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OF THE
ALL INDIA ECONOMIC CONFERENCE

DECEMBER 30, 1959 — JANUARY 1, 1960

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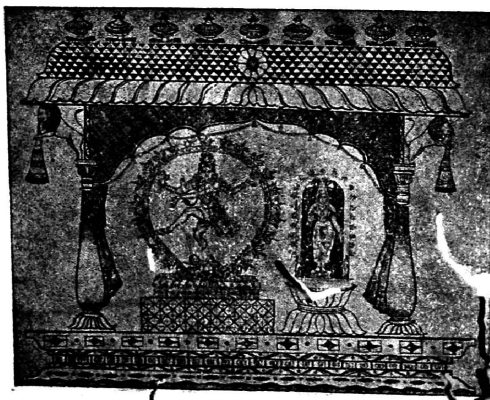
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DECEMBER 30, 1959 — JANUARY 1, 1960

Souvenir

ANNAMALAI UNIVERSITY
ANNAMALAINAGAR

Madras Marches on the Path of Progress thro' Plan

Even he who runs can see the achievements in Madras in every year and every sphere.

MADRAS IS UNIQUE IN MANY RESPECTS, BUT SHE IS UNIQUE IN BEING UNIQUE IN ATLEAST ONE FIELD WHICH HAS, AS IT SHOULD, EXCITED THE ADMIRATION OF ONE AND ALL — THE SCHOOL IMPROVEMENT SCHEME.

- *** In the field of education, Madras has won a pæan of praise from high dignitaries including the Prime Minister who has characterised the Scheme as "revolutionary and of great social significance in the matter of getting the co-operation of the people and in fighting the caste-evil."
- *** Madras leads the rest of India in rural electrification. Nearly 8,000 villages have so far been electrified. Here the progress has been by leaps and bounds.
- *** All the rivers in the State have been harnessed, helping to bring under plough 5,24,479 additional acres and establishing facilities for 2,60,000 acres.
- *** No wonder the production of food-grains rose from 34 lakh tons in 1951-52 to 50 lakh tons in 1959, giving 16 oz. per head per day.
- *** It is no mean achievement that plague which took heavy toll of human lives and milderpest which caused the reduction of cattle-wealth have been completely eradicated.

It is a fact that Madras State has achieved targets of Second Plan before schedule.

Issued by
**THE DIRECTOR OF INFORMATION AND PUBLICITY
MADRAS**

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DR. RAJAH SIR ANNAMALAI CHETTIAR OF CHETTINAD Kt., LL.D., D.Litt.

Founder, Annamalai University

Foreword

THE meeting of the Forty-Second All India Economic Conference at Annamalainagar is an event of importance not only for the Annamalai University but also for the southern region as a whole. The Reception Committee has therefore thought it fit to bring out this Souvenir volume to mark the occasion. In so doing, it is not our intention to "talk shop". It would be impertinent—not to say impossible—to provide a gathering of professional economists of eminence and renown with technical reading matter, pertaining purely to their subject. But since the majority of the delegates attending the Conference are from other parts of the country, we have attempted in this modest volume to present some aspects of South Indian life and culture. The articles may give the reader some idea of the richness of Tamil literature, the beauty of the art and architecture of this region, the quality of its music and the character of its philosophy. It is but appropriate that some glimpses of Madras economy as it is today should be given. They highlight the achievements attained so far and pose the problems of the future.

The articles are, in the main, by faculty members of the Annamalai University including one who has retired after more than thirty years of service in the Department of Economics. Our thanks are due to all the contributors. I would like, however, to express our great appreciation to the two eminent gentlemen, who so readily complied with our request for articles. Sri T. L. Venkatarama Aiyar is one of the distinguished jurists that India has produced; his study of the references to the Tamil country in the works of a great Sanskrit poet shows at once his many-sided interests and erudite scholarship. Sri L. Alagusundaram Chettiar

is a leading industrialist; his personal experience and intimate knowledge of actual conditions in the textile industry impart special value to his acute analysis of the problems facing that industry.

It is hoped that this Souvenir will help to rouse a greater interest in the study of the cultural heritage of South India.

J. H. Narayanasamy Pillai

Vice-Chancellor, Annamalai University and

Chairman

Reception Committee

Annamalainagar

December 24, 1959

ABOUT OUR UNIVERSITY

THE publication of the Annamalai University Act in the Fort St. George Gazette of January 1, 1929 marked the official beginning of our University. But its true origin goes back another decade, to 1920, when Rajah Sir Annamalai Chettiar of Chettinad founded the Sri Meenakshi College. The scion of a wealthy family of Ramanathapuram district renowned for its tradition of philanthropy, the Rajah's interest in higher education was aroused when he took over the management of a High School in Chidambaram established by his brother. The first building on the campus you are now visiting came into being in 1923, when the Sri Meenakshi College moved from Chidambaram into what was later to become Annamalai Nagar. In the course of six more years, other institutions - a College each for Tamil, Sanskrit, Oriental Training and Music - were established. The time was thus ripe for the formation of a unitary University. The Rajah offered to make over the Meenakshi College and the Tamil and Sanskrit Colleges together with extensive lands and a magnanimous grant for this purpose. This noble offer was readily accepted by the Madras Government and the Annamalai University started functioning in July 1929 with three Faculties—the Faculty of Arts, the Faculty of Science and the Faculty of Oriental Studies—and with a strength of about five hundred students.

To-day, well over three thousand students are enrolled in the University. At the first Convocation in 1930, degrees were conferred on twenty eight graduates. In October last, at the Twenty Eighth Convocation, the list of graduates contained over seven hundred names.

This growth is not merely numerical. The progress in the scope of academic activities is also remarkable. The University now consists of 6 Faculties with 27 Departments. The great importance of technological education has been recognised with the establishment of an Engineering College and a Technological College, forming together the Faculty of Engineering and Technology. To meet the increasing need for teachers, a Faculty of Education has been instituted. The Founder's devotion to Tamil culture and his deep interest in the development of Tamil language, literature and music have been reflected in the prominence given and striking advance made in our University in these fields. The Department of Tamil (Research) is now engaged in bringing out a variorum edition of *Kamba Ramayanam*. Facilities are provided for post-graduate research in the various departments. Of special note in this regard are the Marine Biological Research Station at Porto-Novo (14 miles from the campus) and the Department of Philological studies. The University Library has 1,30,000 volumes, including rare manuscripts in print and *kajjan* leaves.

The Annamalai University has been singularly fortunate in having had a succession of eminent Vice-Chancellors; men of such recognised merit and ability as Sir S. E. Ranganathan, the Rt. Hon'ble V. S. Srinivasa Sastri, Sir K. V. Reddi, Prof. M. Ruthnaswamy, Dr. S. G. Manavala Ramanujam, Dr. Sir R. K. Shanmukham Chettiar and Dr. Sir C. P. Ramaswami Aiyar have guided its career. True to this tradition of able service is Sri T. M. Narayanaswami Pillai, our present Vice-Chancellor.

Ours is the first and only residential University in South India. Nine Hostels provide accommodation facilities for the students. The principal amenities of modern living have been brought to the campus ; but Annamalainagar still retains the charm of a rural atmosphere.

The Annamalai University may well claim to be the only one of its kind in India owing its origin to the princely munificence of a single individual. It is indeed a glorious legacy left to the youth of South India by the Founder. Our Pro-Chancellor, Dr. Rajah Sir M. A. Muthia Chettiar of Chettinad, continues to serve the University in the same spirit and in equal fervour as his illustrious father and bestows on it his benevolent interest and constant care.

Kalidasa and Tamilnad

SRI T. L. VENKATARAMA AIYAR

Chairman, Law Commission, New Delhi.

Kalidasa is, of all the Indian poets, the most widely read and known. His genius is versatile, and his literary productions are as varied in character as they are elevated in quality. As a dramatist, he ranks with the best in the world. His *Raghuvamsa* and *Kumarasambhava* are epic poems of surpassing beauty and splendour. His lyric poem *Meghaduta* is universally recognized as unique of its kind. Whether he describes nature or portrays human emotions, he makes an eternal appeal, and is a poet for all countries, and for all times. For sweetness of expression and for beauty of *alankaras*, especially simile, he is unsurpassed. Above all, Kalidasa reflects in his works fully and faithfully the culture of this great country, its religion and philosophy, its art and literature, and it is quite appropriate that he should be recognized, as he has been, in this country, and outside, as the national poet of India.

There is also another reason in justification of that distinction. He is the one poet who has sung of all the regions forming part of India. It should be remembered that the normal political condition of this country until recent times was that it was divided into several States. The Mauryas built up an Empire extending very nearly over the whole of India, but even then the Tamil country was not comprised in it. The sovereignty of the Guptas was also confined to Northern India. In strong contrast to this stood the fact that India has culturally been, at all times, one country. We are now becoming increasingly conscious that in spite of all our linguistic differences we have a common culture, which marks us off as distinct from the rest of the world. The great merit of Kalidasa is that he clearly realised this, and his works breathe the notion that from Kashmir to Kanyakumari India is one cultural unit. There is no region of India with which he was not acquainted, none of which he has not sung. It must be of great interest to us, then, to see what our national poet knew of the Tamil country and what he has said of it.

Raghuvamsa is an epic poem wherein Kalidasa narrates the history of the kings of the solar dynasty. Raghu is one of those kings, and the fourth sarga is devoted to a description of his *digvijaya*. Advancing eastward from his capital, Ayodhya, Raghu overthrows the Sumhas, and the Vangas and after defeating the Kalingas, marches southward "in the direction in which Agasthya went." Coming to the Tamil country, Kalidasa mentions first the Cauveri river. When the army of Raghu bathed in that river, says the poet, its waters became so saturated with the odour of the *mada jala* of the elephants (*ichor*) as to excite the suspicion of the ocean. The reference here is to the poetic conceit widely adopted by our poets that the ocean is the Lord, and the rivers are his

wives. Then Raghu proceeds further south and defeats the Pandyan king, who pays as tribute heaps of white pearls, collected at the confluence of the Tamraparni and the ocean. The pearl-fisheries in this area are ancient and continue even at the present day to be one of the sources of the revenue of the State of Madras, and form one of the great attractions of the Tamilnad. Tamraparni is a small river compared with the other famous rivers of India, but it is reputed to be sacred by reason of its association with Agastya, and the medicinal qualities of its mineral waters. In referring to the Tamraparni, and the pearl-fisheries, where it joins the ocean, Kalidasa reveals a remarkably detailed and accurate knowledge of the South.

We can now pass on to the sixth sarga of *Raghuvamsa*. The king of Vidharba arranges for a *swayamvara* for the marriage of his sister Indumati, and invites several kings. One of them is the Pandya king, and that is very significant. On such an occasion, it is only kings who are culturally similar and associable that would be invited, and not those who have an alien culture. Among the other kings who are mentioned in this *swayamvara* are the rulers of Maghadha, Avanti, Kalinga and so forth. It is clear that in the days of Kalidasa, the Pandya king was considered as of the same class as the kings of Aryavarta. We may now turn to the description of the Pandya king given by Sunanda, the chamber maid, who leads Indumati on in the Darbar Hall, describing to her one after another the kings assembled there. That is contained in verses 59 to 66, which may freely be rendered as follows:—

"Coming next to the king of the city of Uraga, who was divine in his appearance, the chamber maid said, "O thou with eyes like the Chakora birds, turn them here. This king, with garlands hanging round his neck and sandal smeared on his body, seated like the Himalayas with the sun's rays tinging the water-falls, is the king of the Pandyas. Sage Agasthya who humbled the pride of the Vindhya and drank the ocean dry greets him with his blessings when he completes the *Aswamedha* sacrifice. This king obtained a rare astra from Lord Siva, and when Ravana wanted to start a campaign against Indra, fearing an attack on Janasthana by him, (the Pandyan King) he entered into a pact of peace with him. This high-born king is the Lord of the earth and of the southern quarter upto the limits of the sea, and if he takes your hand in marriage, you will rank with the earth and with the southern quarter as his consort, and can spend happy days with him amidst the Malaya hills where the betel creepers encircle the areca-nut trees and cardamom plants cluster round in the embrace of sandal trees. The king is like the blue lotus in complexion and you are golden like the *gorochana*, and when you both join hands, the combination will be colourful and beautiful as that of the cloud and the lightning." So said the chamber maid. The king of the Pandyas, however, evoked no response in the heart of Indumati even as the moon's rays fail to blossom the lotus which opens its petals only to the sun's rays."

A critical study of the above description throws a flood of light on the question of Kalidasa's knowledge of the Tamil kingdom. Agastya is

the tutelary sage of the Tamil country and the grammar of the Tamil language is said to have its origin in him. The tradition is that he settled on the Malaya hills in the Pandyan state, where the Tamraparni takes its rise. And he was to the Pandyan king, what Vasishta was to the solar kings, and that is well brought out by the poet when he describes him as blessing the king on the conclusion of the *Aswamedha* sacrifice. Then again Siva is the *kula-daiyata* of the Pandyan kings, who worshipped him in the name of Sundareswara. Many are the stories related in the Puranas as to how the Pandyan kings prayed to Siva, whenever they were in difficulties, and how the Lord granted them boons, and saved them. The reference by the poet to the obtaining of an Astra from Siva, bespeaks a knowledge of the legends which had grown up around the name of the Pandyan king. To crown all, there is the description of the Malaya hills. They are rich in sandalwood and areca-nut trees, in betel and cardamom. These are features characteristic of vegetation in the Western Ghats, and the description given by Kalidasa remains as true to-day as it was when he wrote. This alone is sufficient to show what an intimate knowledge he had of the Tamil country.

The concluding portion of the description furnishes another illustration of the detailed information which the poet possessed about the Pandyan king. Indumati was eventually to choose Aja, son of Raghu, as her husband, and he belonged to the solar race. The poet says that just as the lotus which blossoms at the sight of the sun, remains closed when the moon shines, so did Indumati remain unresponsive to the Pandyan king. The real beauty of this passage lies in this that the Pandyan king belonged to the lunar race, and that had been utilised by the poet to work out an apposite simile.

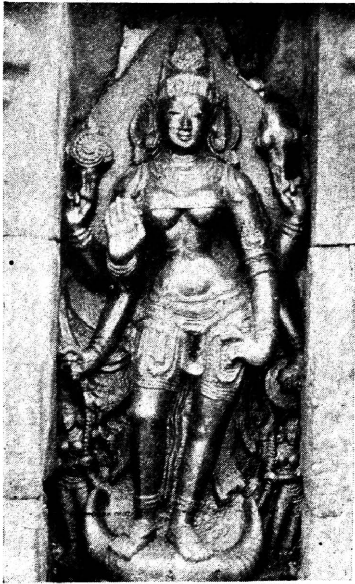
There is one point in this description, which is involved in controversy. The poet says that the capital of the Pandyan king was a city called "Uraga." There has been a good deal of discussion as to what place is meant here. One view is that the more ancient name of Madurai is Alavai, that its Sanskrit equivalent, Halasya means also serpent, and that therefore, the capital is described as Uraga or the serpent city. Indeed, two of the commentators, Mallinatha and Arunagirinatha, refer to this place as "Nagapuri" in the Pandyan kingdom, "Naga" meaning serpent. In the *Thiruvilayadal Puranam*, we have also the passage, "நாகமாபுரத்து வாழ்வோன்" referring to Madurai. In this connection, reference might be made to a story that the king of Pandyas once requested Lord Siva to show him the precise limits of Madurai, whereat the Lord threw down one of the serpents hanging around him, and the area circled by it became Halasya Kshetra. Another view is that the capital of the Pandyan kings was originally "Korkai," and that Sanskrit writers describe that place as a serpent city, "Bhujaganagaram," "Uragapuram," as for example poet Dhoyi in his "Pavana Dutam." If this is correct, then Kalidasa must be older than Sangam age, and this is a matter which calls for further research.

Lastly we may refer to two verses in the 13th sarga of Raghuvamsa, which bear on the topic now under consideration. After killing Ravana,

Rama and Sita fly in the *Pushpakavimana* from Lanka to Ayodhya, and the whole of this sarga is taken up with a description of various places, as seen from the plane. While approaching the shore, Kalidasa says in stanza 13, that the waves furiously dashed against the coral-reefs, throwing out the pearl-oysters, and that the latter were moving out slowly. This is once again a reference to the pearl fisheries off the Pandyan coast, but what is interesting about this description is the observation that the oysters move slowly. Pearl-oysters are known to students of natural science to be very slow in their movement, and in this respect, they differ from ordinary fish. It is for this reason that while private international law does not recognise ownership in fish in the high seas, it recognizes an exception in the case of pearl-oysters. Kalidasa must have had knowledge of this characteristic of pearl-fish, and uses it with great poetic effect, when he describes them as moving slowly as if out of sorrow when they were displaced by the waves. Passing on, when the *vimana* has crossed the sea, and is passing over the shore, Kalidasa describes the land as thickly studded with black forests of palm trees, a feature characteristic of the Pandyan shores, (stanza 15).

