformers.

According to the National Council, one of the weaknesses of the engineering industry in the State is inadequacy of intermediate processing facilities such

as foundries and forges. To overcome these obstacles to the growth of the engineering industries, the Council has suggested the manufacture of Grey Iron Castings; Malleable Iron Castings; Steel Castings; Steel Forgings; Steel Press Work; Aluminium Castings; Electrical Steel Sheets. Re-rolled Steel and Alloy; Tool and Special Steel. **The Council considers Salem to be the best location for rolling and re-rolling, Madurai for malleable iron castings, Coimbatore for grey iron castings and Madras for the rest of the above items.**

The National Council of Applied Economic Research has recommended in addition to the Salem Steel Plant, a pig iron plant of 30,000 tons capacity at Salem and Coimbatore. According to them the pattern of regional distribution of Industries would radically alter the face of Salem and South Arcot Districts. Of course, no one can neglect Coimbatore which has become the Manchester of India. With the adjoining district developing its natural resources, many basic engineering industries can be further developed in Coimbatore. It is said that among the districts of Tamil Nadu, Salem offers the maximum industrial potentialities. With immense possibilities of industrial development, Salem-Neyveli Belt would very easily become the Ruhr of Tamil Nadu. Many steel mills may be commissioned for the production of different types of steels for different industries. Industries based on Beryl, Calcite, Columbite, Felspar, Silica, Steatite may be started in Salem.

CALCIUM FOR CARBIDE INDUSTRY

Steps to locate new Sources

The State Geology department, in view of the importance of coral limestone of high purity for the calcium carbide industry, has been devoting special efforts in this behalf. The occurrence of shell lime-stone in Tisiyanvilai area, Tirunelveli District was taken up for detailed study. The deposit is estimated to occur over an area of 1,200 m. by 800 metres. The limestone has an average thickness of 4.5 metres. The quality is good in the central portions and coarse-grained, but tends to deteriorate in the northern and eastern portions. About 2 million tonnes of limestone has been estimated to occur here, but a final picture would emerge only after sampling and drilling which is proposed to be taken up shortly.

Sources of lime

Considering the fact that the backwater lagoons are potential areas for collection of dead shells, which constitute source of high grade lime, the backwater region in Kaliveli and Kandadu areas of Marakkanam, South Arcot District was taken up for assessment. It is estimated that limeshell layer of about 1 metre thickness on an average is obtained here. However, a certain portion of the area has already been won away. It is proposed to extend the survey further into the other backwater region. The area covered so far is about 5 sq. kms. The percentage of

SMALL CEMENT MAKING PLANTS

Foreign Interest in Tamil Nadu Technique

The pilot Cement Plant of Tamil Nadu Government at Kallakurichi is continuing its research activities to promote the sale of 75/150 tonnes-capacity-per-day plants. The Government of Indonesia have evinced interest in setting up such plants in their country and have approached, the Government of India for placing the services of an expert at their disposal. The proposal is under consideration.

Patented Plant

Being the first shaft-kiln Plant on a new fuel mix process in India the Pilot Cement Plant, patent

rights are being sought for it.

The production capacity of the plant is 25 to 30 tonnes of cement a day. The present production is 10 tonnes a day. The targetted capacity will be achieved on studying the operation and further improvements.

The purpose of designing such smaller capacity plants is to encourage industrialists to set up small cement plants in areas where small deposits of limestone are available and which cannot sustain the establishment of the conventional large scale cement factories.

limeshell bearing layers has been fixed preliminarily at 25 per cent.

High Grade Limestone is being utilised in the State for the manufacture of chemicals such as bleaching powder and calcium carbide. Incidentally one of the mineral deposits exotic to this State are the massive corals which grow around the small islands in the Gulf of Mannar. These along with the sea-shells which are found in the lagoonal waters of Pulicat and Marakkanam carry negligible impurity.

At present in the State there is one factory manufacturing Calcium Carbide in the South which has its problems in the procurement of essential raw materials viz., coking coal and coral limestone (of very high purity calcium carbonate with negligible phosphorus content).

The electrical process for the manufacture of this vital industry was first introduced about 70 years ago and in India in a small way from 1943.



Tamil Nadu stands third in the area of coconut cultivation and second in the yield of coconuts in the country. Coconut husks which are mostly used as fuel in Thanjavur and other districts, could otherwise be profitably used in the extraction of fibre. There is also demand for coir fibre in foreign countries.

The Government Coir School at Eathamozhi in Kanyakumari district imparts training to students in coir yarn spinning and manufacture of coir products like mats and mattings in a two-year course.

A pilot plant has been set up at Tenkasi in Tirunelveli district

with a view to demonstrate the possibilities of introducing mattress and bristle fibre in the State. All the machineries imported from the United Kingdom and Austria have been erected. The Unit started functioning on 13th June 1968. Partial production is being carried on in this Unit. The Unit can go into full production only after 4 more soaking pits are constructed and regular water-supply is arranged. Action has been taken to acquire the adjoining land with the well and to take pipe lines from the well for regular water-supply. The mixed fibre produced by the Unit is being supplied to the Hospitals.

In order to develop the Coir Industry in this State and to provide an additional income to the coconut growers by profitable use of coconut husks in the mechanical extraction of coir fibre from unretted husks, a revised comprehensive scheme has been formulated. This scheme contemplates.

(1) Organisation of 6 demonstration units to be located in Thanjavur, Tiruchirappalli, South Arcot, Salem, Coimbatore and Tirunelveli districts in stretches where there is concentration of coconut trees, to educate the entrepreneurs on the feasibility and economics of such a unit and to kindle their enthusiasm to start the coir fibre units.

(2) Providing financial assistance, to the prospective entrepreneurs, to set up mills, for land, building, machinery and working capital, under the State Aid to Industries Act.

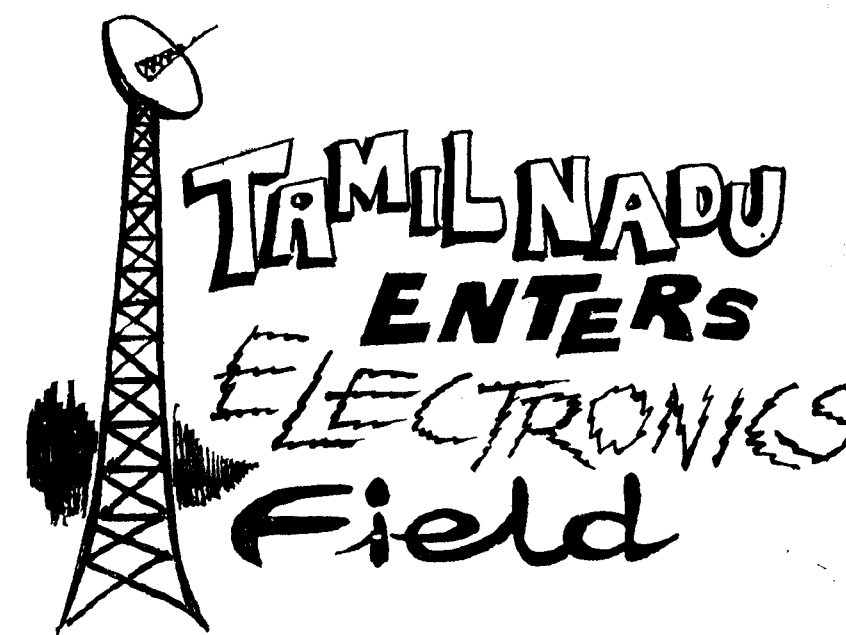
(3) Organisation of a Central Service Industrial Co-operative Society to market the fibre produced by the Units.

The Scheme involves an expenditure of Rs. 15.45 lakhs by way of loan to the private entrepreneurs, a small grant to the Central Society, besides share participation in the Central Society. Free services of staff according to the approved pattern will be provided. The six departmental units need Rs. 3.60 lakhs towards non-recurring expenditure and Rs. 0.76 lakhs towards recurring expenditure, and this has been provided.

Different electronic components will be produced in the functional industrial estate for electronics at Adyar, Madras. Work on the estate has already started at an initial cost of Rs. 36 lakhs in a ten-acre radio-free-zone. The first six sheds will be available for entrepreneurs by December 1970. Simultaneously training in electronics instrumentation has also been initiated in a few polytechnics. In addition, the Technical Training Centre, Guindy which imparts specialised training to degree and diploma holders will include electronics in its syllabus.

The State Government has already recommended to the Centre six private manufacturers having plans to make T. V. components, for issue of licence.

Technicians for electronics industry are under training



Thiru S. Madhavan, Industries Minister, explaining to newsmen the Tamil Nadu Government's role in promoting the industrial estate, said that unlike in the other industrial estates, the sheds will be let to entrepreneurs on a "hire-purchase" basis. They would not be rented. As in the other estates, common facilities like testing facilities and laboratories would be provided by the Government. If the response from the entrepreneurs warranted it, the industrial estate would be further expanded.

A seven-member technical committee consisting of Prof. A. Sampath, Deputy Director, I.I.T., Madras, Thiru K.S. Hegde, Principal of the Engineering College, Guindy, Thiru Sheshadri and Thiru M. Lakshminarayanan both from M.I.T., Madras, Thiru M.G. Damodar, Philips, India, The Director of Small Industries Service Institute, Madras and Thiru E. N. Narayanaswamy, Deputy Director of Industries, has recommended that the Government promote 25 lines of production. The working group, appointed in April last, has prepared

almost a near-feasibility report" with estimates of costs, raw material requirements, demand projections, foreign collaborations available, and facilities needed.

The group has recommended production of metal oxide resistors, capacitors (both polystyrene and polycarbonate), Ferrites, microwave instruments and antennae, ceramic and teflon wafers, auxiliaries like litz and solderable wires, batteries, battery eliminators, penmalloy laminations, special solders, connectors, and electronic hardware like fasteners and belts.

The group, whose report has been accepted by the Government, after discussions with officials, scientists, industrialists and experts from the Bhabha Atomic Research Centre and National Laboratories, has okayed the whole scheme of the electronics industrial estate. It has welcomed the idea of a certification and product development laboratory in the estate campus on the lines of the regional evaluation laboratories. The I.S.I. is being associated in this venture.

The group has recommended that at least two units for manufacture and assembly of T.V. receivers should be encouraged

in the estate, as also development of electronic ceramics and a research centre for this purpose in the ceramics complex at Vridhachalam.

For feeding skilled personnel, the group has emphasised the need for craftsmen training in electronics in the I.T.I.'s in the State.

The group has favoured canalising imported raw materials and components through the Tamil Nadu Small Industries Development Corporation.

The group's report contains a list of processes developed by various National Laboratories for development of electronics. It has recommended setting up a Standing Committee for development of electronics with a technical officer as convenor to keep close liaison with all National Laboratories and other organisations to advise the State Government on various promotional measures from time to time.

A degree course in Electronics and Communication Engineering with an intake of 22 students was started in the Alagappa Chettiar College of Engineering and Technology, Karaikudy, in 1969. Similarly, a diploma course in Electronics Engineering was started in the Government Polytechnic for Women, Coimbatore. In the Government Polytechnic for Women, Madras also an electronics diploma course is run. (Pictures on this page and in the previous page are of students in Women's Polytechnic, Madras.)



Schemes of minor irrigation, including sinking of tube-wells and open wells, and farm-mechanisation programme devised by the Government of Tamil Nadu for institutional finance were placed before a World Bank Team for the purpose of financing by International Development Association.

The World Bank Team comprising Mr. Christopher H. Walton Leader, and Messrs. E. A. Bobb,

districts of Thanjavur, Tiruchirappalli and South Arcot and a farm mechanisation scheme envisaging the procurement and deployment of 3,000 tractors.

New Horizons

The Minor Irrigation Programme contemplated in the project report is on a scale not attempted so far. Various measures have therefore been taken to gear up the organisation to the new tasks ahead. At the

enable adequate scrutiny of schemes and monitor effectively their implementation. The Registrar of Co-operative Societies' Organisation too has been strengthened and an officer of the status of the Joint Registrar of Co-operative Societies has been posted for handling Agricultural Refinance Corporation Schemes. Delay points have also been eliminated and powers have been delegated to ensure quick decision and smooth implementation. Review

MASSIVE MINOR IRRIGATION

R. Rossi, J. M. Daniel (members) and D. Thomas (observer) toured the scheme areas in the districts of South Arcot, Tiruchirappalli, Thanjavur, Coimbatore, Salem and North Arcot, for a fortnight in September.

The bank team has indicated the strong possibility of I.D.A. credit for financing these schemes and has urged the Government of Tamil Nadu to have these schemes executed in a matter of two years instead of three years as planned at present.

Tamil Nadu requires the import of 200 hand-boring sets, 50 rotary drills and 10 rotary-cum-hammer drills. The project as a whole consists of eleven schemes for the financing of agricultural development through construction of open wells, deepening of wells and installation of pumpsets, three schemes for the sinking of filter-points and tube-wells in the

AND FARM MECHANISATION

district level, a Project Officer has been appointed so that he could monitor the schemes being implemented under this project. Technical Cells have also been constituted at the district level which are expected to analyse the data compiled by the Ground Water Investigation Units as well as other agencies and use such data for the formulation of new schemes and the effective implementation of sanctioned schemes. The District Collector has been made fully responsible for all the minor irrigation schemes in the district. Thus the agency at the district level would now be in a position to tackle the schemes entrusted to it. The Land Development Bank too has been strengthened. A Technical Cell has been created in the bank to

PROGRAMME

Committees have been constituted at the district level as well as the State level. The State Level Committee on minor irrigation schemes is presided over by the Minister for Co-operation while the non-minor irrigation schemes would be reviewed by the Chief Secretary.

Benefits of Tube-Wells

The main benefits accruing from the filterpoint tube-well schemes is through supplementation of existing irrigation sources. In South Arcot and Tiruchirappalli districts, these tube-wells will, in addition to increasing the extent

of double cropping, assure irrigation facilities to summer crops. The benefits in the case of Thanjavur cultivators consist of intensive cropping and better yields from the crops now grown. These tube-wells filter-points will help in raising nurseries in advance for taking up Kuruvai planting soon after water is let out from Mettur Reservoir and this will enable a considerable step-up in double cropping area. These tube-wells and filter-points will also supplement canal irrigation for the second crop during January and February when the Mettur Dam will be closed. Apart from this, cultivation of summer crops like

maize, cotton, vegetables, pulses, etc., can be taken on. Besides farmers would be able to raise certain crops like sugarcane in factory zones and bananas in deltaic areas.

The Tamil Nadu Co-operative State Land Development Bank is the apex financial institution for these schemes. To help the Bank make a proper appraisal of the schemes especially from the ground water and agronomy angles a technical cell consisting of a State Geologist, an Agricultural Engineer and an Agricultural Economist, with a complement of subordinate staff will be constituted in the Bank.



The "Chintamani" Co-operative Super Market in Coimbatore has adopted a novel method of assisting its clients. It runs a posh bus like the one shown here to enable customers carry home their purchases without loss or exertion. This facility is availed by housewives residing

in the neighbourhoods of Coimbatore. Imaginative measures like these have enabled the Chintamani to record an average monthly sales of Rs. 26 lakhs last year. It has 17 departments including Agro services which sells all agricultural implements including tractors!

PICTURE PAGES.

*Opposite page:—*Thiru K. Rajaram, M.P., presents a ceremonial gift of gold plated silver mangoes to Prime Minister Thirumathi Indira Gandhi and Chief Minister Thiru M. Karunanidhi on the occasion of the inauguration of work on the Rs. 100 crore Salem Steel Project on 16.9.70.

*Centre spread:—*Views of Sathanur Dam and the picnic centre surrounding the Dam.

Last page

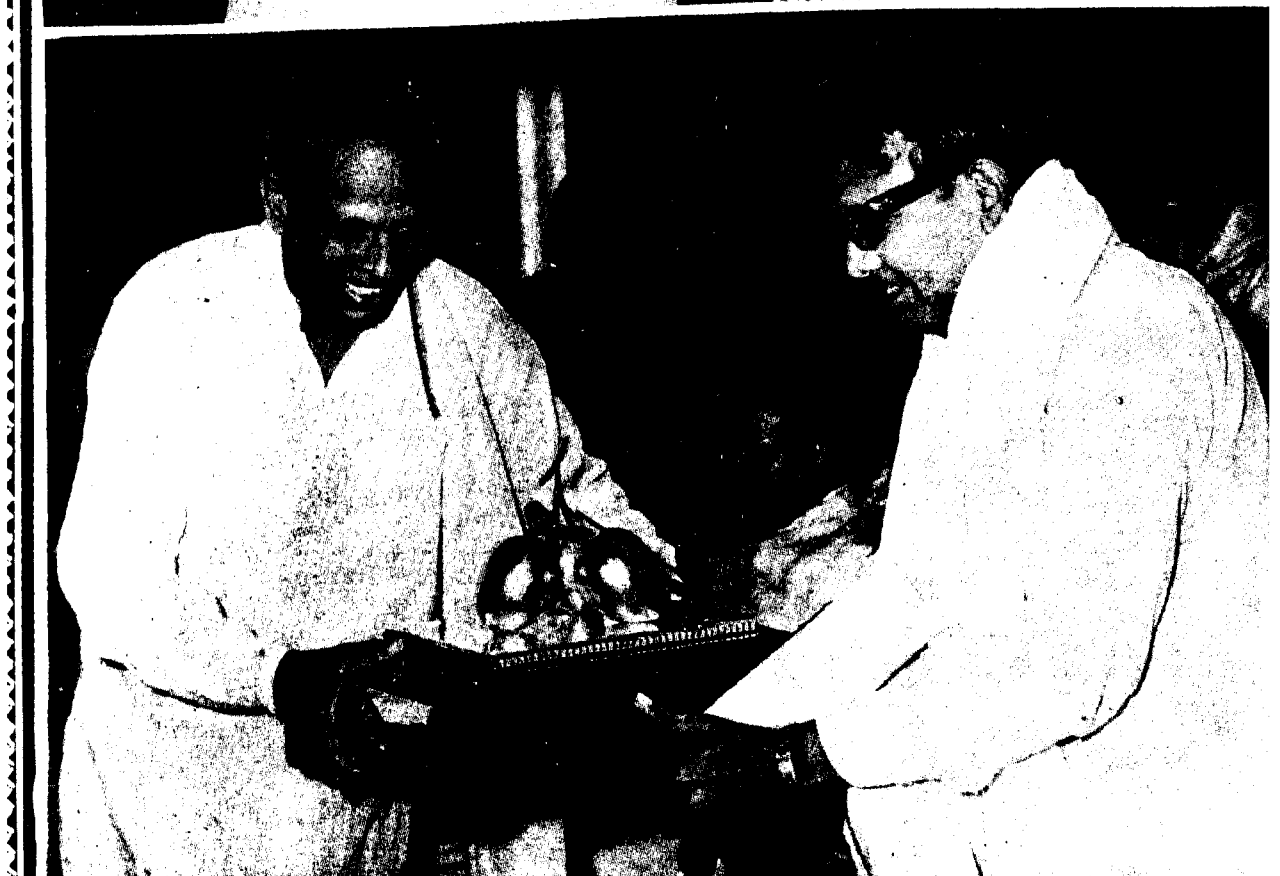
*Top left:—*Governor Sardar Ujjal Singh, the Prime Minister, the Chief Minister, the Minister for Industries Thiru S. Madhavan and Union Minister for Steel and Heavy Engineering Thiru B. R. Baghat at the Memorial Ashoka Pillar. Salem Steel works.