A question which naturally suggests itself at this stage is, why does Kalidasa mention only the Pandyan kingdom, and why does he leave out the other two Tamil States—Chera and Chola? Kalidasa does refer to the Kerala country in the fourth sarga of Raghuvamsa, and alludes to the tradition which has survived to the present day that at one time the sea extended upto the foot of the Western Ghats, that it receded at the request of Parasurama and that the Kerala country was thus formed. (stanza 58). This again is another illustration of the precise knowledge which the poet possessed of Southern India. He also refers to the Murala river in Kerala—and that is identified with Bharata-Puzha, and describes the dust of the *kethaka flowers* (சுழம்பூ) in this region as serving the purpose of perfumed powder for the army. (stanza 55). It is noteworthy that even now *kethaka* grows in abundance in Kerala. There is, however, no reference to the Chola kingdom, and the explanation appears to be that in the days of Kalidasa the Pandyan kings must have occupied a position of supremacy over the Tamilnad, as did the Cholas between the tenth and twelfth centuries, and the Pandyas in thirteenth century. Otherwise, having mentioned Cauvery, the poet is not likely to have ignored the Chola king.

To conclude, many are the great literary qualities of Kalidasa, which have earned for him a place among the poets of the world. And not the least of them is the love of Indian culture, which animates his writings. It is that love that inspired him to describe with equal felicity the Himalayas, and the Malayas, Ganga and Tamraparni. It is that love that made him look upon the Arayvarta, and the Tamilnad as component parts of the same culture, and place the Pandyan king on the same pedestal as the king of Avanti, who ruled over his own Ujjaini. Is he not truly our national poet?



Sculptures from the Chidambaram Temple

Problems of the Textile Industry

SRI L. ALAGASUNDARAM CHETTIAR,

Managing Director, Mahalakshmi Mills, Madurai.

The Textile Industry which employs the largest number of workers and contributes greatly to the Government exchequer, is undoubtedly the greatest industry in India. It is a powerful contributor to the growth of many allied industries like the manufacture of textile machinery, dyes, bobbins, pickers, picking bands and straps, roller skins, shuttles, starch etc., resulting in cutting down considerable imports and saving much valued foreign exchange. This industry occupies a pride of place in the economy of the country; but the problems facing the industry are many.

Since 1947 wages have increased from time to time without due attention being paid to workloads or productivity. Owing to the abnormal increase in the prices of foodstuffs and other necessities of life, dearness allowance, which is linked with the cost of living, has gone to a very high level. Apart from the increase in wages and dearness allowance, the mill workers have been granted several benefits such as provident fund, retrenchment and lay-off compensation, improvement in working conditions, introductions of schemes of gratuity, benefit under the State Insurance Scheme and paid festival holidays, not to speak of production commission and bonus. The wages of a textile worker compare favourably even with those of such industries as engineering, petroleum, electrical machinery manufacturing and basic metal industries which require employment of highly skilled labour. In other countries of the world, wages paid in the textile industry are among the lowest, while in the case of India, they are among the highest.

The productivity of labour in the textile industry in India, on the other hand, is one of the lowest. In many cases wage increases had been granted purely on psychological grounds. The increase, however, has nothing to do with the quantum of work turned out. The result is that cost of production has risen very high. In the interest of national economy the cost of production must be brought down, as, without this we cannot retain our export markets in the face of severe competition from countries like China and Japan. To achieve this, we must carry out a programme of rationalisation and modernisation. Rationalisation alone can reduce the cost of production. In the textile industry workloads are manifestly subnormal; while workers should be paid adequate

Wages to make a decent living in the present context of soaring commodity prices, every effort should be made to increase workloads wherever it is possible. The wages of cotton textile industry should not fall out of line with the wages of other industries. Towards this end the labour and the labour unions should co-operate with the management.

The problems of increase in productivity has to be tackled in another direction also. The industry should replace old and antiquated machinery by modern machinery. Of late there has been considerable improvement in textile machinery. The latest introduction of Blow Room machinery and Super High-draft Ring Frames are particularly noteworthy. In the former, there is a good deal of labour saving and in the latter some of the production processes like slubbing, inter and roving are eliminated. It is therefore essential that modern machinery should be installed quickly so that a worker may look after more machinery than he is doing at present. This will reduce the cost of production to a considerable extent.

Besides what has been stated above, one more factor has been responsible for crippling our position as a competitor in cotton textiles; this is the price of raw cotton. Till the end of 1955 when the United States revised its policy with regard to the sale of her cotton, a big gap prevailed between the prices of indigenous Indian cotton and foreign cotton. This definitely gave a clear advantage to India in the sale of her cotton textile goods in the foreign market as the cost of her raw cotton was much lower than that of her competitors. But after the United States had entered the raw cotton trade as a competitor, the prices of all foreign cotton have slumped and as things are today, the price of Indian cotton is much higher than foreign cotton, taking the staple length of cotton into consideration. For instance, while the price of Californian cotton stapling 1.5/32" suitable for 60s now rules at Rs. 12,00/- per candy for delivery at mill premises in India, the price of local Uganda suitable for 60s stapling 1.1/32" or less is Rs. 1450/- per candy. It should be noted here that the yarn produced out of Californian cotton is much superior to the yarn produced out of local Uganda cotton. We must therefore strive hard to increase the productivity of the Indian cotton both in quantity and quality. The yield of Indian cotton per acre is only 98 lbs. as against 301 lbs. in the Sudan, 324 lbs. in the United States and 510 lbs. in Egypt. We have to import every year cotton of long staple to the extent of 5,00,000 bales to feed Indian mills spinning fine counts. A revolution in agriculture will go a long way in enhancing our competitive capacity in the export of cotton textiles. No doubt, rationalisation and modernisation have their place in bringing down the cost of production; but we should remember these alone are not enough. We should increase our cotton yield to a considerable extent

and should also grow a large quantity of long stape cotton and thereby also save foreign exchange. For this purpose, Government should take all necessary measures to help cotton growers in order to bring down cotton prices in keeping with world prices.

Those responsible for the management of the textile industry should take immediate steps for modernisation of machinery and labour should co-operate with management to increase workloads wherever necessary. The Government also should give top priority to the matter of increasing yield per acre and thereby bringing down the prices of cotton and also encouraging the growing of higher quality cotton. These measures would go a long way to solve the problems the textile industry is facing today.

Tamil Music

SRI T. D. MEENAKCHISUNDARAM,
Registrar, Annamalai University.

The ancient Tamils enjoyed life in all its aspects. They created beauty around them and revelled in it. They forgot themselves in the enjoyment of the beauty that they found in the milky moon, the cool breeze, the youthful spring, the lotus ponds, the humming bees and the flawless music flowing from the vinai. They poured forth their feelings of joy in sweet rhymes. Their devotion to the Lord and their enjoyment in His thought are as great as their love and lure to music and the beauties of nature. The poet Tirunavukkarasu who lived in the 7th century sings as follows:

"The faultless harp, the evening moon
The fanning breeze the south bestows
The early summer's swelling time,
The pond where bees do humming swarm
As soothing is the shelter sweet
Of God my father's holy feet.*

The poem sparkles with the beauty of a description of nature and the sentiments of love and happiness of the poet. The mellifluous notes of the vinai which he mentions first in his poem raises him to heights where he forgets himself in the enjoyment of it as much as he will forget himself in divine communion with the Almighty. There is no doubt that music in his days, as evident from the first three words commencing the poem, had attained a perfection and a form, that it had played an important part in the social and religious life of the people and that it had received at various epochs a powerful impetus and encouragement from its ruling kings. "A thing of beauty is a joy for ever" and music, dance and poetry which create beauty in sound, form and literature have proved to be the sources of joy not only to the royal patrons of art but also the artistic people of Tamilnad endowed with a keen sense of appreciation of the beauty of nature and art.

Music is a mode of expression of the artistic sentiment of an age. There are also other fields like painting, sculpture, dancing, poetry, drama where the artistic talents of the people find ample expression. The age of the Pallavas and the Cholas opened an era of art showing the best of the skills of the artistes in Tamilnad exhibited on stones, walls, metals, woods and palm leaves. The temples at Kanci, Mahabalipuram,

Cirranavasal Kutumiyanmalai, Thirumayam, Chidambaram, Tanjore, Gangaikonda Colapuram and Dharasuram abound with the exposition of themes of music, dancing, love and literature. If the temples at Tanjore, Gangaikonda Colapuram, Mahabalipuram and Kanchipuram can be considered as the achievements of their glory both in architecture and sculpture, the temples at Dharasuram may be considered as a monument of their masterly skill in the scholarly treatment of their subjects like, dancing, music and interesting episodes from the lives of the great sixty-three Nayanmars (Saiva Saints) about whose glories Cekkilar, the state poet, sang in beautiful rhymes in the 12th century. What the state poet was able to achieve with the help of words in the delineation of characters in Periyapuram, the state sculptors were able to accomplish with the help of stones at Dharasuram in successfully portraying the glories of the saints who, by dint of their selfless social service and whole-hearted devotion to the Lord, have attained immortality. The old paintings at Cirranavasal (six miles from Pudukottah) and on the walls of the Tanjore Temple are their poems of beauty in colours and depict some of the important poses of South Indian Natya (dance) and interesting scenes from the lives of the saints and kings. The inscription at Kutumiyanmalai (six miles from Pudukottah) and what remains of the inscription at Tirumayam rock of the seventh century help us to assess the value of the genius of the Tamils in the field of music. That there was an all round development in the allied branches of fine arts which culminated in the best expressions through stones and paintings, is vividly illustrated in these temples. The art of music had attained such a standard, form and popularity that the sister arts recognised its relative importance in society and helped in portraying the best in music in stones, metals and colours. To put it in a nutshell, it can be said that all the arts centred round music and dancing which are beautifully blended in the exquisite form of Nataraja who is at once both a Nritta Murti (Lord of the Dance) and Nada Murti (Lord of the Music).

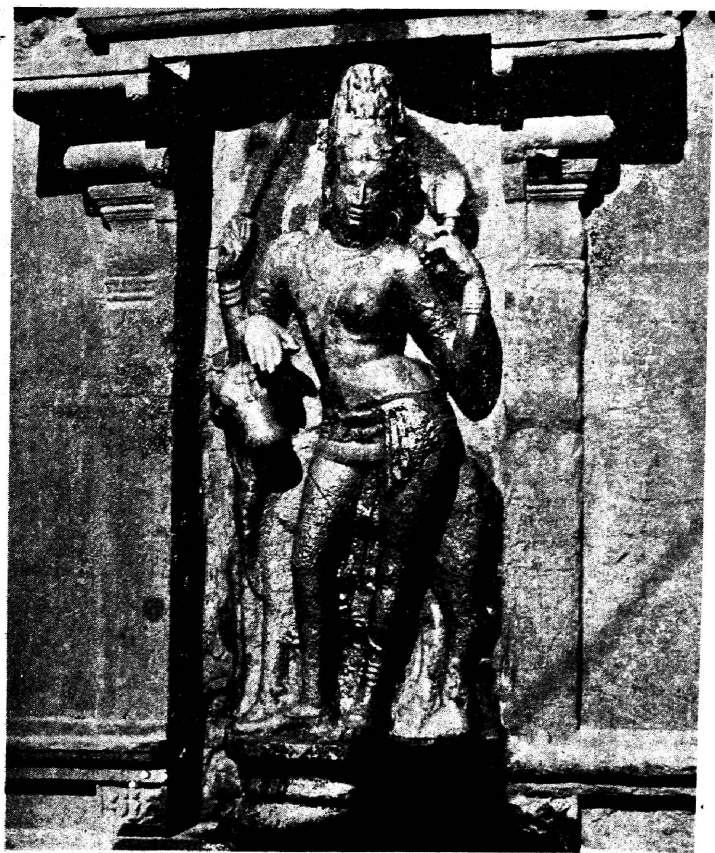
Lord Nataraja is a personification of good and the image of Nataraja signifies the triumph of the force of good over that of evil—(evil represented by the dwarf like form, Muyalaka, writhing under the foot of Nataraja). The King of dances as his name connotes dances in the delight of his victory. He dances to the accompaniment of music and drum. He carries a *damru* (Tamarakam) in his right hand which also signifies his power of creation. Thus it is evident that music made its appearance in a state of happiness making the one who sings happy as well as those who hear the song happy. This idea of the birth of music in a state of happiness is well sculptured in the cave temple at Tirumayam (10 miles from Pudukkottah) where Narada and another devotee in bearded forms are found playing on Mahara Yal and a vinai like instrument celebrating the defeat of two demons (Asuras) who are shown as fleeing away in fright from the deadly poison emanated by the five-headed serpent (Adisheshan) in whose couch of softness Lord Vishnu is reclining enjoying the music, applauding the timely act of the serpent by one hand and receiving Tirumakal (one of his two consorts, the other being shown beneath his feet) into his heart (where she resides) by ano-

ther hand. This is an eighth century work and this helps also to throw ample light on the shape and form of the ancient Yal (an old instrument of music mentioned in Tamil literature but now extinct) in the hand of Narada. Following the example of the Lords we find that it was during the days of peace and plentitude that the artistic talents of any country blossomed and filled the air with sweet incense of beauty. The Pallava period and the Cola period in South Indian history ushered in an era of renaissance in music, dance, drama, poetry, painting and sculpture, when an undercurrent of music permeated and supplied the fertile soil of society yielding rich fruits in the other branches of the fine arts.

The conception of the image of Nataraja is very old and it is older than the Cilappatikaram period. Cilappatikaram is ascribed to the 2nd century A. D. and there is a reference to Kali and the dancing Lord in Maturai Kantam as இறைவனை ஆடல் கண்டருளிய அணங்கு. The description given in the Vanchi Kantam (வஞ்சி காண்டம்) of the dance of Siva reveals one of the interesting poses of Nataraja called as 'Kotticcetam' (கொட்டிச் சேதம்). The left ear of Nataraja carries the ear-ring worn by women and it is an indication that the consort of Siva (his better-half) occupies his left half. This half-woman half-man form of Siva known as Arthanarisvarar adorns almost all the Cola temples. In those days one of the interesting poses of dancing was the one in which a person half clad as a woman and half-clad as a man like the Arthanarisvarar image danced with such precision and skill that the masculine part alone performed the feats of the movements of the muscles and limbs whereas the feminine part remained motionless and calm. This is vividly described in the following lines in Cilappatikaram.

திருநிலைச் சேவடிச் சிலம்புவாய் புலம்பவும்
பரிதரு செங்கையில் படுபறை யார்ப்பவும்
செங்க ணயிரந் திருக்குறிப் பருளவும்
செஞ்சடை சென்று திசைமுக மலம்பவும்
பாடகம் பதையாது குடகந் துளங்காது
மேகலை யொலியாது மென்முலை அசையாது
வார்குழை யாடாது மணிக்குழல் விழாது
இமையவள் ஒருநிற னாக வோங்கிய
விமையவன் ஆடிய கொட்டிச் சேதம்
பாத்தரு நால்வகை மறையோர் பறையூர்க்
கூத்தச் சாக்கைய னுடலின் மகிழ்ந்தவன்

In the Pallava period we find Kancipuram beaming as a beacon light of learning and Chidambaram beginning to shine as a citadel and centre of Saivite religious life with Lord Nataraja as the central figure attracting a stream of worshippers, chief among whom can be mentioned the names of Appar, Sampantar, Suntarar and Manikkavacakar—the Thevaram hymnists who lived between the fourth and ninth centuries. The form of Nataraja has also so captivated the hearts and imagination of the artists and patrons of art that this formed the subject matter of their



• *Arthanariswarar—Dharasuram Temple*

themes in sculpture, paintings, icons and literature. The stone images of the dancing deity at Kanchipuram and Gangaikonda Colapuram are as fascinating as the Nataraja in painting at Tanjore (where Raja Raja I is shown with his four wives offering homage to the Lord—one of these paintings shows men attired in garments some of them similar to the bushcoats popular now-a-days) and the several bronze images installed in all the big temples of Siva showing different poses including those images at the art gallery in Tanjore and the one at the Convocation Hall at Annamalai University. Man could not have conceived of a better form to express fine arts symbolically than in the musical and dancing pose of Nataraja which is the glory of Tamilnad and the crown of the Tamils in their achievement in fine arts.

The period of the Pallavas witnessed the growth of Bakthi cult (Saivism and Vaishnavism) and Tamil Isai (music). The spontaneous outpourings of the devotional hearts of the Tevaram hymnists, the rhythm and melody of their sweet verses had a tremendous influence over the ruling kings and their people to the extent of converting most of them to the Saiva faith. Tirugnana Sampantar, the child-poet and musician was accompanied by Tiruneelakanta Yalppanar who set Sampanta's verses to music in his Yal. The fame of the two musicians, one well versed in vocal music and the other in instrumental music, visiting important shrines won the appreciation of the people who thronged in large numbers to hear their sweet strains. The flexibility of the human tone and the superiority of vocal music over any instrumental music are exemplified in an interesting incident in the life of the two musician saints. Sampantar was requested by his friend Yalppanar to sing such a song that its melody could not be followed in the instrument. Sampantar, a born scholar and gifted musician immediately gave the musical composition beginning with the following words:

(மாதர் மடப்பிடியும் மடஅன்னமும் அன்னதோர்
நடைஉடை மலைமகள் துணையென மகிழ்வார்)

The instrumental musician who knew that he could not follow the mellifluous feats of the flexible throat tried to follow the song in his Yal but only in vain. This interesting story is not cited to depreciate the talents of the Yalppanar who was also as much an inspired saint as his colleague. The image of this Yalppanar with a fourteen-stringed Yal in his hand and with his name also inscribed over the image adorns one of the stone panels portraying the lives of the great saints at Dharasuram. That Sampantar was not only a poet but also a musician is beautifully illustrated in the bronze images of Sampantar made in the 10th and 11th centuries and three of them adorn the museum at Pudukkottah. The child poet is found in a dancing pose which suggests that he was a skilled musician as well, just as the dance pose of Nataraja suggests a background of music against which is set his dance performance, and proves that he is as much a Lord of the dance as he is a Lord of music. The divine melody of their songs and the original tunes to which they were set are lost to us now. The credit goes to the Colas for retrieving a portion of the great

hymns which were found treasured in a portion of the Chidambaram temple. The hymns were written on palm leaves but most of them had been eaten away by white ants. Raja Raja I, the illustrious emperor of the Cola dynasty, with the help of Nampiyantar Nampi was successful only to the extent of unearthing a portion of them but even that portion is a valuable acquisition and forms a good portion of the musical wealth of Tamilnad. The able hand of Nampiyantar Nampi helped to compile the hymns according to the authors but what baffled him was that the original pans (Ragas) in which they were sung were not known. This is also true of the hymns of the Vaishnava devotees of the same period (Nalayiraprabhandams) which have as much of music in them as in the Tevarams. It may be mentioned here that the credit of collecting the Divyaprabandam (hymns) sung by Alvars goes to Nadhamuni who is the Vaishnavait counterpart of Nampiyantar Nampi. It is equally important to realise that the metrical form of the poems sung for a particular purpose or on a particular occasion is the same whether they are composed by Saiva saints or Vaishnava saints in as much as the tune to which they are set are also the same. Manikkavacakar's Tiruvempavai and Antal's Tirupavai are examples.

It is interesting to note in this connection that South Indian music system has evolved a chain of several pans (Ragas) and has assigned each pan to a particular feeling or mood. To illustrate from the modern trends in music it is or appropriate to sing a song extolling the excellence of a deed in 'Durbar' or 'Atana' raga just as it is appropriate to sing a song portraying the melancholy mood in 'Mukari' raga. But the masterly hand of a gifted musician can set to music successfully such sentiments in ragas traditionally supposed to be alien to the conveying of such moods. The song of Gopalakrishna Bharathi who lived in the 19th century, coming from the high caste mirasdar commanding the tiller of the soil, Nantanar, to mind his own business and not get his attention diverted to Nataraja and his temple at Chidambaram. The song begins with these words "சிதம்பர தரிசனமாநீ அதை சிந்திக்கலாமா சேரிக்கு போடா நாளைக்கு வடா..." and is set in Mukari raga which is supposed to be a good vehicle to convey one's melancholy thoughts or heart-rending appeals. Here the general canon of music is ignored but yet the song succeeds in conveying the might and powerful sway of the master. The success of the musical composition is entirely due to the imagination and genius of the composer who is able to give the desired effect by the masterly treatment of raga (music) and the composition. The literary form of music Madhu is as important as the tune or raga or pan (Thadhu) in which it is set. If the musical composition can be compared to the human body, the raga can be compared to the soul. Coming back to the subject, the services of a girl of the family of Tiruneelakanta Yalppanar at Erukkatampuliylur were availed of to set the Tevaram hymns to their appropriate pans (ragas). It is rather doubtful whether the Tevaram pans as sung today are the same pans to which they were set with the help of the Yalppanar family girl but there is no doubt about the sweet strains of Tevaram music prevailing in those days, set in pans like Takka pan which is sup-

posed to have been referred to as Takka Vibasha Devaravardhini in the Sangitaratnakaram of Sarangadeva who lived in the 13th century. The Tamil Isai Sangam founded by Rajah Sir Annamalai Chettiar under the guidance of his illustrious sons, Dr. Rajah Sir Muthiah Chettiar and Sri M. A. Chidambaram Chettiar and its President, Sri T. M. Narayanaswamy Pillai, the Vice-Chancellor of the Annamalai University is doing signal service to Tamil music by convening an annual conference of expert scholars in Tevaram music with the object of making elaborate research and studies in old pans, and to know how far the pans in which Tevarams are sung today approximate to the original pans in which they were set. The same work is also proposed to be undertaken by the Music Department of Annamalai University headed by Isai Perarignar M. M. Dandapani Desikar (vocalist) and assisted by Isai Perarignar Kumbakonam Rajamanickam Pillai (Violinist) (Isai Perarignar is a title conferred by the Tamil Isai Sangam in recognition of their scholarship in music). It is worth mentioning in this connection that the institution of the special one year Tamil Music Certificate Course a post—Sangeetha Bhushana Course, satisfies one of the avowed ambitions of the Founder, in inculcating knowledge of Tamil Isai and spreading it.

The Kings of the Tamils patronised art in a measure which will evoke the admiration of the modern world. The three Sangams flourished under their careful watch and philanthropic munificence. The Sangams of the past akin to our present day Universities honoured and received into their folds reputed scholars and talented poets whose fame spread throughout the length and breadth of the country. The importance and reputation of the Tamil Sangams and the high place they assigned to Tamil Isai (Music) are well portrayed in a poem of Manikkavacakar in his Tirukkovaigar.

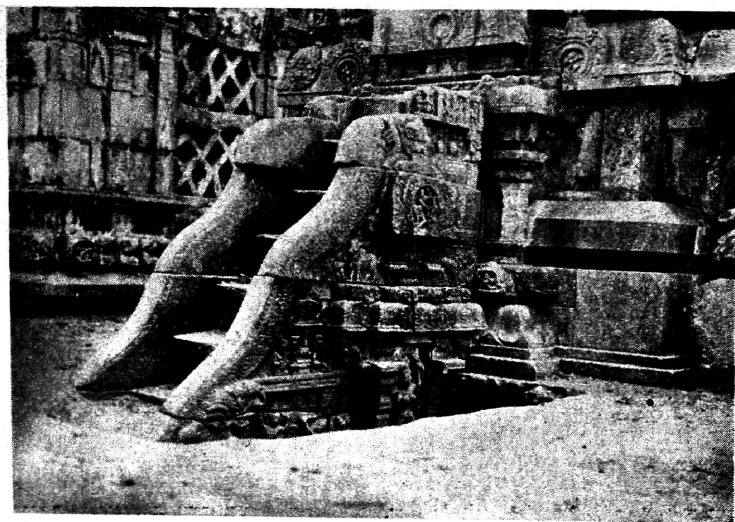
சிறைவான் புனற்றில்லைச் சிற்றம்பலத்தும் என்சிந்தையுள்ளும்
உறைவான் உயர்மதிற் கூடலின் ஆய்ந்த ஒண்தீந்தமிழின்
துறைவாய் நுழைந்தனையோ அன்றி ஏழிசைச் சூழல்புக்கோ
இறைவா தடவரைத் தோட்கு என்கொலாம் புகுந்து எய்தியதே
Into the field of Tamil poetry
Sublime and sweet, scanned at high-walled Kudal
By the God, Who at once dwells in my heart
And at Chirratmbalam of Thillai, where
Water's embanked, have you made your entry?
Or in the notes of music four and three
Have you been lately, my Lord, 'so inclined
That your mount-like shoulders are thus declined*

Some of the poets of the past were skilled musicians and some of them played on Vinas or Yals. There was a class of skilled musicians called Panar well versed in playing Yal or Vina and they went from court to

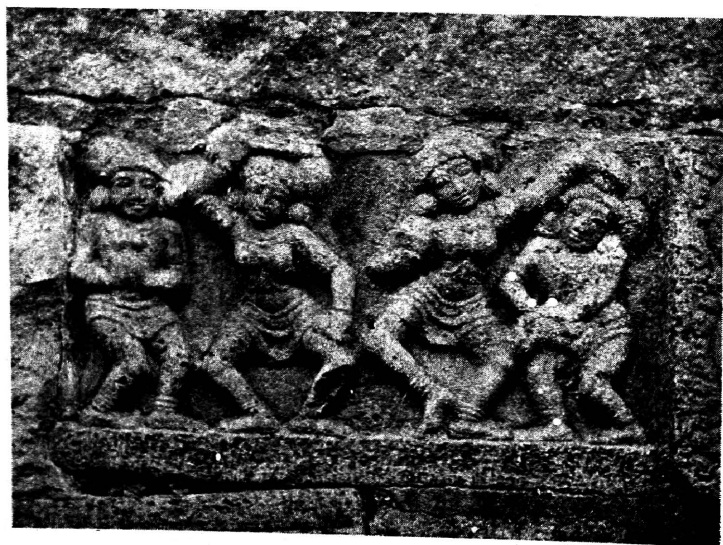
* Translated by Sri G. Subramanya Pillai, M.A., B.L.

court receiving rich presents and gifts from the monarchs or chieftains of the Tamil country. Those who were eminent among these scholar musicians were decorated with Lotus flowers made of gold which were worn by them round their necks or on their heads in recognition of their deep scholarship. The Kings also honoured the musicians and artistes with presents of gold-threaded shawls (Ponnatai). The interesting story of Pekan, one of the chieftains attracted by a peacock, finds an important place in our old poems. The traditional version of the chieftain being moved to pity at the sight of a shivering peacock under the rainy clouds and covering its quivering frame with his rich garment is not convincing as it is not true to nature. The peacocks do not shiver at the sight of clouds but dance in delight. The action of the chieftain in covering the bird with his rich garment can be interpreted as follows: The king was evidently so much impressed with the dance of the peacock at the sight of the clouds that he spontaneously moved towards the delightful bird and in a moment of forgetfulness and ecstasy he acted as if the dance was performed by a person and covered the dancing bird with rich shawl as was the way of the kings with artistes and scholars when they were impressed with their performance in music or dancing. It was also customary on the part of the Kings to present eminent artistes with gold coins (Aiyiratten Kalanju) and a necklace as instanced in the Arankeru Katai of Cilapatikaram (lines 160 to 165) where Matavi equal in the charm of her dance, music and beauty exhibited her talents in her first performance before the ruler and scholars of the land.

The same practice of honouring the scholars gained momentum with the advent of the Colas. Kulottunka III built a thousand pillared hall (mantapam) at Chidambaram to commemorate the inauguration of Periyapuram Poems depicting the lives of the Saiva saints of Cekkilar by convening a conference of scholars (Aranketram) where Cekkilar read out, rather sang his poems which stood the test of the scholars' scrutiny and met with their approbation. This huge hall has ever since continued to be the centre of activities of fine arts—Natya performances, music concerts, religious discourses etc. The object of bringing into existence this beautiful Mantapam is to encourage and foster the fine arts of the country as is evidenced by the Aranketram of Periyapuram and the lovely poses of dances of girls, single or in groups, in between a drummer and one playing on an instrument of music on the panels adorning the basement of the huge Mantapam on its four sides. These time-honoured practices have been continued even to the present day when the outstanding artistes are presented with golden shawls, gold medals and titles engraved upon plates which have as much significance and importance as the special convocations when the honorary degrees of Doctor of Letters are conferred upon eminent persons by the modern Universities in recognition of their deep scholarship and high reputation. The Raja Annamalai Mandram (Tamil Isai Sangam building) at Madras and the varied activities arranged in the building associated with fine arts like music conferences, performances, research in Pans, Aranketram and honouring of



The Musical Steps—Dharasuram



The Dancers—Dharasuram

artistes recall to our mind the glory of the past which was built upon the edifices of the fine arts.

Art in Tamilnad has proved to be a record of human experience. The dramas in the realm of the mind have also been translated into poems in literature and all the branches of the fine arts. Cilappatikaram, a literary piece of the 2nd century is a treasure house of information on music and dancing. The important place music held in society, the magic spell it cast over lovers like Matavi and Kovalan, the various forms in which it transported the people and the monarch to a state of happiness relieving them from their monotony and worries are so well pictured in the chapters devoted to Aranketrum, Indira Vila, Ayciyar Kuravai etc. The Cirupanarrupatai, The Perumpanarrupatai, Malai-patukatam are poems which speak of the Yal and the Panars (musicians) singing the praises of their patrons. The sweetness of the Yal has been stressed in classical works and has been the fountain of several interesting stories. The story of the sweetness of the music of Ravana's Vina which helped him to release himself from the weight of the Kailas is as much interesting as the greatness of the music of Orpheus which moved the heart of Pluto, the King of the underworld who condescended to send back his wife from the under-world. Mahendra Varman of the 7th Century was an authority on music. The inscription at Kutumiyanmalai is an evidence of his genius in this art and is supposed to be an exposition of his latest invention of Tala namely the Sankirna Jatis (tala), the earliest treatises on tala being the Tala laksana of Nandikeswaran and the Markendeyapuramam which speak only of the four Jatis namely Chathura, tisra, misra and Khanda. His drama, 'Mattavilasam' reveals his zeal and taste for Nrittam, talam and layam through his characters and description in his farce. "Music was his wealth," as announced by the Sudraka of the play, Mattavilasam. We may add that music was not only his wealth but the wealth of the nation. Coming down to the Cola period we have enough instances to show the high place music held in the temples, courts and the country. The small shrine at Dharasuram of a dancing vinayaka with a lotus on the top of the shrine and with a flight of seven musical steps on one side evidently denoting the Sapthaswaras leading to the lotus with beautiful panels of warriors, dancers, and two figures of bewitching beauty, a small figure towering by the side of a tiny figure both encircled by a creeper is a master piece of their skill in music and sculpture. The Sapthaswara aspect of music is again and again stressed in poems, names and such sculptural creations of beauty. The Lord is described as the Seven Swaras (ஏழிசையாய்) and the realisation of music (இசையுஞ்) A queen of the Colas is named Elisai Vallabi; and as her name implies she must have been well versed in the seven swarams. A panel at Tarasuram temple is interesting and there is a princess playing Vina in the company of a bearded man who is also holding a Vina in his hand. The depiction of several notes (Swaras) on stones in the form of seven steps at Dharasuram and pillars at Madura and Cucintaram enacts only the musical dramas resulting from the imagination of the sculptors and connoisseurs of art

in their quest for delineating original forms of beauty associated with music and sculpture.

The music of the Tamils is born out of their divine devotion and it is soul-stirring. The very word 'Isai' in Tamil is suggestive of the soul-stirring nature of music. That which moves the feelings of others is called Isai in Tamil. There are instances in the old poems that this Isai not only soothed the ferocity of wild animals but also made elephants motionless and left them in a state of self-forgetfulness. We have forgotten the original pans in which Tevaram hymns were set to music. We have also lost the sweet Yal about which we hear so much in our literature. The beautiful dance called Kotticcetam also has disappeared. When we look at the beautiful panels in our temples portraying the dances of girls in the midst of drummers and musicians and when we see the Yal sculptured in the shrines and when we think of the past we cannot help calling to our mind the beautiful lines of Keats:

"Heard melodies are sweet but those unheard
Are sweeter."

Tamil Poetry—Form and Theme*

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THE delight a cultured person derives from good poetry is charmingly expressed in a purple passage by Kamban, the Prince among Poets, in his immortal classic, *Ramayanam*. The beauty of Sita, standing on the balcony of the ladies apartments of the palace at Mithila thrilled Sri Rama with a joy in his veins and mind; this is likened to the reaction that a poem, neat in form and exquisite with choice words, would evoke in a learned man. Poetry is born, says Kamban in another context, when beautiful, sweet and profound thoughts find expression in select, crisp and melodious words. The excellent definition of good poetry in Nannool by Saint Pavanandi, a famous poet-grammarian of the 13th century, may also be cited here. Just as the human body, the habitation of the soul, contains the "seven" vital minerals in the form of flesh and blood and the attractive skin clothing it, true poetry carries in itself bijou thoughts in beautiful form. Tholkappiar, the greatest and most ancient of all Tamil grammarians (attributed to 5th century B.C.) lays down the qualities of good poetry by great poets thus: such poetry should conform to the well known twenty six sound rules of grammar and be adorned by "eight beauties".

Poetry gains a beautiful form through magic words, mellifluous sound, alliteration and rhythm; it gains beauty of theme through a limpid style and lucid expression of profound truths. All these attributes in combination give a true portrait of good poetry.

Kamban, in another of the purple-passages, describes the qualities of good poetry in his characteristic fashion weaving a Homeric simile while giving a pen-picture of the Godavari. The poet says that the warriors (Rama and Lakshmana) reached the banks of the Godavari and begins to pay a glowing tribute to this great river. Like the good poetry of the sages, the perennial river, says Kamban, functions as a jewel to the country; it helps the people to attain *dharma*, wealth, happiness and salvation; it is sweet to drink. Just as the river blesses the land with bounteous harvests which forms the basis of domestic happiness, good life and prosperity of the country, good poetry enriches life at home and outside, regulating it along the five noble paths. As the cool waters of the river banish heat and hunger, good poetry banishes anger, jealousy and hot temper and "cools" the mind. Like the waters of Godavari, good poetry limpidly flows with sweet melody and rhythm. The four-line stanza con-

* Free translation of a talk in Tamil broadcast from All India Radio, Tiruchirappalli on 31st January, 1958.

taining this wonderful simile provides at once the frame and an ideal example of good poetry.

In Sangam literature, the theme and meaning were given the central place while the metrical form, metaphor and other ornaments of poetry conformed to the natural flow of thought. In the subsequent period, form and metre gained a superior role and substance was reduced to a subordinate place.

The dominant form of poetry in Sangam age was *Asiriappa*, although the forms known as *Kalippa* and *Paripadal-pa* were also occasionally adopted. In the later period, the metrical forms known as *Venba*, *Vrihappa*, *Santhap-pa* successively came to be popular. With regard to certain types of poetry, both forms and themes were specifically laid down by the grammarians. Even the sound for certain classes of poems has been prescribed. Thus from ancient times, rules governing the forms of poetry had been framed with a view to stimulating the reader with the theme and delighting him with melody. The *sine qua non* of good poetry, according to an old saying, are "deep meaning and liquid sound".