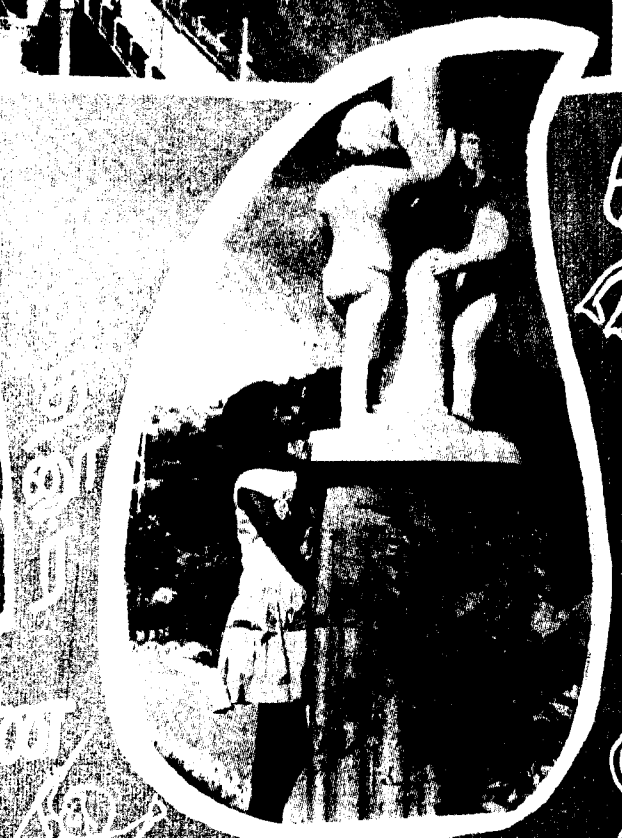
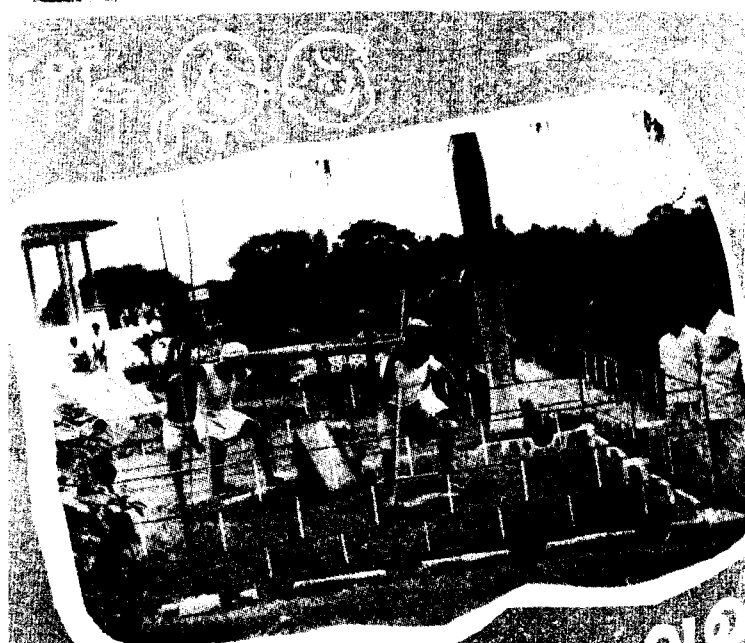
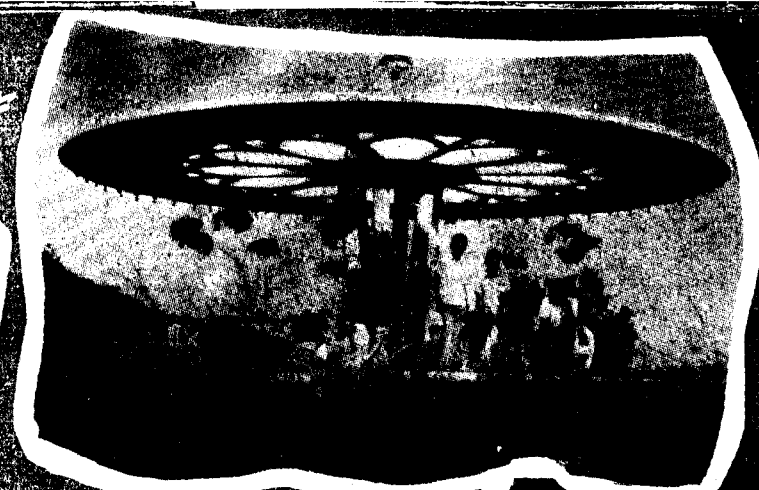
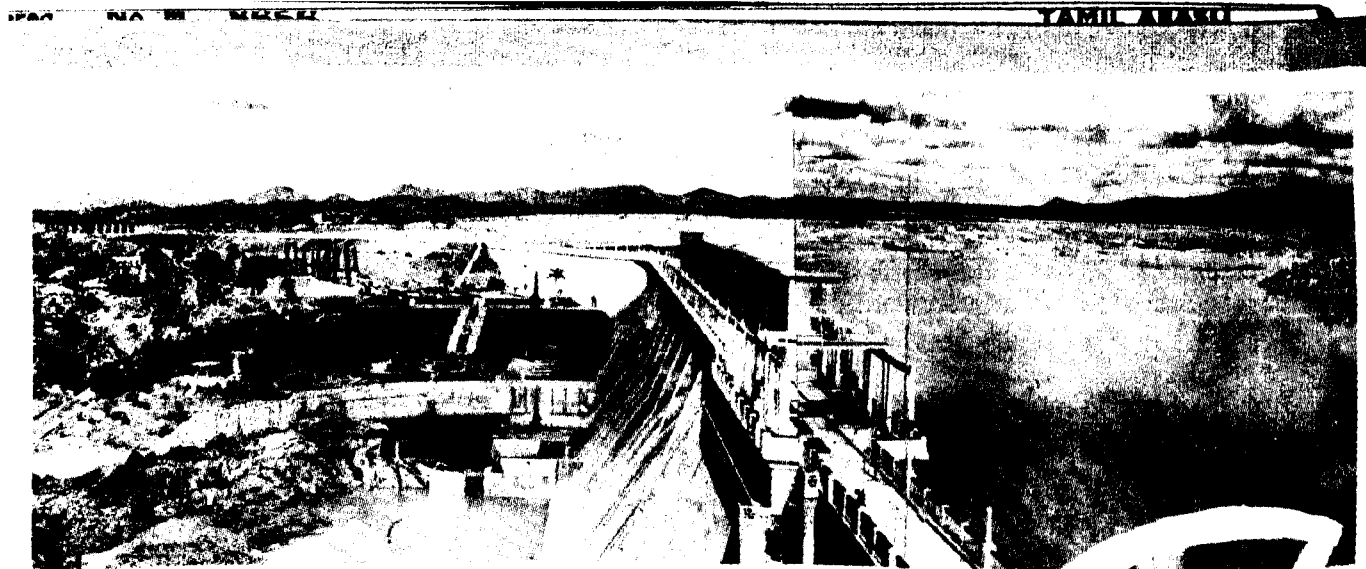
*Top right:—*The Governor, the Chief Minister and the Prime Minister arriving in an open jeep for the inaugural function.

*Middle left:—*The Chief Minister making his Presidential speech.

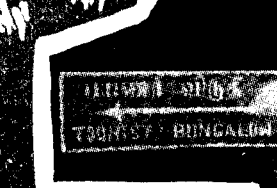
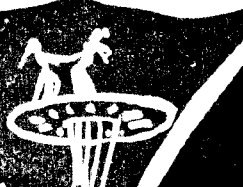
*Middle right:—*Intently watching the unveiling of the Memorial Ashoka Pillar are Thirumathi Indira Gandhi, Thiru M. Karunanidhi, Sardar Ujjal Singh and Thiru B. R. Baghat.

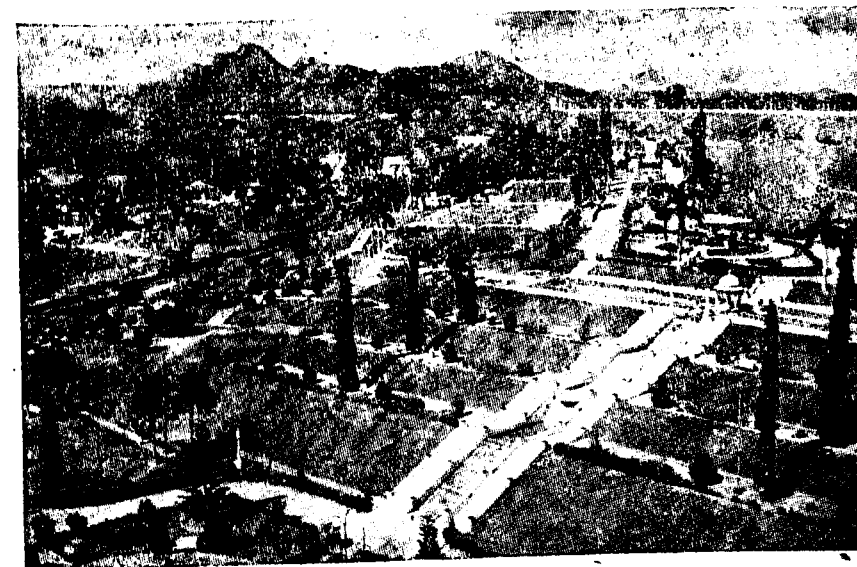
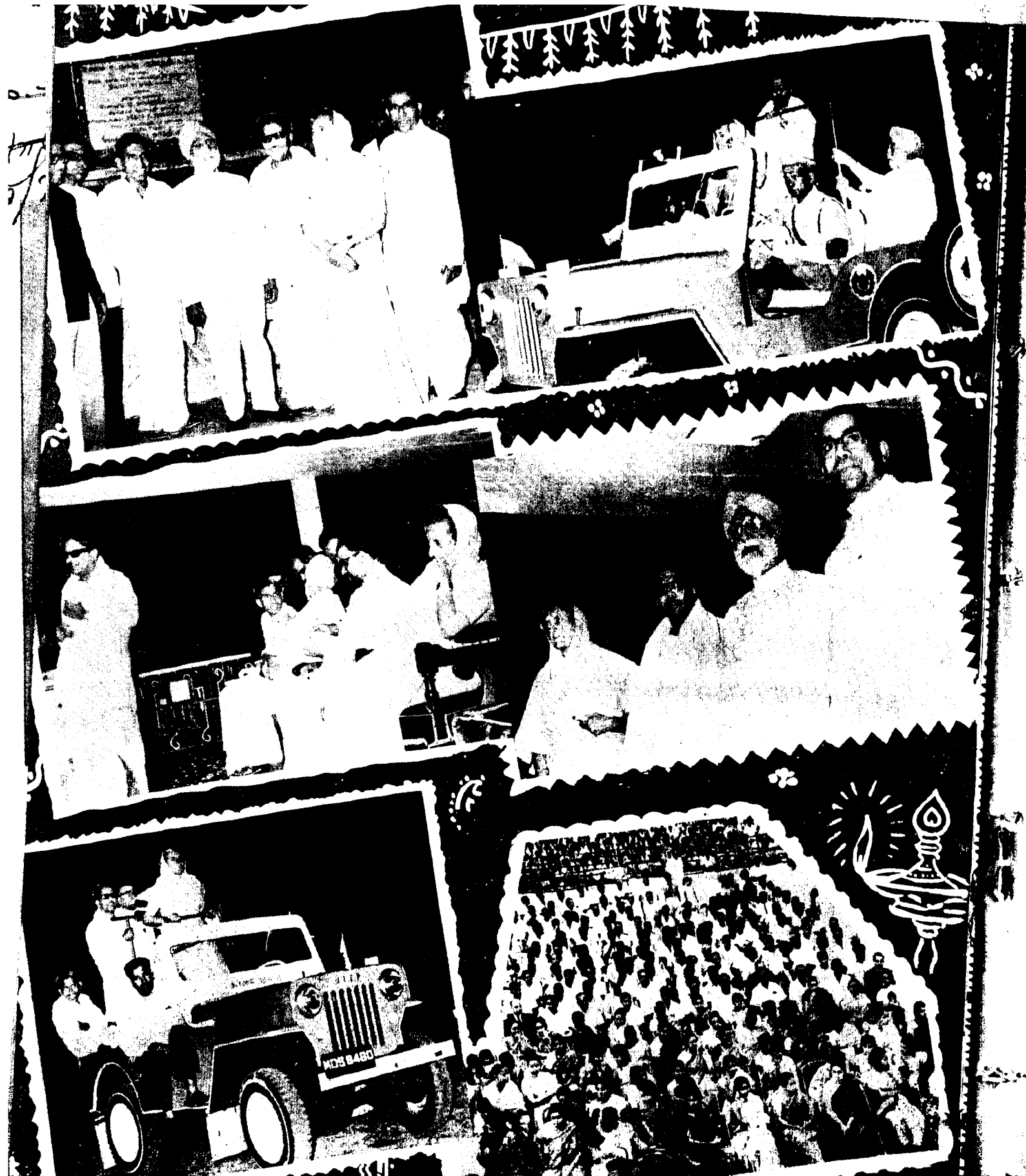
*Bottom right:—*The ladies enclosure of the large audience which turned out for the inauguration of Salem Steel Project.