I shall now illustrate these canons of good poetry laid down in Tamil literature from time immemorial which a reference to the form and structure of poetry in the Sangam, medieval, later and modern periods in the history of Tamil literature.

Kural is a form of verse containing two lines, the first with four and the second with three *sirs* (meters). Saint Tiruvalluvar has adopted and made this form uniquely his own in which richness and profundity of thought concerning *dharma*, wealth and love is combined with metre and form of indescribable beauty and charm. To cite only one instance of a stanza dealing with the value of sweet words: To speak harsh instead of sweet words is like choosing a bitter gourd with a sweet fruit beside you. This gem of a thought is set in lovely words, woven together beautifully with necessary alliteration and accents.

Another stanza from *Kurunthogai* from the last Sangam literature: A lover meets his lady-love but has not yet proposed marriage. The maid and confidante of the lady observes the lover behind a hedge and in order to expedite the proposal, criticises his behaviour to the lady in a voice loud enough to be heard by the lover. Not knowing the intention of the maid, the lady gets angry and defends her lover. It is this reply that is seen in the stanza: "His love is wider than the earth, richer than the rain-laden cloud, deeper than the sea. Due to abnormal changes in weather cause the earth, the cloud and the sea may lose their qualities. But his love will never change and will yield unalloyed happiness in this life and in all the future births. Such being my lord's love, do not criticise him." Apart from the depth of feeling and force of the admonition, the excellence of the metre, form and melody of this stanza are of the highest order, delightful to the ear and mind. It defies transla-

tion and the richness of the simile is all the more pleasing as it brings within four lines the contents of three famous verses of *Tirukural*.

From the middle ages, a stanza from Saint Tirunavakkarasar may be cited. The almighty character of God is beyond the reach of man's imagination or description. The supreme bliss a devotee enjoys when he is blessed with the grace of God is beautifully summed up in four lines: "It is cooler than the southern breeze; it is a lovely evening with a crescent moon athwart the sky. It is spring time. One is on the banks of a tank covered with lotus flowers over which a swarm of bees hum and buzz in search of honey. Sweet music from a flawless Veena is floating in the breeze. All these pleasures, which thrill all the five senses, are vouchsafed to man but occasionally and rarely in combination, perhaps for a few fleeting moments. At the lotus feet of God, the bliss that is sure to be enjoyed not only excels the combination of all these pleasures but also continues eternally." The delightful music these four lines make is beyond description.

Next, a stanza from a *Arunaikalambaham* of recent period. It describes the sorrow of a young wife whose husband has not yet returned from his long voyage undertaken to earn a fortune. Extremely depressed and sad, she finds a *Punnha* tree completely covered with flowers and yellow leaves. Her feelings are reflected in the tree. She addresses the tree: "My husband, who places eternal faith in the God at Annamalai (a famous pilgrim centre in Tamil Nad) has gone on a voyage seeking ephemeral fortune. Without his sheltering shade, I am getting scorched. My blood has become thin and I look pale. You have also turned pale and you shed your yellow leaves and flowers. The predicament of us both seems to be alike. Then has your husband also left you for a long period like mine?" No comment is needed to indicate the deep emotions depicted so poetically.

In the modern period, a couple of lines from the great Bharathi relating to the familiar story of Lord Subrahmanya's love for Valli Devi and how he changed himself into a *Vengai* tree. The verse runs like this: on hearing the words, dipped in honey, from the lips of Valli, Lord Muruga became giddy with its sweetness, lost his senses and stood like a tree. This is perhaps the highest tribute paid by a poet for the magic wrought by the sweet form, noble theme and deep truths which good poetry in abundance.

State Finance—A Case Study

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THE age of pleasant anticipations of Finance Commission awards distributing to the States sizeable chunks of central tax receipts may be said to have well nigh passed. The share of the Central Government assistance for State Plans, standing at 53% in the Second Plan period, should also be deemed to have reached its peak. At the same time, the major burden of building up the social and economic overheads will be increasingly shifted to State Governments. The phase of economic development involving the construction of giant irrigation and hydel projects, mainly financed by Central Government, is yielding place to one of concentration upon smaller works of regional and local significance, to be undertaken exclusively by State Governments. These are some basic changes in the fundamental premises of planning which make the States' responsibility for shouldering a larger burden inescapable. In the past nine years of the planning period, the States have been criticised for having lagged behind targets in resource mobilisation and achievement. In this changed context, it is pertinent and useful to make a fresh appraisal of the performance of States.

For this purpose, an overall assessment of all the planned progress in the constituent States is not likely to be instructive. There is a great diversity in their economic conditions, size, population and financial situation. Such a heterogeneous collection defies any rational, homogenous treatment. A case study of a selected state—here for obvious reasons Madras State—seems to be more appropriate as it may shed better light on the practical difficulties and deficiencies in the attainment of the targets. Even here a statistical assessment is not rendered easy. Due to quick and radical changes induced by the integration and the re-organisation of States between 1947 and 1957, a continuous review of the budgetary position is not feasible. To bring into focus the tax efforts of the State Government, the main criteria of assessment will have necessarily to be the per capita increase in revenue and expenditure. However, this will be supplemented by an overall picture of the growth of revenues and expenditure of the Reorganised State, where comparison is feasible, and a review of the progress of the achievements during the period of Second Five Year Plan.

The area of Madras State decreased from 127,768 square miles in 1951 to 58,000 square miles on 1st October 1953 (when the Andhra State was formed) and further to 50,174 square miles in 1956 and the population from 57 million to 38 million and further to 34 million. The per capita revenue of the State has risen from Rs. 10.2 in 1950-51 to Rs. 21.5 in 1959-60 or an increase of 105%, which favourably compares with a

45% increase from Rs. 11.4 to Rs. 16.8 at the Centre during the same period. In the current year, State revenues, less the share from the income tax pool, account for a per capita revenue of Rs. 19.6 in Madras against Rs. 15 in U.P. and Rs. 21.5 in West Bengal and Rs. 22.5 in Bombay. It should however be added that the latter two States, being more industrially advanced, stand on a different plane.

Since the pre-Plan year, the per capita land revenue in the Madras State has increased from Rs. 1.2' to Rs. 1.48, the receipts from sales tax from Rs. 2.49 to Rs. 4.50 and from motor vehicle tax from Rs. 0.61 to Rs. 1.41. In 1958-59 the gross receipts from motor vehicles tax were Rs. 4.50 crores in Madras State compared with Rs. 3.69 crores in Bombay, Rs. 1.48 crores in West Bengal and Rs. 1.38 in U.P.

Total per capita public expenditure has also increased from Rs. 10.4 in the pre-Plan year to Rs. 31.10 in 1959-60 while expenditure on developmental and social services has increased from Rs. 6.26 to Rs. 12.88. Over the same period, the comparable figures for all the States, are Rs. 5.6 and Rs. 12.0. The per capita expenditure in Madras has increased from Rs. 1.83 to Rs. 3.91 on education, from Rs. 0.47 to Rs. 1.06 on medical and public health, from Rs. 0.50 to Rs. 0.86 on agriculture and fisheries and from Rs. 0.28 to Rs. 1.23 on industries and supplies. These figures clearly indicate that the tax effort in Madras State in respect of elastic sources of revenue have appreciably exceeded that of several other States.

The composition of the State revenues has changed remarkably since the pre-Plan year. The share from Central taxes has increased from 14% in 1950-51 to 18% in 1959-60 (B.E.), thanks to the award of the Second Finance Commission. The share of State taxes has recorded a decline from 65% to 48% which is however not to be taken at its face value as its face value as it has already been indicated that the taxable capacity has been more fully exploited in Madras.* Recognising this point, the Finance Minister has concentrated on developing the non-tax revenue which has risen from 21% in the pre-Plan year to 34% in the current year. Absolute increase is more striking in this case—from Rs.12. 3 crores in the Composite State to Rs. 25.3 crores in the Reorganised State which is not even half as large as the former.

Although total expenditure has proportionately increased with revenue, considerable care seems to have been bestowed to keep non-developmental expenditure under strict control.* Expenditure on general administration has declined from 11% of the total expenditure in 1950-51 to 6.9% in 1959-60 from 8.9% to 6.7% on direct demands on revenue and from 12.0% to 7.3% on police.

* The extent to which the limits of taxation have been reached in Madras may be seen from the following figures relating to the yields from additional taxation in the first three years of the Second Plan period. Despite Madras population being about 8.4%, the receipts from agricultural income tax in the State works to as much as 23% of the total receipts from additional taxation in all the States, revenue from electricity duties to 29% and the tax on motor spirit to 44%.

Statistics of revenues and expenditure in the Reorganised State are available for three consecutive years. The total revenues have increased from Rs. 62.56 crores in 1957-58 to Rs. 73.08 crores in 1959-60, or nearly 17% in three years. Total public expenditure in this period has risen from Rs. 59 crores to Rs. 71.69 crores or by 21%. In these three years budgetary surpluses have accrued to the extent of Rs. 7.6 crores.

The foregoing observations relating to revenue account only show that Madras State has raised the sales and motor vehicles taxes to the highest pitch, but has a yet left land revenue and irrigation rates almost untouched. It is this slack that would serve as a reserve to be tapped in the coming years. How far this will prove fruitful depends on the future pattern of land reforms and the degree of allegiance to non-economic considerations. And even the receipts under agricultural income tax, now inconsiderable, are conditioned by the hue and complexion of the former.

Turning to Plan outlay proper, it is needless to dwell upon the achievements of the First Plan, which all sections of opinion have acclaimed as a notable success. The Second Plan has envisaged a total capital outlay of Rs. 2,161 crores for all the States, the share of Madras being Rs. 152.3 crores or 7%. From the available statistics, it may be seen that in the first four years Madras is expected to complete 84% of the target expenditure compared with 75% in Bombay, 74% in U.P., 70% in both West Bengal and all the States. It may be added that Central assistance for Madras State amounts to 52% of the total outlay against 53% for all States. Achievement in various sectors, as it should be expected, is not uniform. It will be of interest to note that Madras State has fairly well observed the priorities. Within four years of the Second Plan it will be completing 98% of the target in industrial sector, 97% in irrigation and power generation, 78% in agriculture and community development, 87% on education, 70% on health and 75% on other social services. In the third year of the Plan the State has increased the production of food-grains by 8.5 lakh tons which amounts to 67% of the target.

The extent to which the financial resources have been mobilised for the above capital outlay may now be considered. The Second Plan laid down that all the States should secure by means of additional taxation Rs. 221 crores, the share of Madras being Rs. 13 crores. In the five years, yield from additional taxation is expected to be Rs. 25 crores, exceeding the target by 92%—a remarkable triumph in fiscal policy of which any Finance Minister may be legitimately proud. That spirit was indeed evident in his declaration of a holiday from further taxation in the last two years of the Plan period.

Upto the end of the fourth year of the Second Plan, Madras State has raised Rs. 27.6 crores as loans from the public or 75% of the target, while small savings amount to Rs. 12.1 crores or 148% of the target. Including unfunded debt etc., the total borrowings by Madras State have reached 88% of the target. While so much success has been gained in

the sphere of capital mobilization, the net increase in floating debt and "drawing on reserves" has amounted to Rs. 10.9 crores at the end of the fourth year. This ought to be and perhaps will be reduced before the completion of the Plan period. There is also an apparent failure to reach a target in respect of current balances at 1955-56 rates of taxation, as the actual figures shown under this head amount to Rs. 1.2 crores only against a target of Rs. 32.8 crores. It is apparent only because in this period, expenditure on developmental services under Revenue Account in every year has exceeded the 1955-56 level. An estimate of the actual additional expenditure could be made only with due adjustments in view of the fact that the Madras State of 1955-56 included the districts of Malabar and South Canara and excluded Kanyakumari. Adjusting the developmental and social services expenditure on population basis for the year 1955-56, this additional expenditure is estimated to be Rs. 30 crores. Viewed from this perspective, Madras State has really fulfilled the target regarding current surpluses. Whether this much of expenditure should have been incurred on developmental projects outside the Plan will have to be judged on the merits and urgency of the individual projects. In such matters, the discretion of State Government will have to be respected and to that extent the Plan has been made more flexible.

This argument naturally leads to another new principle of accounting regarding capital outlay which has been recently advanced and stressed. It is the principle of merging all capital expenditure incurred within the framework of the Plan and outside through dexterous deployment of current revenue resources for development. If this principle is accepted, taking the actual and estimated expenditure for the first four years of the Plan (for which statistics are available) and adding the additional developmental and social services expenditure incurred in these years, the real effort in development could be estimated. This procedure reveals that Madras State would be spending on development, in the broader sense, a sum of Rs. 153 crores against a target of Rs. 152.3 crores. Thus, the five year target has been carried out in four years. Similar calculation for all the states together shows that have so far achieved only 82% success.

In the absence of a representative state and in view of the accessibility of statistics, Madras State has been taken for this case study. It is neither so progressive industrially as Bombay and West Bengal nor so backward as Orissa and Bihar. It has enjoyed some advantages not given to several other States. It had a better start which is not an unmixed blessing because it implies also that some of the taxes have already been in vogue and some exploited nearly fully. Secondly, the State inherited a tradition of conservative and orthodox budgeting. Thirdly, and as a corollary, it had always learnt to keep its house in order without subventions, grants and aids. Fourthly, it has had the inestimable advantage of having a single Finance Minister continuously since 1952 who has rare insight into and clear grasp of the principles of sound finance, cou-

rage to introduce new taxes and to enhance the rates of the old taxes, faith in surplus budgeting and, above all, the good fortune of enjoying the confidence of the legislature.

• Even with due allowance for these advantages, it will not be difficult to foresee that State Governments could rise to the occasion when greater responsibilities are placed on them. Without being intimidated by Burke's dictum, "To tax and to please, no more than to love and be wise, is not given to man", the State Finance Ministers should take courage in their hands and tax wherever economic considerations warrant the levy. Their repertoire is adequate and targets can always be fulfilled. Indeed, in the Third Plan period various items of committed expenditure like Survey and Settlement, payment of compensation to estate owners would taper if not disappear. The agrarian policy would have emerged out of the miasma enveloping it. The confusion about the measures of taxation of land and their magnitude would also vanish. With the Central Government more absorbed in heavy industries and defence expenditure, a new climate will be created in which State Finance Ministers and Legislators will be inclined to be more self-reliant.



Lakshmi—Gangaikonda Cholapuram

South Indian Philosophers

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In writing about South Indian Philosophers one is immediately faced with two difficulties of a preliminary nature. One is that some of them like their brethern all over the world (inspite of a reputation for laziness) seem to have been very migratory in their habits. This atonce raises problems of geographical demarcation—a favourite and tricky problem in our country. The second difficulty is the well known one of separating philosophic from religious thought. In the writings and sayings of South Indian Philosophers the two streams are so intermingled that it is well nigh impossible and will not be attempted in this article.

Probably the earliest known Philosopher of the South is the sage Thiruvalluvar whose great work *Thirukural* has been one the literary and religious treasure houses of the South. The book has been translated into many European languages, the earliest into English being done by that great Tamil scholar G. U. Pope. The three main divisions of the Kural are devoted to Virtue, Wealth and Love. The author stressed purity of mind as an essential pre-requisite for the virtuous life. In the section on wealth a good deal of attention is paid to statecraft. On the perrenial subject of love he has much that is original and inspiring to say.

Thiruvalluvar's date is about 50 B.C. to the first century A.D. In his writings there is little clue to his private life. Traditions vary widely and modern scholarship seems to have discredited most of them. A widely current view is that he was low-born and was a weaver. He is said to have lived at Mylapore in Madras. He belongs to the intellectual aristocracy, his thoughts are universal and perhaps he was a weaver for the Kural is an exquisite tapestry made up of the golden strands of piety, poetry and practical wisdom.

During the second century A.D. two great works of Tamil were written, *The Epic of the Anklet* and *Manimekalai*. The author of the former Ilangoadigal was a Jain and that of the latter, Sethalai Sathanar a Buddhist. Though primarily literary works they reveal considerable philosophic insight as well as form a valuable guide to the contemporary philosophic climate. Catholocity seems a characteristic feature of this climate.

From the sixth century starts the golden age of Tamil devotional poetry to which both the Saiva and Vaishnava sects freely contributed. This age went on to the end of the tenth century. Here belong the Alvars, twelve Vaishnavite saints. Alvar means one who has taken a deep plunge into the ocean of Divine consciousness. The hymns of the Alvars have been collected and handed down to posterity by a scholarly devotee, Sri Nadamuni. The important work in this collection is known as *The Thiruvaimozhi*. The Alvars were a cosmopolitan group. Sri Andal was a lady, deeply mystic in her outlook and author of that very popular collection of songs known as *Thirupavai*. Kula Sekara Alvar was a prince by birth. He was a great linguist and wrote a work in Sanskrit known as *Mukundamala*. Namalvar is reckoned by many as the greatest of them all. He was born in Sri Nagiri in the Tirunelveli district.

Some of the Saiva saints belonging to this period are known as Nayanmars and their devotional hymns as *Tevaram*. These hymns were brought to light mainly through the efforts of the Chola kings. They were compiled into twelve volumes by one Nambiyanandar Nambi during the latter half of the tenth and the earlier years of the eleventh centuries. Thirugnanasambandar, Sundarar, Thirunavukarasu, Manikavasagar and Pattanathar are some of the most famous of the Saivite saints.

We next come to the age of the Acharyas. Nadamuni to whom reference has already been made as the collector of the devotional hymns of the Alvars, was an Acharya but the three most famous of them are Sankara, Ramanuja and Madhwa. Sankaracharya belongs to the West Coast and was born at Kaladi six miles away from the modern town of Alwaye. His dates are approximately 788 A.D. to 820 A.D. He lost his father at an early age and from his youth showed a precocious thirst for knowledge. Realizing that renunciation was the first step to all higher wisdom, he sought his mother's permission to become a sanyasi and obtained the same with some persuasion. Sankara sought instruction at the feet of Govinda Bhagavapada who was then having his habitat on the banks of the river Narmada. He was probably a pupil of Gaudapada, an Advaitin of established repute. After his formal initiation was over he travelled extensively all over India, meeting scholars of different persuasions and entering into debates with them. Besides writing several important works in Philosophy he established many *mutts* in different parts of India. Sankara was an exponent of Advaita or the *Philosophy of non-dualism*. He was not its first exponent but certainly its most powerful. "*Advaita*" says Prof. Suryanarayana Sastri "speaks of the world as the product of nescience or *avidya* by which is meant a positive removable by knowledge, just as physical darkness is removable by physical light. The cause of this limited diversified world that appears to our awareness, the cause of the phenomenal world in short, is an entity other than consciousness. Since it is removable by knowledge it is called *avidya*."

Sri Ramanuja was born near Kancheepuram, at Sriperumpadur in the Chingleput District of the Madras State. He lived in the eighth century. The reverence with which he is held by the people of the South is clearly revealed by the many honorifics that have been bestowed on him—Emperumanar, Ethiraj, Lakshmanan Muni and Sadagopan Ponnadi. Among his most important works may be mentioned Sri Bhasya, Vedanta Sara, Vedanta Dipa, Vedanta Sangraha and Gita Bhasya. Ramanuja gives us the philosophy of *Visishta Advaita* or qualified Monism. God in his philosophy is both immanent and transcendent. He is the Redeemer. Ramanuja conceives of an organic connection between the Deity and the Universe. *Leela* or Divine sport is brought about by God's descent into this world as avatar or incarnation.

The third of the well known trio of Acharyas belongs to a much later date. Madhwacharya was born in the year 1238 in a village near Udipi in South Canara. He is the exponent of dualistic system of philosophy. He makes an empirical approach to philosophy. According to him philosophy is *tatva niranya*. Experience is the secure foundation of philosophic speculation. He wrote altogether thirty-seven works dealing comprehensively with all aspects of philosophy. He was a Realist.

Coming to more modern times we may again briefly deal with a trio of philosopher-saints—Ramalinga, Ramana Maharishi and Swami Sivananda. Sri Ramalinga (1823-1874) was born in the village of Maradur near Neyveli in the South Arcot District of the Madras State. He belonged to an orthodox Hindu family. At the young age of six, it is said that—he shut himself in a room, hung a mirror on one of its walls decorated it with flowers and lost himself in deep contemplation. Later he moved to Vadalur not far from his native village where he constructed a big hall called *Satya Dharmasala* for the feeding of the poor. Here he wrote three essays on Ahimsa. Later he built a temple of humanity called *Satya Gnana Sabha*, which resembles a full blown lotus flower. Sri Ramalinga's devotional compositions have been collected into six volumes known as *Tiruvattapa*. This is a master-piece of devotional poetry dealing with all the important problems of philosophy. His message was that of universal love and brotherhood of man. He asks his disciples to cultivate universal compassion and reverence for all existence.

Saint Ramana Maharishi (1871-1950) was born at Thiruvannamalai, a famous sacred place of South India. His life has been described as one dedicated to self-realization. According to him a *grihastha* need not become a mendicant in order to attain liberation. Whether we are in the heart of a town leading a family life or in the heart of a forest away from all worldly attractions, we have to reckon with the mind which in its wayward state is the greatest obstacle in the way of attaining liberation. Pascaline Mallet, in her book *Turn Eastward* speaks of the Rishi as the embodiment of serenity and equipoise.

An ashram has been established at Thiruvannamalai where Ramana Maharishi had spent so much of his time. Many of his disciples live here. It is interesting to note that the English novelist Somerset Maugham describes this ashram in his book *The Razor's Edge*.

Swami Sivananda was born in Tirunelveli, one of the Southern most districts of the Madras State. A doctor by profession he had spent ten years in Malaya doing medical work. But he gave all this up. He felt a call and founded the Divine Life Society at Rishikesh. Sivananda is a voluminous writer having more than 250 books on various aspects of Religion and Philosophy to his credit. He is a gifted writer and an able exponent of abstruse topics like Mahavalhyas in Indian Philosophy. Any one who comes into contact with him is bound to be impressed by his wide sympathies, great tolerance and universal love.

In writing about South Indian Philosophers one has to take into account contemporary thought currents. Though South Indian Philosophers were mainly Hindus they reacted to both Islam and Christianity. This reaction was reciprocal. Umaru Pulavar wrote *Sira Puranam* which is a life of the Prophet Mohamud, in the latter half of the 17th century. This is a reverent and thoughtful study of the Prophet and his message showing the interest of the Indian thinker in faiths other than his own.

Christian thinkers—foreign missionaries as well as Indian converts—have shown a very keen interest in South Indian culture, literature and philosophy. Rev. J. S. M. Hooper translated the hymns of the Alwars into English. This was published in the famous Heritage of India series, which owes its origin to another great missionary pundit, Dr. Farquhan. Father Beschi popularly known as Veera Mamunivar wrote *Themba Vani*—an exposition of the life of Saint Joseph. A significant aspect of this work is the attempt to weave Tamilian tradition into the background of the story. Father Beschi had an exquisite prose style in Tamil, both splendid and simple.

Sri Krishna Pillai has translated that Christian classic *Pilgrims Progress* into Tamil. Sri P. Chenchiah, a Chief Justice of the High Court of Pudukottah has sought to interpret certain aspects of Christian thought in the light of Indian Philosophy and culture, in his writings and speeches. Two of his well-known works (both written in collaboration with other Christian thinkers) are *Rethinking Christianity in India* and *Ashramas—Past and Present*.

South India has the proud privilege of claiming India's Vice-President as one of its philosopher. This philosopher statesman, both by his matchless powers of exposition and eloquence as well as ripe scholarship and original thought, has made significant contributions to Indian Philosophy. Dr. Radhakrishnan was born on September 5th 1888 at Tirutani 40 miles N.W. of Madras. He was educated at the German Mission High School at Tirupathi, Voorhes College, Vellore and the Madras

Christian College, Madras. Starting as his life as a Professor of Philosophy at the Presidency College, Radhakrishnan's career has been a triumphal progress, where material prosperity has kept pace with critical thinking of the highest order. Dr. Nagaraja Rao observes "Radhakrishnan's system of philosophy can be briefly described as spiritualistic humanism. He believes in the existence of an Absolute which is posited on the authority of the scriptures, but affirmed by spiritual experience. The Absolute is dynamic: it is manifested progressively in Matter, Soul, World and God. God and Absolute are both real. God is the Absolute in personal form in the world context. Every soul is divine in nature."

• South Indian Philosophy is characterised by gentleness, calmness and contemplation. There are few storms and no squables. There is something in the climate of the South favouring the production of peaceful thinkers rather than cantankereous scholars.

Cottage Industries in Madras State

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It is worthwhile to state a few general considerations regarding position and prospects of cottage industries in the Madras State. Cottage industries should be viewed, first of all, against the background of the whole national economy and not merely in terms of small scale versus large scale industries. Secondly, they are both economically important in the present and capable of affording an improving livelihood to a large number of people in the future in the villages and small towns.

It is necessary to distinguish the technical aspect from the purely economic aspect of the problem of cottage industries. It is no doubt true that there is no natural difference between the two aspects as the technical aspects abuts on the economic aspect. Nevertheless, a rough distinction has to be made. In the technical aspect of the industry, questions of the following nature are involved: What are the industries, that are capable of organisation? Are the right kind of raw materials available for such cottage industries? What are the commodities to be produced? Are there reasonable chances that the industry will be able to establish itself on a commercial basis? These are some of the more important questions which are more or less of a technical type.

On the other hand, the economic aspect of the cottage industries present problems of a different nature: Should a particular industry be established or not? Is there a demand for the products of that industry? Will the industry succeed in the face of competition offered by rival industries? (e.g. handloom versus powerlooms). Is the industry likely to solve the problem of unemployment? Will the industry require labour and capital that would be easily available? In fact it is necessary to emphasise the point that the technical and economic aspects are closely inter-related and if separated it is not because they exist as two distinct aspects as such, but such a distinction needs to be made to indicate the practical and theoretical aspects of the problem. The importance and value of the technical side of the problem should not be under-rated. Whatever the economist may say or believe, before any practical steps are taken in the direction of developing cottage industries, the technical side of the question will require examination to find out if it can serve as a suitable background for the theory of the economist.

A tentative list of existing cottage industries in Madras State may be mentioned here. They are 1. Hand spinning 2. Textiles: a. cotton b. wool c. silk d. fibre—cocoanut, palmyra, hemp, etc. 3. Dyeing

and printing 4. Metal industry and cutlery 5. Match manufacture 6. Bangle industry 7. Slate and marble industry 8. Doll and Toy manufacture 9. Painting and lacquer work 10. Wood industries 11. Bamboo, cane, palmyra and their products 12. Paper manufacture 13. Oils and soaps 14. Gold and silver thread making, lack work and embroidery 15. Beedi and cheroot manufacture 16. Sericulture 17. Industries relating to fine art 18. Ceramic industry 19. Leather industries 20. Miscellaneous—cap making, chalks, etc.

Some of these industries are carried on as the main occupation and others for the subsidiary occupation of the workers. Some of the industries are found in urban as well as rural areas. As a matter of fact, in our State there are to-day more cottage industries in the several urban areas than in rural parts and such localisation is due to a number of factors such as the market at hand, facilities of transport and of obtaining raw materials and financial help. This leads to the question of the types of organisation among the cottage workers and how they work. Two broad categories may be distinguished—village industries which include the village artisan who cater more or less to the primary needs of the villagers; the urban industry which is better organised and confined to the manufacture of products of better quality and finish though in the towns there are some industries which are akin in the character of their products to the village industry. In the urban industry the workers have gradually become dependent upon capitalists.

The handloom industry, the largest cotton industry in Madras providing employment for about 2 million families and producing about Rs. 30 crores worth of cloth, furnishes a typical example of these changes in organisation. First, there is the independent weaver who obtains raw materials from his customer and is paid wages for working it up. Next, there is the independent weaver without any capital who buys only a small quantity of yarn. The weaver therefore has to find a ready market for the sale of his goods and it is at this stage that the middleman appears, functioning sometimes in the shape of yarn dealer, and sometimes as cloth merchant, but often times combining the two functions. By this, the middleman is able to make profits at both ends and very little margin of profit is left to the independent weaver. In certain branches of the handloom industry, for example *Kailies* and Madras Handkerchiefs, the independent weaver has disappeared altogether as he has been compelled to manufacture fabrics for which the market is at great distance and the materials costly and he is unable to export products to distant market without middleman's help. In this way, the commission industry has developed, for example in Salem and Coimbatore. The factory system, where a number of artisans work in a common workshop has developed to some extent. The type of organisation in the handloom industry is formed more or less in other industries particularly in those that lack the aid of capital and for which there is more than a local demand and it is the middle man who controls the workers. As regards the profits of the handloom industry master workmen and dealers who control the wage earners take about 20 to 25% profit on the price of the articles

produced For instance in some of the important centres of handloom weaving—Conjeevaram, Kumbakonam and Tanjore where superior and costly silk and lace clothes are manufactured, the profit of a master workman is 10 to 12 per cent and that of the dealer is 20 to 25 per cent. As regards the supply of raw materials again, it is the middleman who makes profit and profits range from 12½ to 25 per cent exclusive of interest on capital. In fact the middleman enriches himself at the cost of the workers at both ends. It is here that one can see easily the co-operative organisation as the only means of putting handloom industry on a rational basis. The potentialities of co-operation are well exemplified in the case of the progress of the artisan and weavers' societies. The task of rehabilitation by co-operative organisation should not be given up, particularly in the case of the handloom weaving to ensure marketing and guarantee the quality of the products.

At first sight it would appear that cottage industries cannot be efficient production units as the large scale industries. There are in our State many commodities for whose production the industries are specially suited such as gold and silverware, laquered ware embroidery, cane-work of various kinds, sandalwood and ivory carving, production of many fancy articles and a number of art crafts. The cottage workers who are engaged in the production of these commodities have no conflict with large scale industries. It is in the textile industry, i.e., handloom industry that there is sharp competition and even there the area of competition is confined to particular counts and specialities.

In spite of the somewhat decadent condition of most of the cottage industries and handicrafts, it is noteworthy that the number of persons employed in the non-power factories or as home workers exceeds the number engaged in power factories even in the textile industry and for industrial establishments as a whole. But working conditions have deteriorated and real wages have declined. Unfortunately, since the principal market for cottage industries and handicrafts in Madras State are now largely in the countryside, almost all of them have become seasonal in character.

So far as Madras State is concerned, a large number of rural people depend for their subsistence on agriculture which gives them only partial work and inadequate income. Any scheme for providing additional work and income to these people must be supplementary to the agricultural work and should be easy of implementation requiring very little capital, simple equipment and simple technique. Also the products of these industries should meet the basic necessities of life, avoid difficulties in marketing and also achieve self-sufficiency in village economy, and most of the cottage industries in Madras State have kept these objectives in view. The development plans of the Madras State narrate the steps taken so far for the rejuvenation of some cottage industries notably, handloom weaving. In conclusion, it may be stated that the case for cottage industries rests more on broad social grounds than on purely economic considerations.



• *Mahadeva—Chittannavasal*

Glimpses of Pallava Art

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The history of South India has been a voluminous record of never-ending strife between warring dynasties—among them, the Pallavas and the Chalukyas. This continued till the Pallavas lost their strength and vanished from the stage some time during the beginning of the 10th Century. Despite this long record of strife, the Pallava rule is outstanding for its contributions to our cultural heritage.

The Pallava ruler, Mahendravarman (A.D. 600-630) established his claim to fame in several spheres. A good administrator, he appears to have been a creative artist himself, with varied interests. It is said that he wrote a treatise on dancing and another on music. His proficiency in painting is borne out by his title *Chitrakapuli*—Master painter.

Critics are of the view that it was Mahendravarman who introduced the art of carving temples in rocks into South India. There are several inscriptions to support this view including those in Mamandur, Mandagapattu, Dalavanur and Tiruchirapalli. The introduction of this new style of temples, earned for him the title of *Vichitrachitta*—fantastic and curious mind. However, certain inscriptions suggest that this title was self-styled.

The Chittannavasal Frescoes.

The paintings of Jain Pallava origin discovered in a cave temple at Chittannavasal in former Pudukkotta State is assigned to Mahendravarman's reign. This cave shrine is situated seven to eight miles north-west of Pudukkotta in the midst of Pallava country.

Chittannavasal cave is believed to be a Jain temple which was carved out of rock at the command of Mahendra by his contemporary co-religionists before he was converted to Saivism by Saint Appar.

Once Chittannavasal was fully embellished with frescoes but now only the upper part of the edifice, the ceiling and pillars, contain paintings. Like the masters of Ajanta and Sigiria, with simple lines and few colours, the artists of Chittannavasal have created frescoes that bubble with life and rhythm. The subject is a simple lotus pond. The pond is full of lotus flowers and among the flowers are found fish, buffaloes, elephants, geese and three men—evidently Jains—holding lotuses in their hands. The colour of the skin of two of the Jains is dark brownish red, while the third is ocherish yellow. The general tone of colours and the

careful execution of the whole composition reveals that a master mind had conceived the idea. The fluency of the strokes, the rhythmic pose and graceful modelling of the figures are all exemplary. The whole composition pulsates with intense feeling.

The two pillars of the facade which contain some beautiful poses of dancing girls (*Apsaras*) are carefully preserved. These figures of the *Apsaras* are equal to the master pieces of Ajanta—or for that matter any painting in the world of outstanding merit—because of the grace and magnificent modelling.

Some critics are of the view that the frescoes of Chittannavasal are scenes from Jain theology. This cannot be the case and sufficient facts are available in the frescoes themselves to contradict that view.

The majestic figure of Mahadeva (Kundalakesi) with the *jata makuta* and *kundalam* (ear rings) is sufficient proof in itself that it is more akin to Ajanta or Bhag style of painting. Further, it is interesting to note that the reign of Mahendravarman corresponds with the last days of Ajanta art, which is believed to have come to an end between 626-628. Therefore, it is quite possible that even though Buddhism was then in decadence, it yet retained some influence in South India. Mahendravarman might have engaged some of the Buddhist artists to paint the frescoes at Chittannavasal. There is therefore less likelihood of the above frescoes being of Jain origin.

From time immemorial Indian artists practised the art of painting on clear and sound principles which have been handed down to posterity. The priest-artists of Buddhist orders painted the frescoes of Ajanta, Sigiriya and Bhag on these principles. These great principles, which are known as the six cannons of Indian painting, have been described by Vatsyana in his Kamasutra. The originator of the six cannons or the six limbs of Indian painting is believed to be a renowned scholar by name Yasodharan.