SATHANUR
DAM





Terrace gardens at Sathanur

Sathanur... A WEEK-END RESORT

The Sathanur Dam is located across the Then Pennai River near Sathanur village about 20 miles from Thiruvannamalai town in North Arcot district, Tamil Nadu. The catchment area of the river at the Dam site, is 4,180 sq. miles. The Then Pennai starts from the South Eastern slope of Chennakesava Hills in Mysore State and flows over 53 miles in that State and then enters Tamil Nadu near Hosur in Salem district. A Dam across the river about 6 miles from Krishnagiri has been completed. The Sathanur Dam is about 70 miles below the Krishnagiri Dam and it is 178 miles from the origin of the river. The river below the Dam traverses through the North and South Arcot districts and

finally enters the sea near Cuddalore town. The total length of the river is 253 miles.

Irrigation facilities available in Thiruvannamalai and Chengam taluks are scanty and are not quite dependable. There were no means of drawing water from the Then Pennai traversing through the district. Several schemes were investigated from time to time, but no scheme was taken up owing to several considerations like economical return on the outlay, unreliability of flow data in Pennai, etc. But after the second World War, steps were taken to review all such schemes under the "Grow More Food" drive. The present scheme was taken up for detailed investigation in 1954. This was

immediately sanctioned for execution at an estimated cost of Rs. 289 lakhs. The project was inaugurated on 2nd October 1954.

The margin of the river below the Dam is rocky and rugged for a considerable distance thus rendering a direct off-take from the reservoir for irrigation canal impracticable. Therefore, water from the reservoir is let down in the river itself and picked up about $4\frac{1}{2}$ miles lower down by an Anicut. Thus, the project comprises of a reservoir with a storage capacity of about 4,600 million cubic feet (first stage), a pick up Anicut and a canal system. The total length of the Dam is 2,558 feet of which masonry section is 1,373 feet. The balance is of earth Dam.

The length of the pick up Anicut is 400 feet excluding 20 feet byewash on the right flank and its maximum height above the foundation is 25 feet. It is designed to discharge a maximum flood of 280,940 cusecs.

The main canal which takes-off from the pick up Anicut on its left flank is 22 miles in length and it is designed to irrigate a total of 21,000 acres both in North Arcot (Chengam and Thiruvannamalai taluks) and South Arcot districts (Thirukoilur taluk). The total length of the distributaries is about 55 miles.

The canal was opened for irrigation during 1956-57 itself when the Dam was partly finished and an area of 408 acres was irrigated during 1957-58. The full ayacut of 21,000 acres was thrown open for irrigation during the year 1959-60.

In the second stage of the project the capacity of the Reservoir was increased from 4,600 m.c.ft. to 8,100 m.c.ft. This was made possible by providing 20 ft. high gates on the crest of the spill-way. The extra storage available will be utilised to stabilise 5,000 acres of second crop in the Thirukoilur Anicut System which was precariously carried on depending on the available spring flows.

The proposal of providing 20 gates and operating arrangements including overhead platform, counter weights, etc., for the 9 vents of 40 feet into 20 feet on the crest of the spillway section have all been completed. Water is stored in the dam from late November and supplied for irrigation till late March every year.

Sathanur Dam provides attraction for Tourists

An attractive park has been laid out in the rear of the Dam. Special illumination on Saturdays and Sundays attracts the tourists.

Accommodation is provided at the dam site for the tourists at cheap rates by the Public Works Department. There are 70 rooms. The daily rent varies from Re. 1 to Rs. 4.25 according to the comforts available. About 3,000 tourists visit every week. The income from tourists by way of rent amount to Rs. 2,000 per month.



An ornamental garden at Sathanur

There is a swimming pool and a toy-train. Tourists can enjoy boating also. There is a small zoo with bear, python and some birds of different species.

The Sathanur Toy-Train



This dam site with attractive landscape gardens of the Japanese pattern is a favourite venue for shooting films. On payment of the stipulated fees, permits for such film-shooting are issued. Annual income derived by way of such licence fees amount to Rs. 12,000. Being only 130 miles from the city, with plenty of accommodation it is a suitable week-end resort for families.



Banana is one of the important table fruits in Western Countries as also in Russia and Japan. But all these countries have to import the banana. It is in this context that the banana has become an important commercial crop with a high potential for earning foreign exchange.

Banana is one of the oldest fruits known to mankind. It is the most important fruit of the tropics. It is also one of the most nutritive and popular table fruits of South India from time immemorial.

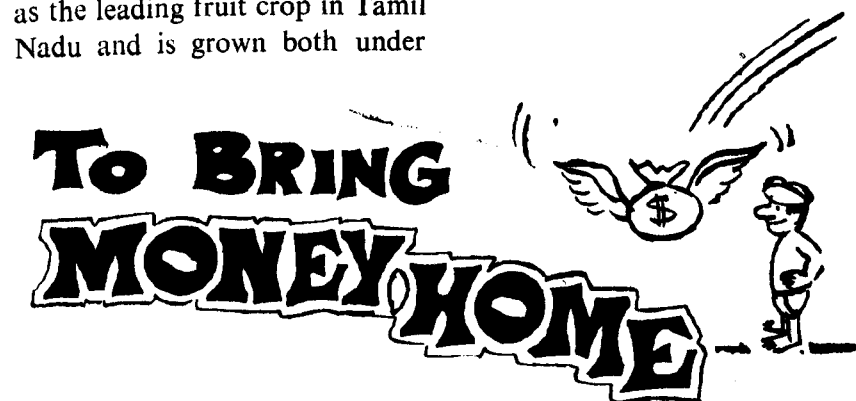
Banana is capable of earning more foreign exchange than other traditional agricultural commodities which figure in export such as pepper, cashew kernels, sugar and coffee. Estimates of foreign exchange earned from an unit area of 1,000 acres of selected agricultural commodities in India are as detailed below :

	(Rs. in lakhs.)
Pepper	4.3
Cashew Kernels	12.0
Sugar	16.6
Coffee	19.7
Banana	99.4

Banana ranks first in the matter of foreign exchange earnings from the same unit area of production. From this, one can judge that a far smaller extent of land is required under banana than under any other agricultural commodity to earn the same amount of foreign exchange.

India is the second largest producer of bananas' being next only to Brazil, but the exports from India form a mere 0.4 per cent of the world trade against 48 per cent exported by Brazil.

In India, Tamil Nadu occupies a premier place in area & production of banana, with an area of 89,000 acres and a production of 6.9 lakh tonnes. Banana ranks as the leading fruit crop in Tamil Nadu and is grown both under



irrigated and in rainfed conditions in the plains and in the hill ranges upto an elevation of 5,500 feet. Banana cultivation is a paying vocation besides being one of the most efficient means for augmenting food production in Tamil Nadu.

Export Possibilities

Tamil Nadu has the commercial variety of bananas much in demand in the world-trade, viz., the 'Dwarf Cavendish' variety which is known as "Mauritius" or "Vamana Keli". The Dwarf Cavendish variety of banana grown in the sandy areas around Tuticorin is acceptable to the Market in Europe, U.S.S.R. and Japan. Especially it is very much liked by the Japanese, as it is sweeter than the present variety (giant Cavendish) now marketed in Japan.

Tamil Nadu offers excellent possibilities in extending the area and production of Dwarf Cavendish due to the nearness of areas to ports of export, the possibility of planting almost through a major part of the year enabling production to be evenly spread out, the very intensive methods of cultivation adopted and the high tonnage obtained per acre. Dwarf



The Dwarf Cavendish.

Cavendish variety is mainly grown in the districts of North Arcot, Madurai and Tirunelveli and to a smaller extent in Chingleput, Thanjavur and South Arcot districts.

To improve and stabilise the cultivation practices in the exportable Dwarf Cavendish Banana in garden land conditions, a Banana Research Station has been sanctioned. This Research Station will be located in North Arcot district. Already, by means of the Banana Package Scheme the yield per hectare of the



Export Packing of Banana.

Dwarf Cavendish variety has increased both in terms of bunch weight from 10 kg. to 16 kg. and in terms of hands per bunch from 7 to 9 with not less than 16 to 18 fruits per hand.

Rs. 4 Crore for Banana

There is a proposal to cultivate Dwarf Cavendish variety in 6,000 acres in the sandy areas around Tuticorin. The Agricultural Finance Corporation has agreed to assist this scheme with financial assistance of Rs. 4.43 crores. When the first berth in the Tuticorin Harbour is ready, banana export could commence from Tamil Nadu to Japan, leading to earning of foreign exchange to the tune of 6 crores of rupees per year by this scheme alone.

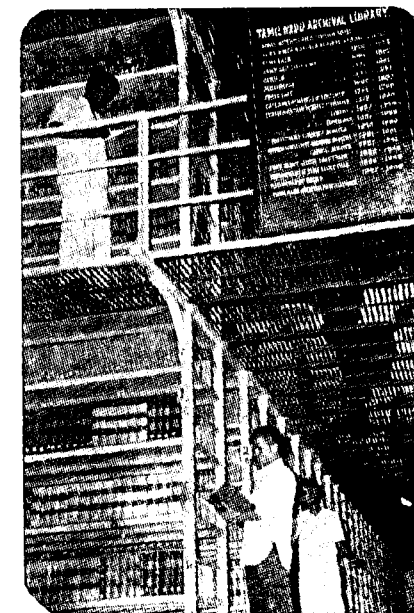
With such advantages banana is sure to become one of the major export items of Tamil Nadu. Measures such as the Banana Research, Package Scheme for Banana Cultivation, etc., have been taken up for extending and improving banana cultivation. An exhaustive article on the various steps taken up for stepping up of banana cultivation will appear in the next issue of Tamil Arasu.

The Madras Record Office (now Tamil Nadu Archives) which came into being in 1909 is entrusted with the custody of all historical documents, books and Secretariat records for proper preservation. The records of the Board of Revenue, the Collectors, the Chief Conservator of Forests, the Survey Department, the High Court, the District Courts, etc., have also been entrusted to it. It has now about 6 million files and 6 lakhs books and volumes dating back to 1670, making it the biggest record repository in the country. The records in the Districts after 1857 and the language records i.e. Tamil, Telugu, etc., still await centralization.

The records lying with private individuals, associations, institutions, religious mutts, etc., are equally valuable from the point of view of history. They have to be unearthed, preserved and made available for research. With this object in view, Regional Committees have been constituted in States on the recommendation of the Government of India. The Tamil Nadu Committee, which was first constituted in 1948 has been listing records of importance with the private owners for inclusion in the National Register being prepared by the Government of India.

Repository of Dutch Records.

The Tamil Nadu Archives is the only centralised repository of Dutch Records in India. There are 1,642 volumes, of Dutch records which relate to Cochin and Coromandel coast. The



All Our Yesterdays

ARE IN THE
TAMIL NADU ARCHIVES

Dutch occupied Cochin from 1663 to 1795 and the Records cover the period from 1657 to 1845. The Dutch Records in all other parts of India were concentrated in the Madras Record Office in 1931. All of them have been presslisted, and catalogued; 15 of them have been printed.

The Dutch and Danish records preserved in Tamil Nadu Archives contain valuable materials on the history, administration, etc., of Cochin and Tranquebar by the respective nations. The Persian records mirror the internal administration and the correspondence of the Nawabs of the Carnatic during the 18th century and as such contain good



source materials of our history. A mine of published information relating to sociology, politics, science and religion is found in the books registered at the office of the Registrar of Books and preserved here.

It is a matter of pride to note that even the East India Company's Government in Madras realised the importance and need for the centralisation of the Provincial records. Certain apartments on the north side of the Fort Square, considered to be well suited for the purpose, were appropriated for keeping the records. This was the nucleus of an organisation which later developed into the Madras Record Office, now known by the name Tamil Nadu Archives, almost a century later.

Wide Range of Material

The archival materials in the Tamil Nadu Archives range from the list of packets received from England to the conclusion of a treaty with an Indian Prince. Thus, for instance, there is abundant material on irrigation schemes; on the development of large and small scale industries, cottage industries, village industries; on the existence of hitherto untapped minerals like copper, silver, lead, lignite and iron ore on the one hand and on land revenue collection, permanent settlement of 1802, Ryotwari settlement of 1818, Inam Settlement of 1858—1869 acquisition of Estates and Conversion into Ryotwari Tenure of 1948, Land Reforms fixation of ceiling in 1961 on the other.

Materials on judicial administration, from the establishment of the first Supreme Court in 1678 and Mayor's Court in 1688 down to the reforms in Civil and Criminal Law; on the administration of police from the grant of a Cowle to Pedda Naicken for attending to police duty of guarding the town of Chennapatnam down to modern period are also available. Archival materials are likewise found on several matters connected with Local Administration from the passing of the India Act XXVI (1850) down to formation of Panchayat and Panchayat Unions and on the origin and growth of education from the creation of a fund of a lakh of rupees out of the revenues of the East India Company for promotion of the literature and encouragement of scientific

knowledge among the inhabitants of the British territories (1813), the efforts made by Sir Thomas Munro in establishing Collectorate and Tahsildari schools, the formation of University Board (1841) down to Bifurcation of Secondary and Higher Education in Madras. Source materials on buildings, roads, Railways, medical aid, co-operation, labour conditions, famine, unemployment, ports, religious endowments, fisheries, boundary disputes, territorial rights, economy, sociology, etc., are also available, besides those connected with claims of inamdars, Devasthanams, political pensions, welfare schemes, etc.

Facilities for Research :

In order to facilitate quick disposal of requisition for records both for administrative and

Deacidification of documents.



research purpose, this Archives has undertaken the preparation and publication of Press lists, Guides, Calendars, etc. It also possesses manuscript and printed indexes for all series of important records. Press lists have been prepared for all Government records from 1670 to 1800 including the Factory Records of Ganjam, Vizag, Masulipatnam, South Arcot and Malabar Districts.

From the year 1857 up to date the Government and the Board have compiled current printed

Dusting of shelves by vacuum cleaner.

indexes of completed correspondence for deposit in record with the files to which they refer. Guides have been prepared and published for all district records down to 1835. Calendars have been compiled and published.

Preservation Methods :

Preservation of records is one of the primary functions of an Archives. The value of historical records increases as centuries pass by and the older the records the greater their value, both for administrators and for historians. The problem of preservation

of records has two main aspects. Firstly, the preservation of records on good paper which are not affected by any destructive agencies against deterioration in figure by proper housing, control of atmospheric conditions and precaution against insect attack. This really is preservation by preventive measures. Secondly, the rehabilitation of brittle, damaged or insect-infested records by fumigation, lamination and chiffon mending.

The conventional methods of keeping records, repairing them and freeing them from record pests have been found to be ineffective and unsatisfactory, especially when the volume of records to be preserved is so vast. The emphasis now, therefore is on introducing modern techniques and equipments.

Archivism is yet to devise a method by which all records, files, bundles or volumes can be repaired or strengthened mechanically applying latest techniques. Any repair has, therefore, to be done sheet by sheet, a process which is apt to be slow. And when the archivist is confronted with a mass of decayed and brittle records, he is agitated, for he knows it too well that employment of even a large number of persons to mend the records on conventional lines may not touch the fringe of his problem, he knows also too well that allowing the decayed records to decay further would amount to discarding them to self destruction.

(Cont. on Page 46.)





Since Inauguration on September 27, 1969 by President V.V. Giri, our progress has been oil-smooth. We started with 6 items of production. Today, we produce 11: Petrol, Cooking Gas, Diesel, Superior Kerosene, Aviation Turbine Fuel, Jet Fuel, Industrial Fuels, Naphtha, Lube Base Stocks, Asphalt, Sulphur! To energise the Nation's transport, homes, agriculture, industries ... and Economy! India's ninth Refinery, we have so many **firsts** to our credit:

- ♦ **FIRST** with a Hydrogen Unit
- ♦ **FIRST** with 11 grades in Lube Base Stocks
- ♦ **FIRST** with Sulphur Recovery Unit
- ♦ **FIRST** with LPG from initial stages
- ♦ **FIRST** with a Process licensed by the Indian Institute of Petroleum
- ♦ **FIRST** with many indigenised items — of 48.5% value.

And MRL is foremost — the nucleus — in a developing industrial belt.

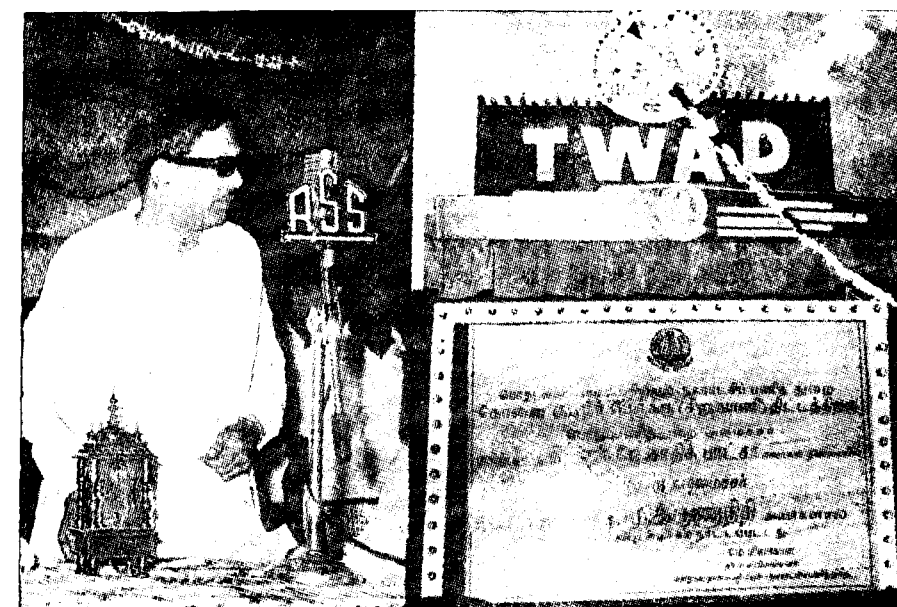
MRL — A GIANT EVEN IN INFANCY!



MADRAS REFINERIES LTD.
Madras

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COIMBATORE GETS



SWEET SIRUVANI

The pride of Coimbatore has ever been its ever-cool drinking water—the famous Siruvani Waters. Thanks to an amicable inter-State Agreement between the Governments of Tamil Nadu and Kerala, the fast expanding town of Coimbatore is now assured of its pride in the matter of drinking water for many, many years to come.

The Siruvani waters is adjudged the second best in the world, and no wonder Coimbatoreans if they are away from Coimbatore, will, miss with nostalgia nothing but their Siruvani water. The large-hearted way the Kerala Government acceded to the needs of Coimbatore will be remembered with gratitude by all in Coimbatore as supply at 20 gallons per head per day is assured for the growing city.

Work on the Rs. 6 crore scheme for augmentation of Siruvani Water Supply was inaugurated on 15th September 1970 by the Chief Minister. The scheme envisages the construction of an impounding reservoir in Kerala territory and diversion towards Coimbatore by means of a tunnel. The augmentation scheme will come into use in 1½ years, and will represent a five-fold increase over the present rate of supply to the city.

The existing scheme

The existing water-supply scheme for Coimbatore town was completed and brought into use in 1931. The source of the water supply is the head waters of the Siruvani Stream having its origin in the Attapadi Valley in the Western Ghats.

Designed for a population of one hundred thousand at a per capita rate of 20 gallons per day, the scheme has practically no storage and depends on the dry weather run off in the source for the supply. The scheme is currently serving the town with a restricted supply of 14 gallons per head per day for the present estimated population of 3.5 lakhs during non-summer months. Even this rate is greatly reduced during the summer months, due to the drying up of the Muthikulam Falls which is the main feeder of the source of the present scheme. During this period, the Municipality supplements, the reduced yield from the Siruvani source by pumping water from the Periyar Stream flowing in the Noyyal Valley to an extent of four hundred thousand gallons per day.

(contd. next page.)

2,50,000 SCHOLARSHIPS FOR YOU

The number of international scholarships for study abroad was negligible two decades ago. It has now reached the dimension of a noticeable world phenomenon. "Study Abroad" a biennial UNESCO compendium which covers world opportunities in a single volume, contained some 15,000 scholarships in its first edition, published in 1948. The new edition just issued lists more than 250,000 awards in virtually every field and at all levels of learning in almost all of UNESCO's Member States. The information is for the 1970-1971 and 1971-1972 academic years.

A new trend to be noted is the increase of awards open only to women. The previous edition of "Study Abroad" contained less than 1,000; the present

volume reports almost 3,000 awards open only to women candidates.

Opened at random, "Study Abroad" reveals the great variety of possibilities offered. Are you a scientist with a background in isotope techniques interested in the three-week seminar on neutron activation analysis held in the United States? Are you a marine Zoologist free to accept a six-month residency at a university on the west coast of Italy? Scholarships can shorten the distance for you.

Fields of study range from earthquake engineering, cell research and theatre to nutrition and teaching about the United Nations.

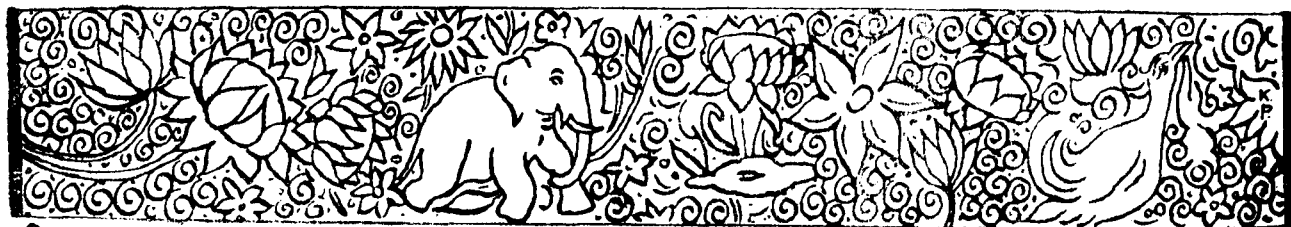


contd. from Page 39.