The six cannons have been described by Dr. Ananda Coomaraswamy as follows.

1. *Rupabhada* The knowledge of appearance.
2. *Prabhanam* Measurement and structure.
3. *Bhava* Action of feeling in forms.
4. *Lavanya Yojanam* Infusion of grace, artistic representation.
5. *Sadrsyam* Similitude.
6. *Varniga Changa* Artistic manner of using the brush and colours.



Apsara—Chittannavasal

Without a knowledge of the above principles the frescoes of Chittannavasal could not have been painted, particularly the figures of the dancing *Apsaras* with their graceful movements. The Ajanta artists were masters at these principles. The frescoes of Chittannavasal bear identical style and characteristics which go to prove that it is not born of Jain efforts.

Narasimhavarman.

The artistic glory of the Pallavas reached its zenith during the reign of Narasimhavarman (625-650), the successor of Mahendravarman. This monarch, also known as Mamallan (great warrior) was as devoted to art as his predecessor and enriched the fame of Tamil Nad by bringing into being the stupendous sculptures at Mamallapuram.

The five *rathas* (Chariots) at Mamallapuram are each a masterpiece, unique in quality, stunning to on-lookers, soul inspiring objects in the world of sculpture. The penance of Arjuna is a glorious achievement. Those hands that chiselled the magnificent and graceful figures of human beings, Nagas, were apparently endowed with extraordinary skill.

Although major portion of the sculptural works at Mamallapuram are attributed to Narasimhavarman, the sea shore temple is believed to have been built by Rajasimhavarman who built the famous temple of Kailasanath at Kancheepuram at the beginning of the eighth century. There is a strong belief that various shrines built by Rajasimhan have been submerged in the sea.

One of the outstanding and conspicuous features of the Mamallapuram sculptures is the uncanny knowledge of animals exhibited by those craftsmen. A group of monkeys by the side of "Arjuna's Penance" is an exemplary price in the art of sculpturing, executed with meticulous perfection.

Mamallapuram, popularly known as Mahabalipuram, lies about 47 miles South-East of Madras in Chinglepet District. A visit to this lovely and invigorating sculptural treasure is essential for an appreciation of South Indian art.

Sangam Literature

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Sangam means, in this context, a literary Academy. There is a tradition that there were there successive Tamil Academies founded and patronised by the Pandyas, slowly moving twice from the extreme south of the Peninsula towards north, whenever there was an erosion by the sea, till the Third Academy was founded at the present Madurai. It is impossible with the evidence on hand to say anything about this tradition. However, certain amount of literature attributed to this last Academy has come down to us and these consist of eight anthologies of verses varying in length. There is another anthology of ten long poems or idylls. These are accepted on all hands as the work of the Sangam age. *Tirukkural*, *Cilappatikaram* and a few other books are also assigned to this Academy; but all are not agreed on admitting them as such.

We have no epic in these collections; nor any narrative poem. Every one of these verses stand by themselves as perfectly chiselled gems of the most beautiful pattern. They are all dramatic monologues, though no drama has come down to us from that age. They give the quintessence of a poetic mood, involved in a dramatic situation, given expression to by any one character. It is, therefore, necessary to understand the context to recognise the speaker to identify the audience. Unless we recapture the atmosphere and the spirit of the verse, it is very difficult to understand the poem.

Though every verse is individualised and each poem forms a universe of its own, they together form a tower of literature, something like our Gopuram,, where every niche has got a highly individualised artistic work and yet taken as a whole, the Gopuram represents an artistic harmony and unity. The Sangam poetry thus as a whole may be taken to represent a harmonious union of literary productions and in that sense Sangam poetry can be looked upon as Group poetry. This peculiar nature of Sangam literature as being completely made up of anthologies is something fundamental and we have reason to believe that Dandin who lived in the Court of Rajasimha Pallava of Kanchi had known the importance of this kind of poetry and that therefore he divided poetry into two major kinds viz., (1) narrative or epic poetry and (2) anthologies.

Like all ancient poetry, Sangam poetry also looks so fresh, so inspiring and often so realistic, revealing Nature and Man in their significant and realistic aspects. But this realism appears only on the surface; for this poetry is idealistic. This poetry has a number of conventions with a view to achieving an ideal perfection. There are restrictions about the

speakers with reference to a particular context, to the background of Nature within which particular actions should take place and to the metre. This idealization, therefore, has been represented by some authors, like Nakkirar, as something not existing in the world, but brought into literary usage because of its literary and ethical perfection. For instance, the hero and the heroine meet for the first time, moved by a divine Providence or Nature; they lose their selfish-ego and become one unity working for the perfection of the world. Here perfect equality is emphasised between the heroine and the hero. Again the meeting ought to take place in the dark midnight and inside the crowded gardens of a mountainous region and in the Kutir season. Therefore, a study of Sangam literature requires a proper understanding and appreciation of these literary conventions; but in this place it is enough if this general aim of the idealistic perfection of the poetic situation alone is remembered.

Sangam poetry divides its literature under two great major heads of 'Akam' and 'Puram'. Akam means something internal whilst Puram means something external. Generally these are interpreted as meaning love and war. Though taken as a rough and ready explanation, this will be sufficient, their subtle aspect could not be grasped, if we restrict to this surface explanation. Puram deals with exterior aspects. The emphasis is here on the phenomenon, the outward appearances, actions and statements. You can date the event; the personalities may be historical or quasi-historical. Anachronism will be a literary blemish in Puram. Akam poetry is something different. It cannot be dated; the outer aspects and appearances are not material for its appreciation. It will be against the spirit of the Akam poetry to refer to any particular individual, historical or imaginary. Here the emphasis is on the noumenon. There is no emphasis on the exterior personality; the inspiration is, for these poets, the fundamental basis of all universe viz., Love. It is the various expressions of this Love, in its multifarious aspects, that are attempted to be described in Akam. It is true that the men and women who take part in this drama of the inner-mind, act in this world and their beauty and adornments are sometimes spoken of. That is because you could not speak of human-beings without their external aspects. These, however, are not the important revelations of Akam poetry as much as the inner vision of the soul or love or the urge-divine. So also in Puram there will be the inner motives revealed through the actions and speeches of the historical and quasi-historical personalities. This is but natural; for one cannot describe the outer aspect without making one understand the spirit behind it. Therefore, it is only the difference in emphasis that we have to recognise. It is in view of this importance that Tol-kappiam asserts that in Akam poetry the hero's name is never given out. Here again we realise the idealism of Sangam poetry. But within this situation of idealism, the poetry tries to be real.

Sangam age believed, if we are to compare two different things in a theory of Poetry in something akin to Poe's theory of literary composition. That is, the age believed in verses of smaller dimensions in which

the poetic mood can be captured and enshrined in its pristine purity, unsullied by any unwanted elaboration or prosaic situation. From this point of view the arrangements of the verses in various anthologies seem to be in accordance with the normal length of their verses. For instance, Kuruntokai consists of verses with less than eight lines each; Narrinai has verses with lines between eight and twelve and Akananuru or Nettuntokai has only verses whose length varies from twelve to thirty lines. Ainkurunuru consists of five centuries of very short verses, as the name itself shows. Pattu-p-Pattu consists of ten long poems each containing more than hundred lines. All except a few in Pattu-p-Pattu relate to Akam. Kalittokai is written in Kalippa whilst Faripatal is written in Paripatal metre. Kalittokai also belongs to the category of Akam whilst Paripatal belongs to both Akam and Puram. Purananuru, as the name itself shows, deals with Puram—about the Kings, Patrons and Chieftains. Patrupattu deals with Puram, but it consists of ten Tens of verses, each Ten being on a particular Chera King.

The number of the lines of verses are, therefore, not accidental; for they seem to represent the poetic dimensions of the verses. There had been in this age itself as explained above a gradual development towards longer and longer verses, paving the way for narrative poetry and the epic.

Even within the shortest dimensions of their verses, the poets attempted to enshrine the poetic spirit within a short phrase or simile or metaphor, which thus becomes the life, as it were, of the whole verse. Critics appreciating the poetic beauty of the phrases, named the authors themselves, after these phrases, in a mood of reverential gratitude. There are a number of poets of Sangam age who are named according to this tradition and whose proper names have been lost in oblivion. The verses, for instance, in Patirrupattu have for each one of them, a particular name which is nothing else than the poetic phrase occurring in that particular verse.

The Sangam age did not eschew the description of the hero dallying with public women. This theme naturally gives rise to the heroine being in a sulky mood. It will not be a sign of culture for the heroine to refer to this weakness of the hero in specific terms. Recourse is therefore had to suggestion or innuendos, expressed through harmless descriptions of hero's country. For instance, it may be a description of a buffalo going from place to place, in search of its food and enjoyment and this is made to suggest that the hero is wandering after and seeking enjoyment in the company of public women. The whole description may be considered as allegorical and this is called 'Ullurai'. This is only one variety of suggestion and in Sangam poetry there are various other kinds of suggestions. Every verse, therefore, has to be studied with reference to its theory of suggestion. In view of the suggestion the verses become cryptic and attain an economy and power not to be found elsewhere.

As already stated, verses reach higher dimensions especially in Pattu-p-Pattu. At least five of the ten long idylls have the art-motif of a guide i.e., the guidance of a poor artist to a patron of art from whom another artist is returning laden with rich presents and guiding his poor colleague to the same patron. This gives room for an appreciation and description of the art and the artist, of the patron's personal appearance and munificence, for a description of his patronage and of his country which reflects, as it were, the characteristic feature of the patron. This has a geographical motive also, describing the location and extent of the patron's country. A new development is seen in Tirumurukarruppatai which guides the seeker after Truth to Lord Muruka. It is a mystic poem of universalism. The sixth poem (Maturai-k-kanchi) is an advice to a Pandya to become the ideal King who can be remembered by the succeeding generations, especially in view of the ephemeral nature of the world in which hundreds of kings have lived and lost themselves in oblivion. But in this poem the Poet does not want the King to renounce the world. It looks as though we are having here something like the Aristotelian ideal of temperance. The Akam poetry of Separation (Pattinappalai) is the description of the feeling of sufferance and it describes the ancient city of Pukar of the Colas; the hero states that he will not be separated even if he is presented with the city of Pukar; for, as against the heroine who is sweet like the rule of the Cola, the desert through which the hero has to pass, is more cruel than the spear of the Cola hurled on his enemies. There is also Mullai—the description of life led by both the heroine and hero as sharing the burden of their lives' ideal; the hero on the battlefield and the heroine within the domestic theatre. Netunal Vatai is probably a poetry of desperate longing where we get the beautiful description of the Pandya King going round his war camp overflowing with his sympathy to his soldiers and beasts of warfare in midnight without caring for the drizzle, whilst the heroine lies on a cot in a despondant mood, longing for her hero. Kurinci Pattu is written by the great poet Kapilar and it is said that it was sung for explaining the Tamilian conception of love to one Aryan King. Therein is described the ideals of the heroine and the hero, the conception of their self-sacrifice, though starting as love at first sight. It is important to note that in this developed stage of longer verses, there is no mention anywhere of the public women and their episodes with the hero. The culture of Tamil literature seems to have thus developed at the closing stage of that age.

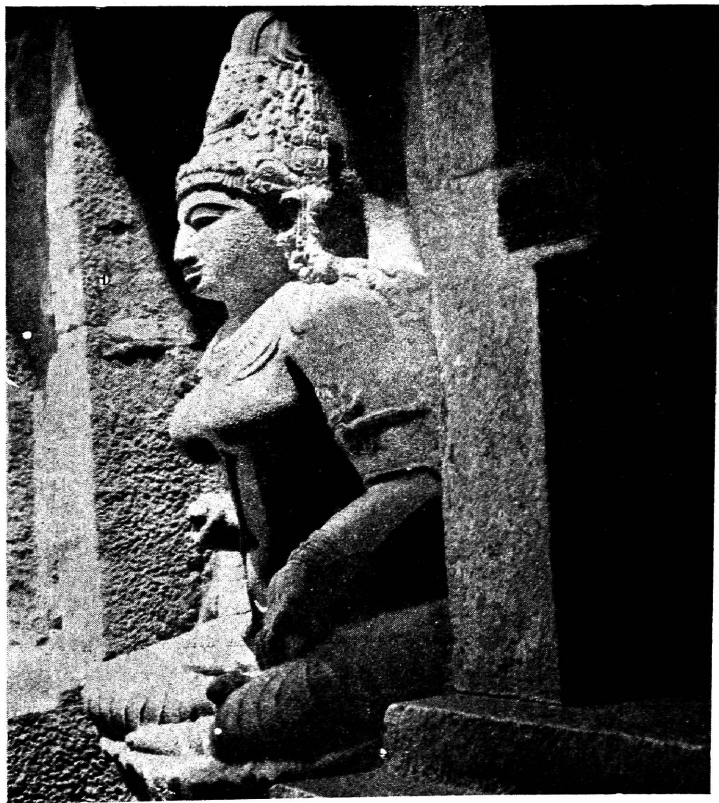
Cilappatikaram is the first epic of the Tamil land and it probably came at the end of the Sangam age. There are thirty chapters in that epic and each chapter looks like a kind of dramatic monologue which one meets with in Pattu-p-Pattu. It is only by stringing together these thirty different stray verses that the Sangam age could think of forming an epic of its own. In the beginning portions of this epic, the story part occupies only a few lines and the description of the evening etc. occupies the major portion. In this way the epic receives the force and power of objectivity. The reader has to form his own version of the stories from the various dramatic monologues. This is mentioned here

for understanding the essential characteristic feature of the Sangam age which, so to say, prevented the growth of epics as found elsewhere. The same characteristic feature is found in Kammattu-p-Pal of Tirukkural and other books of Patinenkilkanakku.

It is because of this idealisation and sublimation of Love it was easy for the great Tamil Saint Tirumular to discover the fundamental equation of spiritual life namely "Love is God". This is different from saying "God is Love", where Love is attributed to God. Proceeding from the known to the unknown Tirumular identifies Love as the Absolute God. This development thus shaped an idiom which came in handy for the Saivite Nayanmars and the Vaishnavite Alvars for giving expression to their mystic experience as a communion in Love—the Love or Lord embracing his beloved—the soul.

This idealism explains another important aspect of Sangam poetry. Critics often speak of poets holding their mirror upto Nature. The theory of Sangam poetry seems to suggest that Nature is holding up its mirror to Art. Like Plato the Sangam age must have thought that Nature is holding up its mirror to Art. Like Plato the Sangam age must have thought that Nature was but a poor, blurred and incomplete imitation of the Ideal. But unlike Plato, this Age perhaps believed in the artists having an inner vision of the Ideal and the divine power of revealing that vision in their artistic creations. Often Nature is compared to a work of art and according to the Tamilian theory of Simile, the object of comparison sets up the standard and this is greater than the subject. For instance a poet speaks of the red tender leaf of the Asoka tree appearing as though dyed by a cunning artist. This was so much appreciated that the poet himself was named "the Dyer" (Uttiyyar) after his poetic word and his original name was completely forgotten.

In Sangam literature one has the glorious expressions of the ideals of the heroes and heroines, the kings and the chieftains, the patrons and their poets. These form the only source for a history of the Sangam age, but with fuller descriptions of the social, political and cultural atmosphere of the age.



Saraswathi—Gangaikonda Cholapuram

Agricultural Cooperation in Madras •

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THE cooperative movement in Madras may be said to have begun, as in the rest of India, after the passing of the Coöperative Credit Societies Act of 1904. The credit goes to Madras for initiating the preliminary steps for the introduction of the movement in India. The Government of Madras deputed the late Sir Frederick Nicholson to study and report on the European systems of agricultural credit and his valuable recommendations more or less formed the basis for the introduction of cooperative legislation by the Government of India and the establishment of the cooperative movement in the country. Madras was peculiarly congenial to the spread of cooperation, as there were already many indigenous societies known as "Nidhis" which were but mutual credit associations closely resembling the friendly societies and building societies of the United Kingdom and the "Hotakushas" of Japan.

The movement had distinct phases in its history of slightly over half a century. Till the introduction of the Montague-Chelmsford Reforms in 1919, when cooperation was a subject administered by the Government of India, the movement had a slow growth. Later, until the thirties, the movement was characterised by a too rapid expansion. The world-wide economic depression of the thirties and the steep fall in agricultural prices had an adverse effect on the movement. Overdues in cooperatives increased and bad and moribund societies multiplied. It was a period of consolidation and reconstruction of societies. The conditions created by World War II gave a fillip to the movement. There was growing demand for all commodities which were in short supply and Government imposed controls on their prices and distribution. Cooperatives were called upon to play a new role. There was a shift from credit to non-credit activities and increasing attention was paid to production and distribution. During the war years and the post-war period, there was both expansion and diversification of the movement. The overall position of the movement recorded an improvement. After the attainment of Independence, cooperation assumed greater importance than ever before, as the Central and State Governments and the Planning Commission realised the need for co-operative approach to the problems facing the country. The two Five-year Plans gave it an assured and honoured place in the schemes for building up the new economic and social structure of India. On the eve of the formulation of the Second Five-year Plan, the All-India Rural Credit Survey Committee made its valuable recommendations for the reorganisation of the movement in the sphere of rural credit and they were generally accepted by Government and schemes

were included in the Plan for their implemenation. The Committee's chief recommendations are integrated credit and marketing and state partnership. As a result of this fresh impetus, co-operation has spread to new fields and considerably expanded. There are now 14,811 co-operatives of diverse types with over 28 lakhs of members and commanding a working capital of over Rs. 89 crores.