The project work under the augmentation proposals envisage construction of an impounding reservoir in Siruvani Valley with a storage capacity of six hundred and fifty million cu. ft. and an intake tower at the existing tunnel head to divert water through the existing tunnel to the Coimbatore side of the Western Ghats. The

supply is proposed to be drawn at the foot of the hills through the natural course of the Anayar Stream into a treatment plant. After treatment, the purified water is proposed to be conveyed to the Coimbatore town through a gravity main of 33" diameter and distributed to the town through distribution reservoirs

and the existing distribution system with certain improvements. The supply contemplated to the greater Coimbatore town in the intermediate stage period up to 1986 including its suburbs is 17.6 million gallons per day and the supply contemplated during the ultimate stage period from 1986 to 2001 is 22.5 million gallons per day.



DORAISWAMY ROAD SUB-WAY

The area known as West Mambalam lying on the West of the Railway line has been developing very fast in the course of the last decade. The growth was mainly in the nature of residential housing. The people have therefore to cross the Railway line every morning and evening to go to their work and back to their home. Besides the shops and schools being situated in T. Nagar, the necessity for many daily crossings of the Railway line extends even to the younger folk and women.

The daily movement of pedestrians and vehicular traffic from one side of the railway track to the other takes place (through four level crossings) two of them situated to the north of Mambalam Station and two of them situated to the south of the station. Those on the north are Rengarajapuram Road and Doraiswamy Road and those on the south are at Madley Road and the Burial ground Road (Kannammappet).

COSTLY LAND GOES INTO SUB-WAY

The closure of the level crossing extending even upto forty-five minutes during the peak hours of traffic in the morning and evening is causing considerable inconvenience to the public and waste of time. Large crowds collecting at the level crossings waiting for the gates to open and the sudden rush and scramble when the gates are opened after long waiting resulting some times in accidents have become a normal feature.

It has therefore become a matter of urgent necessity that an over-bridge or sub-way should be provided at least at some of these points so that the public may not be inconvenienced in their day to

day activities. Doraiswamy Road level crossing is one such place where intensity of vehicular and pedestrian traffic is large.

The railway track at the place being at a higher level than the adjoining ground level it is proposed to construct a sub-way at this place in preference to an over-bridge as the sub-way will be more economical. The most formidable obstacle is that the area in this region is heavily built up and the land required will have to be acquired at a heavy compensation. In view of this and the fact that the construction of a standard over-bridge at Arcot Road level crossing at about $\frac{3}{4}$ mile from this place has already been completed, it was originally considered sufficient that a sub-standard subway with a head room of nine feet may be constructed at the place for the use of pedestrians, cycles, and car traffic only. Lorries and buses were to be prohibited, so that the length of the subway will be less, resulting in the reduction of cost of acquisition. Accordingly a design for the construction of a sub-way of 9'0" clearance at a cost of about Rs. 12.6 lakhs was prepared and the same was approved by the Government. Subsequently due to the representation of the



public the Government have since decided to increase the clearance of the sub-way from 9'0" to 12'0" so as to permit the City buses to ply and have also directed the Commissioner, Corporation of Madras to prepare and submit plans and estimates. Accordingly the revised designs with plans and estimates have been prepared for 12'0" clear sub-way which will allow all kinds of vehicles except lorries.

The estimated cost of the scheme is Rs. 25 lakhs. The sub-way will consist of three parts namely (1) open sub-way, (2) Service Roads and (3) Sub-way covered portion, viz., Bridge. The sub-way will be 34'0" wide in the railway and bridge limits for a length of 197'0" and provides 24'0" vehicular way with footpath of 5'0" wide on either side. For the rest of the open portion the sub-way will be 26'0" wide without footpath with 1'0" kerb on either side. The work is in progress and will be completed early in 1971.

FILM AWARDS 1970.

The Government appointed a Committee under the Chairmanship of Dr. Varadarajanar, to select the best Tamil Film, etc., of 1969. The Committee viewed 11 films received as entries. The Committee has announced the following 15 awards:—

- | | | |
|-----------------------------|-----|--|
| 1. First best feature film | ... | Adimai Penn. |
| 2. Second best feature film | ... | Akka Thangai. |
| 3. Third best feature film | ... | Deiva Magan. |
| 4. Best Director | ... | Thiru P. Neelakantan (Mattukara Velan). |
| 5. Best Actor | ... | Thiru Sivaji Ganesan (Deiva Magan). |
| 6. Best Actress | ... | Thirumathi Sowcar Janaki (Iru Kodugal). |
| 7. Best Story Writer | ... | Thiru Bala Murugan (Thunaivan). |
| 8. Best Dialogue writer | ... | Thiru Sornam (Nam Nadu). |
| 9. Best Music Director | ... | Thiru K.V. Mahadevan (Adimai Penn). |
| 10. Best Camera Man | ... | Thiru Marcus Bartley (Santhi Nilayam). |
| 11. Best Supporting actor | ... | Thiru Major Sundararaj (Deiva Magan). |
| 12. Best Supporting actress | ... | Selvi Pandari Bai (Adimai Penn). |
| 13. Best male singer | ... | Thiru S. P. Balasubramaniam (Adimai Penn, Santhi Nilayam). |
| 14. Best female singer | ... | Thirumathi K. B. Sundarambal (Thunaivan). |
| 15. Best song composer | ... | Thiru Marudakasi (Thunaivan). |

The Committee also recommended that a special prize may be awarded to the child actress Baby Rani for her performance in 'Kanne Pappa'. The Government has accepted these recommendations.

SUGAR WAGE BOARD AWARD

As there was delay in the submission of the recommendations of the Wage Board for Sugar Industry, appointed by the Government of India, the workers in the Sugar Mills in Tamil Nadu agitated for revision of Wages, Dearness Allowance, etc. Pending the announcement of the recommendations of the Wage Board, settlements were reached in this State with the help of the Labour Department providing for the payment of interim relief ; in

view of the settlement, the workers agreed to wait till 15-7-69. The recommendations were not known even by then, and further talks were held before the Minister for Labour when a proposal for setting up a negotiating Committee to discuss the issues in dispute was put forward. Meanwhile the Government of India have published the recommendations of the Central Wage Board for Sugar Industry and have also announced acceptance of its majority recom-

mendations. In view of the above changed circumstances, the Government consider that there is no necessity to constitute a negotiating Committee. The majority recommendations of the Wage Board are commended for implementation by the Managements and Unions concerned, who are requested to settle at Unit level any points that may arise in the course of such implementations.

SCHOOL FOR THE BLIND, POONAMALLEE.

The school came into existence as a joint effort of the Madras Association for the Blind and the Victory Memorial Committee. The Victory Memorial Committee of the World War I, which had some funds and a huge building with spacious grounds, felt that the fund could be best used for the welfare of the blind and so approached the Madras Association for the Blind stipulating certain conditions. The latter acceded, and this school came into existence in 1930 under the name "Victory Memorial Blind School, Poonamallee". This school had a powerful governing body to manage the Institution. But after some years the Governing Body requested the then Government of Madras to take over the management of the school. The Government managed the affairs of the Institution for 2 years; the same Governing Body then thought it was better, to hand over the assets and liabilities of the Institution to the Government of Madras. The School thereafter became a purely Government Organization under the direct control of the Education Department.

The school started with 17 pupils taken over from the Corporation Blind School which had just then been closed. At that time the Palayamkottai School thought it fit to send 28 of their pupils for further training and employment in this school. The strength of the school in 1946

(when it was handed over to Government) was 100 and it has since increased to nearly 300 students.

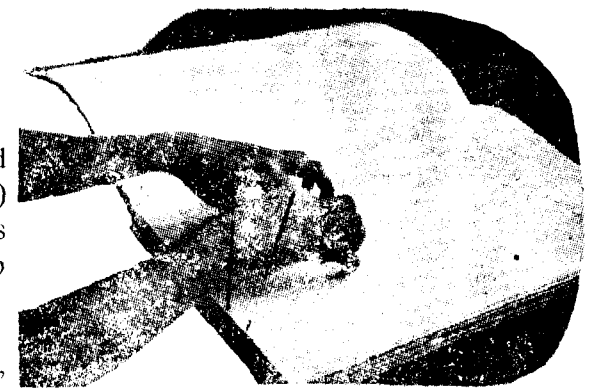
Boarding, lodging, tuition, clothing, medical attention, books and Braille appliances are provided free, to the pupils, who are also allowed to travel to and from their homes for the summer holidays at State expense.

Broadly speaking, the school consists of two sections : viz., Educational and Industrial.

The main objects of this school are : (i) to give academic education up to the S.S.L.C. examination standard, (ii) to train blind adolescents in certain trades, (iii) to train teachers of the blind, (iv) to print Books in Braille and (v) train adults in light engineering operations.

Educational Section

Blind children between the ages of 5 and 10 are admitted into this section for coaching them in standards I to XI. The syllabus and text books are the same as those presented for the corresponding classes in normal schools. The school trains students for the S.S.L.C. Public Examination. Practically during all these years the School has achieved 100 per cent results in the Public Examinations. After passing the



S.S.L.C. examination some students take to University education, and so far five have graduated in different subjects. The pupils are also coached and encouraged to appear for the Government Technical Examinations in Music.

Extra-curricular activities receive due importance in this section. Scouting, girl-guiding, Red-cross, Literary associations, Dramatic groups and Orchestra are very popular with the students. They are also very keen on gardening, camping and going out on excursions.

Industrial Section

Blind adolescents between the ages of 14 and 20 are trained in handloom weaving and cane-work. This course of training is spread over a period of four years ; but in individual cases, it is extended, if necessary. After training, their services are utilized to make and perfect the respective products for sale.

The handloom weaving section, meets not only clothing requirements for the inmates of this

TRAINS BLIND IN USE OF TOOLS AND MACHINE

Institution, but also meets the requisitions of two other institutions. A sizable quantity is sold to the public as well. The products are quality fabrics and sold at competitive prices.

Similarly, in cane-work, several utility articles like chairs, stools, earbacks, shopping baskets, tapal boxes, trays, etc., are made. Customers with aesthetic taste are quite satisfied with the products from this section.

Mat-weaving, knitting, machine-sewing and hand-sewing are taught as hobbies.

Teachers' Training Section

The teachers' training section, trained qualified teachers, in teaching blind children as and when required till recently. The Government of India has since selected this school to run a Regional Training Centre for training teachers of the blind. This Centre will cater to the needs of four States, viz., Tamil Nadu, Mysore, Andhra Pradesh and Kerala. It is hoped that this Training Centre will become a permanent feature of the School for the Blind.

Regional Braille Press

A Regional Braille Printing Press has also been located in this school compound to produce text-books in Braille in Tamil, Telugu, Kannada and Mala-

yalam, and has already started producing text-books for the lower classes.

U.S.A. aided to Light Engineering Project

A new research-project was started by the management in training blind adults in light Engineering operations. This Project is located in the Industrial Estate. It trains blind adults in the use of hand tools and certain electrically driven machines like lathes, drills, sanders, wool-grinding machines, fly-presses, etc. The successfully trained students are placed in factories on a competitive basis, and the respective managements are satisfied with the quality and quantity of their work.

New Vistas for Blind

It is comforting to be able to say that the blind earn anything from Rs. 75 to Rs. 285 per month on a par with their sighted brethren. This scheme has become possible because of the financial assistance given by Government of the U.S.A. to the Government of Tamil Nadu. It is hoped that this study will open up new vistas for the benefit of the blind.

This school which greatly expanded not only in its numerical strength but also in the



variety of its activities, has come to be now recognized as one of the foremost institutions of India as a whole and it is the fervent hope of the management, that there will be progressive increase in the activities of this Institution, in the years to come. ☉

State Board for the handicapped

The Government of Tamil Nadu have constituted a State Board for the handicapped on which the Director of Employment, the Director of Education, the Director of Industries and the Chairman of the Central Social Welfare Board will be ex-officio members. The Governor will be the President and the Health and the Education Ministers will be Vice-Presidents. The Chairman, Secretaries and Treasurer will be non-officials. The Executive Committee will have representatives from all the institutions of the handicapped. There will also be eight nominated members from the two houses of the legislature.

Chief Minister's Police Medal

Instituted last year, for the first time, the Chief Minister's Award to the Police, this year was presented at Coimbatore. Incidentally Tamil Nadu is the only State which confers such distinction at State level on its constabulary. This year four members of the Police Force were singled out for Gallantry Awards, one of them was a Police Constable, and the rest were three Inspectors of Police. The other 17 awards were for outstanding services. The names of recipients of the Chief Minister's Police Medals for outstanding service are given below. Three of the Gallantry Awards were for tracking down, and arresting nine revolutionary top ranking extremists of All India importance in Madras City on the night of 18th December 1969 at grave personal risk. They are :

Thiru T. Natarajan,
Inspector of Police,
Special Branch,
C.I.D., Madras.

Thiru A. Ramaswamy,
Inspector of Police,
Special Branch,
C.I.D., Madras.

Thiru S. Ganesan,
Inspector of Police,
Madras City Police.

The act of Gallantry on the part of the Police Constable Thiru P. C. Chelliah is as follows :

On 14th June 1966, a platoon of 'F' company of the Special

Armed Police IV (Tamil Nadu) Battalion on deputation in the Assam State, took charge of an out-post at Jayanpunchi, Cachar district. At 4-25 a.m. on 27th September 1966 the out-post at Jayanpunchi was fired upon by surprise by armed Mizos, numbering about 100. The Special Armed Police Platoon returned the fire. The engagement continued till 6-30 a.m. when the Special Armed Police platoon

successfully repelled the Mizo attack. The attackers fled into the thick jungle, leaving behind a sten gun, magazines with 30 rounds, some 303 empty cases and a pair of Binoculars. In this attack, three constables of the Special armed police suffered fatal bullet injuries. Eleven others suffered injuries, the most serious being Police Constable 1083, Chelliah, whose left leg had to be amputated. The object of the Mizos obviously was to overrun the Special Armed Police Out-post and capture the arms and ammunition therein.



Police Constable 1083, Chelliah of Special Armed Police IV, Battalion, in facing the armed Mizos squarely at the fag-end of the night and helping his platoon to put the Mizos to flight, even when he was badly injured, showed extraordinary devotion to duty and gallantry in the best traditions of the Tamil Nadu Police.

The names of recipients of the Chief Minister's Police Medals for outstanding Service are—

1. **Thiru G. Narayana Vastad**, Deputy Superintendent of Police, North Arcot District.
2. **Thiru K. Narayanasamy**, Deputy Superintendent of Police, South Arcot District.
3. **Thiru B. Abdul Majeeth**, Deputy Superintendent of Police, Category-II, Tiruchirappalli District.
4. **Thiru M. Veluswamy**, Assistant Commandant, on deputation in M.S.P.I. (Tamil Nadu) Battalion, NEFA.



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5. **Thiru M. S. Subramaniam**, Divisional Fire Officer, Tiruchirappalli.
6. **Thiru R. Govindarajalu**, Inspector of Police, Crime Branch, C.I.D., Madras.
7. **Thiru D. Thassiah**, Inspector of Police, Tirunelveli District.
8. **Thiru R. H. Taylor**, Inspector of Police, Government Railway Police, Tiruchirappalli.
9. **Thiru K. K. Chenthamarakshan**, Inspector of Police, Thanjavur District.
10. **Thiru V. S. Kandaswami**, Inspector of Police, Food Cell, C.I.D., Madras.
11. **Thiru P. Muthiah**, Inspector of Police, Directorate of Vigilance and Anti-corruption, Madras.
12. **Thiru S. Natarajan**, Inspector of Police, High Court Vigilance Cell, Madras.
13. **Thiru P. Meenakshisundaram**, Inspector of Police, Special Branch, C.I.D., Madras.
14. **Thiru P. J. Manual**, Reserve Inspector, Headquarters, Madras City Police.
15. **Thiru N. M. Somasundaram**, Sub-Inspector of Police, S.B., C.I.D., Madras.
16. **Thiru C. Ranganathan**, Jamedar, Special Armed Police-I, Battalion, Avadi.
17. **R. Manicka Naidu**, Head Constable 16, Directorate of Vigilance and Anti-corruption, Madras (over 30 years service).
18. **Thiru R. Karuppiah**, Head Constable 1309, Ramanathapuram District.
19. **Thiru M. D. Subramaniyam**, Police Constable 1046, Chingleput East District.
20. **Thiru K. Velayutham**, Police Constable 545, The Nilgiris District.



Earnings from Tourism go up

The foreign exchange earnings from tourism in India in 1969 has shown a 23 per cent increase, and, according to official figures, the earnings had gone up to Rs. 33.11 crores as against Rs. 26.42 crores in the previous year. Only 21.5 per cent of tourists visiting India went over to Madras to tour Tamil Nadu.

Interesting facts regarding the various aspects of tourism have been revealed in a sample survey conducted by the Indian Institute of Public Opinion on behalf of the Department of Tourism. According to the survey, the average expenditure of a tourist was Rs. 1,367.81 and his average stay 22.3 days. The largest income was derived from the tourists from U.S.A. The average expenditure by an American tourist was Rs. 1,714.

Encouraging Tributes

Encouraging tributes were paid by most of the tourists. As many as 93 per cent of the tourists had declared that they enjoyed their stay in India. For 60 per cent of them the Indians were warm and friendly people. For 54 per cent of them the things that attracted them were the beautiful creations of man—buildings, temples and churches. About 48 per cent of them appreciated the beautiful and natural scenery. Other things that attracted some tourists were good shopping facilities and reasonable prices; attractive customs and ways of life of the people; exotic environment and wholesome food.

In all, 2.45 lakhs of foreign tourists visited India in 1969 of whom 48,080 turned towards Tamil Nadu. Tourists from U.S. formed the largest number followed closely by U. K. Quite a good number came from West European countries like France and Germany. As for the mode of transport, 83.9 per cent of the tourists left by air, 11.1 per cent by sea and 5 per cent by land. There was an increase in the destination traffic, India being the destination point for 52 per cent of the tourists in 1968-69 as compared to 43 per cent in 1965-66. The average stay of tourists was estimated at 22.3 days an individual.

Diverse Enjoyment

The purpose of the tour was declared to be "tourism as holiday" by 53.4 per cent of the tourists as against 51.4 per cent in 1965-66. On the other hand, the proportion of those coming to see relatives and friends had declined from 15.7 per cent to 12.6 per cent. An increase has been registered in the category of those tourists who had no special purpose. A large proportion of them are supposed to be non-conformists like "Hippies".

Air travel has been most popular for tourists from all countries. Travel by overland routes is also becoming increasingly popular.

The most popular centre in India for the tourists was Delhi. A majority of tourists leaving by air chose Delhi as the embarkation point, Bombay being

NEW LOOK FOR MADRAS AIRPORT

Work on the International arrival wing of the Madras airport is going on apace and it is expected to be completed very shortly. It is estimated to cost just over Rs. 10 lakhs.

The total cost of air-conditioning of the buildings (which include the restaurant, domestic arrival and departure wings and international arrival and departure wing) are expected to come to about Rs. 30 lakhs.

It is proposed to provide a conveyor belt for taking baggages from the air-craft to the baggage counter. The runway is proposed to be extended by another 3,000 feet to 13,000 feet.

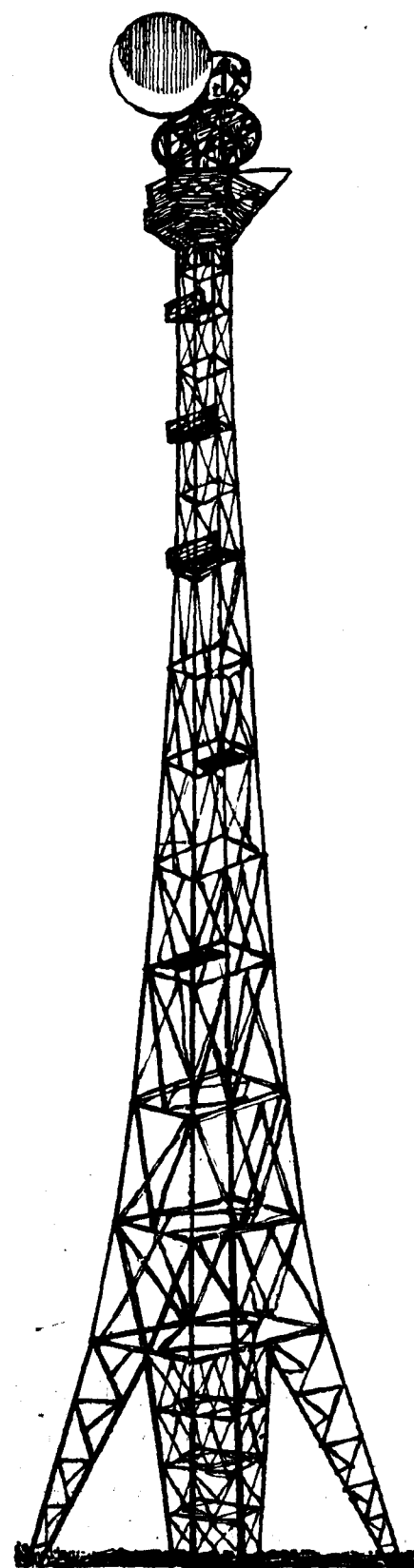
BUOY LIGHTS FOR MADRAS HARBOUR

Lighted buoys will be used in the Madras Port's 15.6 metres deep and 3.2 km. long main channel to demarcate either side. The channel has been recently dredged to facilitate the piloting of deep tankers and ore-carriers into the harbour.