In a predominantly agricultural country like ours, it is nothing strange that co-operation has also, from the beginning, been predominantly agricultural. Agricultural co-operation may be classified broadly as credit co-operation and non-credit co-operation with the former occupying a dominant position. The co-operative credit structure is in two distinct parts, viz., the short-term credit structure and the long-term credit structure.

The short term credit structure is a pyramidal one with primary credit societies at the base, 15 central co-operative banks at district level and the Madras State Co-operative Bank, Ltd., at the apex. The State and Central co-operative banks are of mixed composition having both individuals and co-operative as their shareholders, but the individuals do not have a dominant position. In the State Co-operative Banks, co-operatives other than Central co-operative banks are not admitted. In addition to financing their member-co-operatives, the banks do general banking business also. The Central co-operative banks have also undertaken the supervision of village credit societies through 130 supervising unions, the cost of supervision being met partly by the banks and partly by the societies which pay a supervision fee based on their transactions. The co-operatives in the short term credit structure advance loans for periods not exceeding five years. In the scheme of State participation in co-operatives, the State Government has invested Rs. 25 lakhs in the shares of the State Co-operative Bank and the Bank in its turn has invested the amount in the shares of Central Co-operative banks which have in their turn invested the amount in the shares of large-sized societies known in this State as agricultural banks board of management of the State Co-operative Bank and one on the board. There are three nominees of the Government on the board of management of the State Co-operative bank and one on those of the central co-operative banks and agricultural banks. The boards of management of all agricultural banks have been, for the first three years, nominated by the Registrar.

The State Co-operative Bank has a paid-up share capital of Rs. 74.38 lakhs of which Rs. 14,000 only represent the shares of individuals. Its owned capital and working capital are respectively Rs. 100.58 lakhs and Rs. 1,294.97 lakhs. The owned capital is 9.4 per cent of its borrowed capital. During the year 1957-58 it borrowed Rs. 12.92 crores from the Reserve Bank. Its loan outstandings on 31st December 1958 were Rs. 10.50 crores. The lending rate for agricultural purposes is $2\frac{1}{2}$ per cent and for other purposes it ranges from $3\frac{1}{4}$ to 4 per cent. In point

of overdues, among the major State Co-operative Banks in India, it has been occupying a unique position for a long time in having no overdues at all from central co-operative banks.

The central co-operative banks have a paid-up share capital of Rs. 1.51 crores of which individuals own Rs. 12.55 lakhs. Their owned capital and working capital are respectively Rs. 2.09 crores and Rs. 13.29 crores. The owned capital is 19.4 per cent of the borrowed capital. During the year 1957-58 they advanced loans of the order of Rs. 11.13 crores. The overdues worked out to 1.5 per cent of the loans outstanding on 30th June 1958. The lending rate ranges from $4\frac{1}{2}$ to 5 per cent for agricultural purposes and from $5\frac{1}{2}$ to $6\frac{1}{2}$ per cent for other purposes.

The primary credit societies which form the backbone of the movement comprise 8,184 credit societies and 3 grain banks. The credit societies include 22 rural banks and 330 large-sized credit societies based on limited liability. They have so far covered 83.9 per cent of the villages in the State and brought within their fold 34 per cent of the rural population supplying 20 per cent of their credit requirements. During the year 1957-58 they advanced loans to the tune of Rs. 9.11 crores, arranged for the marketing of agricultural produce of the value of Rs. 3.57 lakhs and distributed agricultural and other requirements worth Rs. 11.06 lakhs. The loan outstandings on 30th June 1958 were Rs. 10.78 crores of which overdues were Rs. 1.47 crores, i.e., 13.63 per cent of the outstandings. Both small and large-sized societies are given liberal financial assistance by the Government to expand their business. In select areas, a scheme known as the "Full Finance Scheme" is being worked under which all the villages will be covered by co-operatives and every rural household will be brought within co-operative fold and all their needs will be fully met. The Government have stopped the issue of *taccavi* loans in these areas. The large-sized societies have done well but the organization of more such societies has been dropped in view of the National Development Council's decision to have small service co-operatives for each village so as to foster village initiative and leadership and people's participation in village institutions like the panchayat.

The Madras Co-operative Central Land Mortgage Bank at Madras and the 76 primary land mortgage banks at taluk level form the long term credit structure. The Central Land Mortgage Bank raises funds by flotation of 15 year and 20 year debentures and finances the primary banks. The debentures carry the State Government's guarantee of the principal and interest. The State Government has guaranteed upto Rs. 7 crores. The debentures are trustee securities in which both the Reserve Bank of India and the State Bank of India invest their funds. The total assets of the Bank on 30th June 1958 amounted to Rs. 6.71 crores as against its borrowings of Rs. 6.02 crores including debentures in circulation of the value of Rs. 5.58 crores. During the year 1957-58 it issued loans of the order of Rs. 73.44 lakhs

of which Rs. 41.79 lakhs were for discharge of debts and the balance for land improvements. Normally, the maximum amount of loan given to an agriculturist is Rs. 10,000 and in select areas in the State this limit has been raised to Rs. 15,000. The period of the loan ranges from 15 to 20 years. Among the several concessions and privileges enjoyed by land mortgage banks, the most important is the provision in the Madras Land Mortgage Banks Act of 1934 for the recovery of overdues, without the intervention of the court. The primary banks have over one lakh of members and Rs. 4.44 crores of working capital. On 30th June 1958 the loans outstanding against agriculturist-borrowers amounted to Rs. 4.31 crores of which Rs. 2.35 lakhs representing 0.53 per cent of the outstandings were overdue. None of the banks, however, was in arrears to the Central Land Mortgage Bank. Madras was not only the pioneer in land mortgage banking but continues to lead all other States in this field.

The marketing societies occupy an important place in the sphere of non-credit co-operation. The structure consists of primary marketing societies which are generally located at important market centres, District Supply and Marketing Societies at the district level and above them all the State Marketing Society at Madras. There are 109 primaries and 13 district societies. The marketing co-operatives in conjunction with village credit societies and the Madras State Warehousing Corporation will promote agricultural marketing by having a net work of godowns and warehouses in the State. For this purpose, the village credit societies and the primary marketing societies are linked in the scheme of integrated credit and marketing. The marketing co-operatives and village credit societies are given loans and grants for construction of godowns. They own 228 godowns in addition to numerous rented godowns. The State and district societies will take up export and import business. The marketing co-operatives also advance loans against agricultural produce and distribute agricultural requisites. A few of them have taken up processing activities like ginning cotton, shelling groundnut, hulling paddy, etc. In order to develop marketing activities in select societies, in addition to state partnership, the State Government has given liberal grants to them. During 1957-58, the primary marketing societies marketed agricultural produce of the value of Rs. 159.23 lakhs as agents and of the value of Rs. 3.73 lakhs as owners.

There are 3 sugar Mills with a capacity to produce 250 tons of sugar per day for 200 days in a year in which the Government has invested Rs. 35 lakhs in shares. The 20 milk supply unions and 621 milk supply societies with over 75,000 individual members had, during 1957-58, sales of milk and milk products respectively of the value of Rs. 193.71 lakhs and Rs. 4.11 lakhs. A few of them have taken up such activities as salvaging of dry animals, supply of fodder and feeds, maintenance of stud bulls, encouraging poultry rearing among members, etc. The Madras and Coimbatore Unions have pasteurising

plants. The Madras Union, which is the largest in the State, handles 33,000 pounds of milk daily and supplies milk to all the State hospitals in the city. It has an annual turnover of Rs. 30.31 lakhs. Of the co-operative farming societies, 32 are tenant farming societies with nearly 3,000 members and 8,500 acres of land under cultivation and 8 are joint farming societies of recent origin with 476 members and 355 acres of land under cultivation. There are 16 cattle breeding societies with 81 stud bulls, 18 irrigation societies commanding an area of 4,900 acres, 38 agricultural improvement and demonstration societies disseminating knowledge of improved methods of cultivation and 35 land reclamation societies which have reclaimed nearly 7,000 acres of marshy lands and brought them under plough with the assistance of a long term loan from Government.

Lignite Mining

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The name 'Lignite' is of French origin. It was used in that country to refer to deposits of dark brown, low rank coals of Tertiary age, which were banded and firmly consolidated. This terminology is now used also in other countries especially in the United States and in India for designating all the early Tertiary low rank coals which closely resemble French lignite. A series of immature coals intermediate in composition between peat and bituminous coals are grouped as lignituous coals. In Germany and other continental countries and also in Australia, they are called brown coals.

Lignituous coals in different parts of the world were formed during the Pliocene, Miocene, Oligocene and Eocene periods in the Tertiary Era and some in the late Cretaceous period in the Mesozoic Era. The age of the lignites may vary from two to sixty million years. For example the lignite available at Neyveli, South Arcot District, belongs to the Miocene period and thus it is twenty million years young whereas the mature coal mined in Bihar is over two hundred million years old.

Lignite is brown or brown black in colour, and earthy, amorphous, fibrous or woody in texture. It contains a high proportion of moisture, ranging from about 30% to a maximum of 70%. It is characterised by a high volatile matter content of about 42 to 60%, an oxygen content of more than 15% and a carbon content of less than 70%, on dry ash free basis. Its calorific value is less than 8,300 British thermal units per pound of moist coal. Thus the properties of the lignite are very different from those of the mature black coal.

The following table shows the reserves of lignite which are distributed throughout the world. Though the lignite reserve of Madras State looms very large for us, it is only about 0.15% of the world reserve.

TABLE—I
(millions of tons)

United States of America	...	9,86,500
Canada	...	2,90,700
Germany	...	56,758
Czechoslovakia	...	11,810
Hungary	...	1,500
Bulgaria	...	1,005
Roumania	...	2,838

TABLE—1 (*millions of tons*)—*Contd.*

Poland	...	5,000
Yugoslavia	...	1,800
France	...	335
Other countries in Europe	...	1,000
Russia	...	1,06,150
Manchuria	...	545
China	...	3,414
Korea	...	25
India	...	2,300
Newzealand	...	2,000
Australia	...	37,000
Other countries in Asia	...	2,000
	Total	1,512,680

The lignite beds vary from a few centimetres to a few hundred metres in thickness and are found at depths varying from surface outcrops to 500 metres.

Prospecting for Lignite.

First of all, geophysical and geological explorations of the surface have to be carried out. The geophysical tests give valuable information regarding depth, dip, faults, zones, of erosion and out croppings of lignite bed. Drilling operations yield samples of the overburden and the lignite for the various subsequent investigations.

The spacing of bore holes will depend on the general characteristics of the field. An initial pattern of holes spaced 50 metres apart will give a reasonably accurate picture of deposits. For the purpose of preparing sectional sketches or plots, it is advantageous to locate the drills, as far as possible, transverse to the strike on straight lines. For calculating the volume such lines are placed parallel. All these tests help to assess the lignite reserve, thickness of the lignite bed, depth of the seam and the nature of the over burden.

Methods of Mining.

There are two general methods of lignite mining—open pit and underground. Most of the lignite mined today is obtained by an open cut operation. Underground mining of lignite is very rare and it is adopted only to a limited extent in Germany and the United States of America. Therefore open cast mining operations alone are described briefly.

Open Cast Mining.

The character and thickness of the overburden influence the type of mining equipment. The presence of water or artesian in the overburden

or in the coal strata has a marked effect on the method of handling. Water occurring in the overburden can be simply drained off. Pumping tests will reveal subterranean water level to be expected.

* Artesian water under high pressure below the coal seam, offers great difficulties. When the overburden is removed, the coal face will collapse on account of its inability to withstand the high pressure of water and the mine will be flooded. Besides the working faces will crack. Therefore it is imperative that the artesian water pressure in the area should be reduced by pumping from shafts or bore holes to a safe limit.

Excavation.

In the case of open cast mining, strip-mining is generally practised as it is less costly and involves small mining losses. The characteristics of the overburden are ascertained from an analysis of its sample. If the overburden consists of gravels and sands, it can be easily removed by excavators working continuously. Sandstone, however, has to be drilled, blasted and handled by power shovels. Consequently the cost for the latter process is high. The ratio of the overburden thickness to lignite thickness affect the cost of mining. The economy in operation increases with decrease in the overburden thickness.

The following equipments are generally employed: (a) Bulldozers, scrapers, tounapulls, Euclid loaders etc. (b) Shovels and draglines (c) dredgers on rails or caterpillars. For small deposits, mobile earth moving equipment is used as it gives the best ratio of capital cost to daily capacity. The medium size deposits are worked by shovels and drag lines. The excavated overburden is loaded into road, or rail trucks, or belt conveyors. For rocky overburden, blasting and power shovels are required.

In the case of large scale operations, dredgers are invariably used. They remove the common sand, clay and gravel mixture. Swinging Dredger is a common type used for this purpose. It can operate on a high or low face for one operating level. From this level the overburden excavated is transported in trucks on rails. Though the actual cost of excavation is low, the cost of moving the truck and of its maintenance is very high. The latter cost increases if the trucks are resting on clays. Another useful type—bucket wheel dredger—takes the whole overburden face as a high cut. It is mounted on caterpillars and has a capacity of 1000 cubic yards to 3000 cubic yards per hour.

Besides the above equipments, bucket wheel excavators mounted on caterpillars are being employed. These machines are, just like the swinging Dredger, capable of digging both above and below track level. The excavated overburden is transported by belt conveyors instead of rail track which is superseded.

The overburden that has been excavated has to be disposed of. In the case of a new open cut, initially it has to be carried a long distance and dumped on the surface. It will form a big heap by itself. After the

removal of the lignite in the strip, the overburden in the next strip is dumped into the worked out portion of the pit. The following classes of equipments are recommended for this work. (a) overburden bridges (b) overburden spreaders (c) dump ploughs (d) sluice dumps (e) draglines. Mobile earth moving equipments have their own dumping devices.

Now the mining operations in progress at Neyveli, which is only 22 miles from Annamalaiagar, will be described. The Integrated Lignite Project has a programme to mine 3.5 million tons lignite per annum by the open cast method. An area of 5.5 square miles containing 200 million tons of more easily mineable lignite has been chosen. The first mine cut is 6100 feet long and 950 feet wide at the top, with three benches leading down to the lignite bed. Hitherto the main excavation work was carried on with the help of the conventional earth moving machinery like scraper loaders and Euclid dumpers and a number of bull dozers. etc.

A few months ago, the Neyveli Lignite Corporation has commissioned a bucket wheel excavator and belt conveyor system received from Germany. This machine consists of two booms—(1) Bucket Wheel Boom and (2) Loading Boom. The bucket wheel of 6.3 meters diameter has eight buckets on its periphery and is capable of removing 350 litres of material in one rotation. It is operated by electricity and it conveys the material automatically by means of belt conveyors from the bucket wheel boom where the material is discharged to another lengthy belt conveyor system which takes it to the soil bank where it is spread by slewable spreaders.

The bucket wheel excavator can dig upto a height of 12 metres and to a depth of 5 metres. The output is 920 cubic metres per hour. The buckets can be rotated at different speeds according to the nature of the earth strata. Both loading and bucket wheel booms are slewable over a range of 180°. The entire superstructure is mounted on two crawler tracks. A radio—telephone communication is provided in the operators cabin in order to convey instructions to the operator at the excavation work. This unit costs about Rs. 30 lakhs each. The belt conveyor installed to a length of 5 miles cost about Rs. 1.3 crores. Its speed is 4 meters per sec.

From the experience gained by working these specialised machinery for the past few months, it is observed that the Cuddalore sandstones are hard and erode the teeth of the buckets sooner than expected. It may be necessary to blast the surface and then excavate. This operation may increase the cost of mining.

The Integrated Project includes the following schemes in addition to the mining of 3.5 million tons of lignite per annum.

(1) Thermal power station, generating 250 M.W. It will consume 1.5 tons of lignite per annum.

(2) Fertiliser Unit producing 152,000 tons of urea by a total recycle process using 0.5 million tons of lignite per year. This will be the largest urea plant in the world.

(3) Briquetting and Carbonising Plant. It will consume about 1.5 million tons of lignite and convert them into 720,000 tons of raw briquettes or 380,000 tons of carbonised briquettes suitable for domestic fuel, together with the by products of 51,300 tons of tar, 1032 tons of phenol, motor spirit and chardust.

The mining of lignite in Madras will act as a catalyst for the growth of other industries in the State. Already a ceramic factory for the production of high and low tension insulators in collaboration with a German firm has been established at Vadalur near Neyveli in the private sector. This factory will utilise the China clay available in the overburden. The Government of Madras have also established a Ceramic factory at Virudhachalam as a production cum training Centre. It is possible to have plants for the production of aluminium and steel at Salem. A number of other industries are bound to come up in view of the availability of power and fuel.

Lignite though it has high moisture, high oxygen content and consequently low calorific value, yet has proved in many countries as a useful and competitive fuel in places where black coal and oil fuel are scarce. The Mining of Lignite might appear to be a simple operation consisting merely of digging a hole in the ground and winning the lignite. It is not so simple. Just like that of the black coal, it requires careful planning over a long period, highly trained technicians and costly equipments for obtaining efficient and successful results.