A total of nine buoys, each fitted with a light having flashing characteristics for night navigation, would be installed to mark the channel.

the next in preference. Most of the tourists visited Agra (35.2 per cent); Calcutta (24.2 per cent); Madras (21.5 per cent); Varanasi (11.8 per cent) and Jaipur (10.2 per cent).

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THE TANSI

Challenging projects like the re-decking of Dhanushkodi Pier and export of 80 metres high micro-wave towers to African Countries have been successfully completed by the Tamil Nadu Small Industries Corporation in the last year. The TANSI has earned a big name for steel structural work at home and abroad. Virtually, these structurals span oceans and scan the skies in the African countries now.

During the year 1968-69, the TANSI was able to secure sizable orders from Hindustan Shipyard, Vishakapatnam, Madras Port Trust, Madras Industrial Development Corporation and from the State Highways Department for the re-decking of Dhanushkodi Pier. Site Workshops were set up by the Company at Vishakapatnam and Rameshwaram. On the basis of the TANSI's performance at Vishakapatnam, additional orders of 790 tons of structural works were placed on the Company by the Hindustan Shipyard

Limited. The re-decking of Dhanushkodi Pier was a challenging project and the company completed it in time.

All this is in the general trend of events in the engineering field in Tamil Nadu. Tamil Nadu Technicians have been erecting electric transmission towers in African countries. The Tiruchi Heavy Boiler Plant has recently secured from abroad an order for making a heavy boiler for thermal generation. Following the supply of micro-wave towers as high as 80 and 90 metres for the Southern Railway micro-wave communication net-work, the TANSI has now secured an order from Kuwait for the supply of similar towers. These towers are being galvanised in TANSI's unit at Mettur. The Kuwait order is worth Rs. 60 lakhs and involves 4,500 tonnes of steel. The out-turn of this unit (i.e., The Galvanising Plant, Mettur) of TANSI for the current year is likely to exceed Rs. 1.25 crores. The TANSI as a whole was able to do better than Rs. 6 crores of turnover last year.



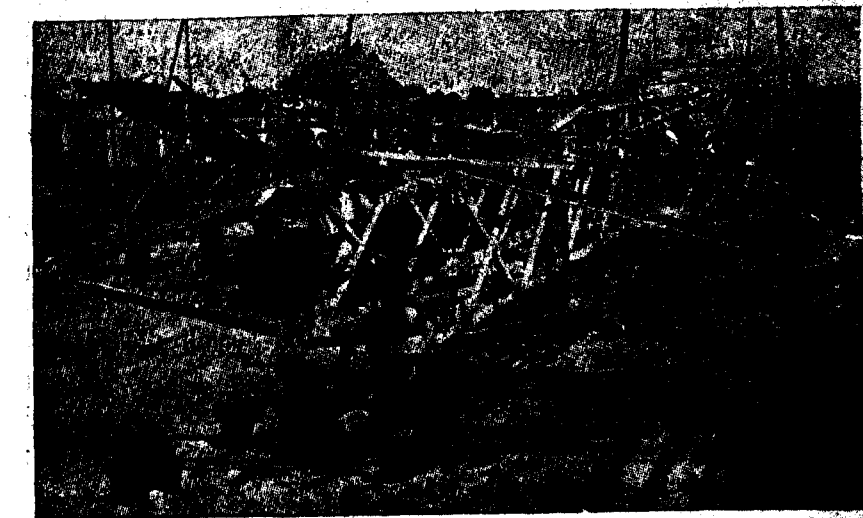
For the galvanising plant, orders have also flowed from Nigeria. The plant is equipped with 21 feet long galvanising pits and the electric cranes of the galvanising pits can handle up to 48 tons for automatic dipping and drying.

The increase in tempo of production and sales of TANSI was mainly on account of planned attempts made to exploit the idle capacities available in all its 60 units. As a result, production in the General Purpose Engineering Workshops went up from Rs. 56 lakhs in 1967-68 to Rs. 76 lakhs in 1968-69, while in some of the units in the group, the rise was as high as 60 to 100 per cent.

The activities in the Units of the Corporation were diversified to undertake manufacture of new products. The Farm Implements Unit, Tiruchirappalli,

successfully developed manufacture of tractor trailers. The experience gained has enabled the Unit to stabilise production of this item. Sizable orders have been received and executed for this item from Agriculture Department as well as from private parties.

The Fractional Horse Power Motor Unit, Guindy, has started manufacturing a new product,



A Galvanised transmission Tower.

emergency lamps. From the enquiries received, there seems to be a good demand for this item.

There are 60 units under the Company now and they were set up originally for various non-commercial purposes such as dispersal of industrial growth, training of artisans, adoption of modern techniques, etc.

With a view to running these Units on fully commercial lines, the Government formed on 10th September, 1965 an autonomous Corporation—The Madras State Small Industries Corporation limited. Its name has now been changed as "Tamil Nadu Small Industries Corporation Limited".

Half the number of units have no end products and are completely dependent upon job orders for their existence. The capital structure in these Units has had no relationship to their commercial viability, as these units have been conceived and designed primarily as Service Centres.

However, despite the company being predominantly service-oriented and engaged in engineering field, the company was successful in achieving a substantial increase in its production.

The Company has established contacts with several establishments like the Electricity Board, Vishakapatnam Shipyard, Madurai and Annamalai Universities, Sainik School at Amara-vathi, Hindustan Machine Tools, Bharat Electronics, etc., for securing orders. Now private companies have also started placing orders on TANSI. The export order to Kuwait is one of such orders.

EMPLOYMENT SITUATION IN AUGUST 1970.

Reports received from the Employment Officers in the State, revealed that during August, 1970 (compared with those of

July 1970), there were lesser registrations and lesser vacancy notifications but more placements. The Employment Offices in Tamil Nadu registered 35,835 applicants and placed 3,965 registrants during August 1970.

The number of vacancies notified by employers to Employment Offices was 4,436 a decrease of 353 over the previous month. The Live Register at the end of August 1970 stood at 4,15,173 an increase of 9,428 over the previous month.

Shortages of manpower were reported in the following occupations :—

Medical Officer ; Maternity Assistant ; Pharmacist ; B.T. Assistant (Maths. ; Science) ; Tamil/Telugu/Malayalam Pandits ; Urdu Medium Basic Trained teacher (Higher/Secondary grade-male/female) ; Kannada medium Secondary grade trained teacher ; Physical Education Teacher ; Stenographer ; Laboratory Technician ; Power driller ; Instrument Mechanic ; Mechanic with 3 years experience and Road Roller Driver.

The Special Employment office for Physically Handicapped at Madras registered 632 (Blind-12 ;

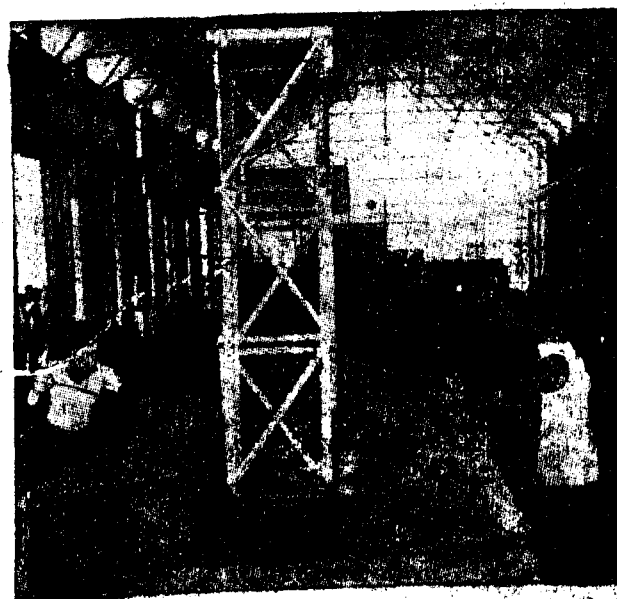
deaf-8 and Orthopaedic-43) and placed 16 (Orthopaedic 16) applicants during August 1970. At the end of August 1970, there were 945 (blind-182 ; Deaf-96 ; and Orthopaedic-667) applicants on the Live Register of Employment offices in the State.

(continued from page 33)

Distinction of Tamil Nadu Archives.

Tamil Nadu Archives enjoys the distinction of being the first and well organised Archives in India. The Archives preserved here reflect the origin, growth and expansion of British Rule by territorial conquest and the final establishment of supermacy over all rival powers both foreign and Indian. The archives preserved here also contain, a mine of information on the aspirations and achievements of the British Government on all matters of administration, covering all aspects of Socio-economic problems, besides throwing light on the views and ideas of able and experienced administrators, statesmen and legislators of the past, on all matters of public interest.

The Tamil Nadu Archives has been justifiably attracting research scholars from distant countries like the United States, Australia, Czechoslovakia and France. Recently there was a case where a valuable record was borrowed by the Yale University in the United States for an exhibition organised in connection with the bicentenary of Yale who was former Governor of Tamil Nadu.



The Galvanizing plant.

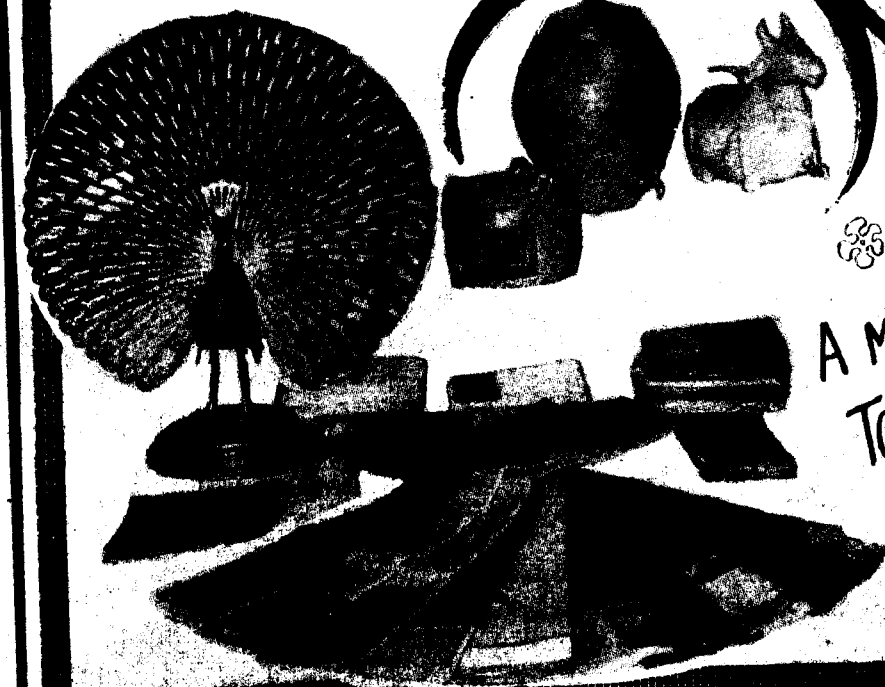
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