Food and Agriculture in Madras State

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THE total area of Madras State is 32.02 million acres. Of the whole area available 43.8% is under net area sown, 13.7% under 'Forests', 7.7% under 'Barren and unculturable land', 9.6% under non-agricultural purposes, 6.2% under 'Culturable waste', 8.6% under 'Current fallows', 5.4% under 'Other fallow lands', 2.9% under Permanent pastures and other grazing lands, 2.1% 'Miscellaneous tree crops and groves' not included in net area sown.

The land area per capita in the State works out to 95 cents compared with 225 cents in the Indian Union. The total cropped area per capita is 50 cents while the net area sown per capita is 42 cents. The net irrigated area is 5.52 million acres accounting for 31% of the gross area sown. Area irrigated per capita is 11 cents in the State, varying from 44 cents in Tanjore, "the Granary of South India", to 10 cents in Salem District.

In the prevailing land utilisation pattern, the percentage of net area sown to the area of the district is the highest in Tanjore, being 60%. It ranges from 42% to 50% in other districts viz. 42% in Kanyakumari, 42% in Ramanathapuram, 43% in Tirunelveli, 44% in Madurai, 48% in South Arcot, 48% in Coimbatore and 50% in Tiruchirapalli.

Food crops account for nearly 76% of the total area sown. Rice is the largest single crop of the State, grown over an area of 56 lakhs of acres which is more or less equal to the area under millets (area being 55 lakhs of acres). Nearly 33% of the population subsist on millet grains and 66% of the cattle thrive on millet fodder. The area under paddy to the total area sown in each district varies from about 79.9% in Tanjore to about 7.2% in the Nilgiris.

Madras State can be proud of the vast strides it has made for reaching a level of agricultural production per acre which places it in the first rank as compared with any other State in India. This is not in a small measure due to the persistent endeavour which the agriculturists in the State have put in to raise better crops by the use of improved seeds, by proper application of manure and by adopting cultural practices of proved benefit. Better lands fit for agricultural production are already under cultivation in the State, and there is very little new land suitable to be broken up and brought under the plough. The criticism that the ryots have not taken advantage of the irrigation facilities (and brought more land under cultivation) does not apply to Madras. It is not surprising, therefore, that agricultural yields in the State are generally above the national average. For instance, Bombay, with more than twice as much area under cereals has an out-

put that is less than that of Madras. The yield of rice per acre in the State is 13 maunds against the All-India figure of 9 maunds while that of groundnut is $1\frac{1}{2}$ times the Indian average. With less than 3% of the total sugarcane acreage in India, Madras produces as much as 6% of the total output.

The State of Madras was deficit in foodgrains at the time of the formation of Andhra in 1953. When the reorganization of the States was made in 1956, the position improved slightly, on account of the transfer of Malabar which was a deficit district and the addition of Kanyakumari which is a paddy producing area. Moreover, the various measures undertaken by the Government for increasing food production have met with some success and food production has improved. The production of foodgrains during the last three years has been as follows:—

<i>(In lakh tons)</i>			
Year (1)	Rice (2)	Millet (3)	Total (4)
1956-57	31.96	14.83	46.79
1957-58	32.36	15.27	47.63
1958-59	32.98	17.23	50.21

The average consumption of foodgrains per adult per day in the State is about 15.3 ounces. The total estimated production of rice for 1958-59 (less seed requirements) is 31.86 lakh tons. On a scale of consumption of 15.3 ounces per adult per diem, the requirements for the present population of the State in 1958-59 is 30.42 lakhs. This will leave a surplus of 1.44 or nearly 1.5 lakh tons. It must, however, be remembered that any surplus or deficit that is arrived at, will have to be understood only in relation to the prevailing levels of consumption. This level of consumption is at present less than the minimum of 16 ounces which is considered necessary for adequate nutrition. In a growing economy, there is bound to be an increase in the demand for foodgrains with increase in per capita income, especially since the bulk of the population exists on marginal levels of subsistence. The increase in demand and the growth of population may contribute to an appreciable increase in the consumption of foodgrains.

In July 1957, the Government of India constituted the Southern Rice Zone with the idea that the deficit of 4 lakh tons of the three States of the Southern zone other than Andhra, (Kerala 2.5, Madras 1.0, and Mysore 0.5) could be off-set by the surplus of Andhra, estimated to be nearly 6 lakh tons. The Madras Government is against the inclusion of Kerala in the Zone as it is felt that a highly deficit pocket in the Zone would make the arrangements quite unstable. However this point of view is not accepted by the Government of India.

Soon after the Zonal arrangements came into force in July 1957, the Madras (Rice and Paddy) Requisitioning Order 1957, under the Essential Commodities Act, was issued. The object of this order is to enable the

officers of the Government to requisition stocks of paddy and rice, whenever this becomes necessary. In November 1958, when the National Development Council took the important decision that State Trading in foodgrains should be the future policy of the Government, the Madras Government decided as a first step, to put into operation for the current year a limited scheme for the procurement of rice and paddy only. The Rice and paddy (Madras) price control Order was issued on 28th January 1959. But considerable difficulty was felt in making progress with the procurement scheme as vast quantities of the foodgrains moved to Kerala where there was no procurement or price control. The matter was taken up with the Centre and it was agreed to ban the transport of paddy to Kerala, though there was to be no ban on rice. And the Paddy (Export Control) Order 1959 was issued on 28th February 1959.

The State procurement has been limited to the coarse or second sort variety of paddy and rice, as the intention of the Scheme is to distribute the stocks ultimately to the poorer classes through fair price shops. The entire Scheme has been operated through District Co-operative Organisations which do the local procurement, receive stocks from other districts and distribute them to retailers, according to directions from the Civil Supplies authorities.

The target set for procurement was 2 lakh tons of which about $1\frac{1}{2}$ lakh tons was to be in the form of samba paddy and the remaining $\frac{1}{2}$ lakh ton in the form of kuruvai (rank). The actual quantity procured so far is 113.94 tons on 24th August 1959. The success in this matter would have been much greater but for the unrestricted movement of rice to Kerala upto March 1959. The existing ban on movement is confined to paddy and so there has been quite an appreciable movement of rice.

In view of these factors, the Madras Government requested the Government of India again in May 1959 for breaking up the Southern zone and constituting Madras State as a separate zone. The Government of India were of the view that this might raise some serious problems but agreed instead to give the State one lakh tons of rice from the central stocks for distribution in the lean months of the year. It was felt that this additional supply would, to a great extent, compensate for the extra movements to Kerala.

Against this background of supply, demand and regulatory measures, the trend of price movements in the State may be examined. It would appear that the rather sharp increases in the price of rice in the beginning of the lean season last year (July 1958) has lasted till January 1959. The new level of Rs. 20 per maund shows an increase of about 10% over the prices in August 1957. The reason for this increase has to be sought in the general upward trend in food prices all over India, especially in the Northern States, following severe draught conditions there. After January 1959, there has been a fall in the prices. This is due no doubt partly to the coming in of the main crop and partly to the regulatory measures undertaken. The prices have again shown a rise in April—May 1959, notably in some of the exporting centres such as Tiruchitrapalli, Kumbakonam and Madurai. This rise is really an advancement of the

lean season which sets in normally in June—July every year. The main reason for the early increase in prices appears to be the continuing demand from Kerala. We cannot also rule out the fact that there has been some evasion of procurement: dealers pretend to act merely as commission agents, millers show themselves as producers, transactions are carried out in the name of fictitious persons and also splitting up of stocks into small quantities so as to avoid procurement.

When we consider the trend of prices in Madras State against the all India background and also take note of the fact that there is no ban on the movement of rice to Kerala (where the price per maund of rice is as much as Rs. 3 to Rs. 5 higher than in Madras) it can be claimed that there has been no undue or alarming increase in prices in Madras State. Another conclusion that can be drawn is that State procurement has to some extent brought down the prices and the release of the stocks through fair price shops since 15th July 1959 also has a similar effect.

State trading in foodgrains on the All-India pattern, as set by the National Development Council in March 1959, has no doubt been adopted in principle by the Madras Government. But right from the beginning the State Government has been pointing out to the Government of India that if State Trading is to be successful, each State is to be made into a zone by itself. This arrangement has been advocated not out of jealous zeal to preserve the autonomy of the State nor with a desire to escape from its obligations to part with what little surplus it has to other States which may need it, but as a sheer administrative necessity. The State is not the unit for trade; but it is the unit for everything else which concerns the farmer or the consumer, such as the organization of cooperatives, the supply of agricultural requirements, the administration of fair price shops, the enforcement of control orders etc. The task of be made much easier the State will therefore if its territory becomes a zone.

Summing up, it can be said that the supply position of foodgrains is quite satisfactory as the crops have been good so far this year. The increase in prices is due to the abnormal increase in prices of foodgrains in other States. The price has gone up by about Rs. 4 to Rs. 5 per maund and in sympathy the prices of foodgrains in Madras State have increased by about Rs. 1.84 but still the price level in Madras is the second lowest among all the States in India and the fair price organisation is kept intact on a small scale to meet any emergency.

The total production of foodgrains in a normal year would have been stepped up from 44 lakhs tons at the end of the First Plan period to 53 lakhs tons by the end of the Second Plan period. To establish self-sufficiency even in an adverse year and at the same time allow for an increase in the per capita consumption on the basis of an annual increase in population by about two per cent and also to provide for a safety margin, it is necessary that the State should aim at an achievement of at least an additional production of 20 lakhs tons by the end of the Third Plan.

As regards major and medium irrigation, it is necessary that the surplus waters that are now being allowed to go to waste down the rivers in the neighbouring States of Kerala and Andhra Pradesh should be diverted to this State as quickly as possible with the willing cooperation of the Governments of those States; a systematic survey of all the jungle streams in this State should be conducted with a view to harnessing their flood waters.

As regards minor irrigation works, it is necessary that highest priority should be given to the repair and restoration of tanks in the ex-estate areas, particularly those in the Ramanathapuram district which are in need of immediate attention. The work of repair and restoration of tanks should also cover the supply of channels, field bothies and sluices of the tanks in the case of Government sources of irrigation.

The present arrangement under which pesticides and fungicides are sold at 50% of the cost price only in those areas which are declared as pest-affected by the District Agricultural Officer concerned, is not satisfactory. Therefore it is necessary that pesticides and fungicides should be sold at a concessional rate in all areas throughout the year.

The proposal for the universal adoption of Cooperative Joint farming as the future pattern of our country's agriculture, will have to be considered by all concerned dispassionately, untrammelled by other considerations and in effecting the change over to voluntary Cooperative Joint farming, the Government must receive the requisite measure of enlightened cooperation from the agriculturists and others interested in stepping up agricultural production.

In view of the poor progress so far in the implementation of the Madras Land Utilisation Order, the object of which is to bring under the cultivation of food crops any occupied waste or arable land which has been left uncultivated, it is necessary that a special officer of the status of a Collector, should be appointed to attend solely to this work. It is also necessary to survey the waste lands belonging to Hindu religious and charitable institutions in the State and to draw up schemes for their utilization.

The Government have ordered that the areas in which the Full Finance Scheme is working, no takkavi loan should be granted. But as the Full Finance Scheme meets only the short term and medium-term needs of agriculturists and the provision for long-term credit is not adequate, this decision should be revised. It is also necessary that short-term loans to the required extent should be granted by cooperatives to landless tenants and marginal cultivators, on the security of crops raised by them. The Government should give a guarantee to the financing banks agreeing to make good one half of the loss, incurred on such loans. Thanks to the energy and industry of the agriculturists and the endeavour of the Government of this State, Madras has secured a pride of place in the agricultural map of India. There is no doubt that Government of Madras shall strive hard not only to retain but even to surpass every one of its existing records.

. Art and-Architecture in Tamilnad

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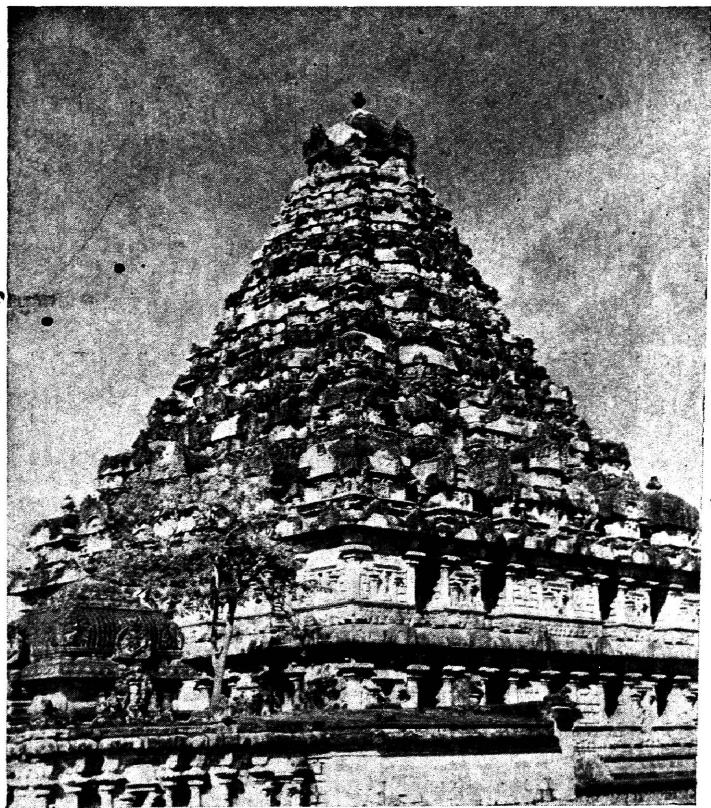
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THE excellence of the Tamils in the cultural arts is now widely recognized and admired. Their architecture and sculpture which have stood the test of time, developed through the ages as one and indivisible while also fostering and receiving inspiration from the art of painting. Generally all Tamil classics, and in particular *Paripadal*, the *Aham* and *Puram* collections and *Manimekhalai* of the second century A.D. bear evidence of the state of these kindred arts. From the references they contain to the high level of perfection in those ancient days of these arts, it is to be inferred that their origin is even more antique.

It has been said that everything India had to offer to the world in art proceeded from the genius of her philosophers. This cannot but be qualified to a considerable extent. This part of India, south of the Vindhyas, from the Venkata Hills in the north to Cape Comorin in the south, may be seen to present a higher and humanistic element in the plastic presentations. The Tamilian, by temperament, was a free bird in life and thought. His prime consideration was his home, and he fought more often to preserve its sanctity and protect his motherland from any interference, internal or external. He loved Nature and objects of beauty. They inspired him. The ideas of human equality and brotherhood ran in his veins. These traits lifted him to the regions of poesy. Poesy, in its turn, paved the way for these creative arts.

• In matters of faith, a like development is also perceived. He was respectful, by temperament, to his elders. The father and mother were the earliest manifestations of his divinities. He viewed with respect the heroic acts of his fore-fathers. The memories of such departed heroes claimed his pious devotion. The result was the cult of hero-worship. Higher religious concepts of God then followed. Naturally, he became more reverent and then religious. Further philosophical inquiries took him nearer to his God.

Further, a fanciful idea to him was a song, and a picture too. Such a picture, rounded off to a shape, was sculpture. These kindred arts gave birth to architecture. The idea was simple at first, and matured gradually with higher metaphysical conceptions. Standardisation soon began; and the laws governing their technique came to be codified. The *Agni-Purana*, the *Kamika-Agama* and the many Silpa Sastras aimed at ensuring the correctness of their shapes and forms for spiritual and aesthetic values. The profession of the Silpi was even considered sacred.



The Temple at Gangaikonda Cholapuram

Elaborate preparation and apprenticeship was enjoined on him, before he could give rein to his skill on stone or bronze. The texts emphasised that unless one was proficient in painting, he should not attempt sculpture. The *Dhyana Slokas* explained the details of such forms, laid powerful injunctions on the initiate to fast and contemplate on the subject of his art, and more specially when such was an object of worship.

Kings at first patronized these arts, and their artists lavished their best on the palaces of their patrons. And next, they turned their skill on the *Koyil*—the House of the Gods—which their royal patrons constructed. Their motive was now to secure religious merit. The temple was planned as an embodiment in architectural form of the individual soul's striving towards the universal spirit. Man's striving after *Moksha* may even now be said to have assumed a concrete form. It was even an aspiration for the final state, wherein the human soul lost its separate entity and merged itself in God. The temple as such was physical in form, but metaphysical in conception. The architect, the painter and the sculptor now lavished their best on its construction. And the temples grew from age to age—an inspiration for all time, a wonder of all nations.

Paripadal bears evidence to certain wall paintings at the Tirupparankunram temple near Mathurai. And many other Tamil classics bear evidence to them in several other places. Very few of such early paintings exist now, having been erased by the ravages of time and other natural causes. Among those that remain, the frescoes at Chittannavasal bear testimony to the excellence of Pallava art while the paintings found in the circum-ambulatory corridors of the *sanctum* of Sri Brihadiśwara are the most famous. This temple was built by the Chola emperor Rajaraja I. The paintings are in two layers, the earlier and lower ones dating back to Chola times and upper ones belonging to the time of the Nayaks (17th century). The theme is one of Puranic lore; there are depicted some events in Saint Sundarar's life full of beauty and feeling. The paintings are of special interest for their portrayal of contemporary life.

With the growth and spread of Saivism between the seventh and thirteenth centuries, the area covered by the modern Tanjavur, Tiruchirapalli and North and South Arcot districts came to be studded with temples of a high sculptural standard. Among the finest of their kind are Rajarajeswaram, the great temple at Tanjavur of Raja Raja I and Gangaikonda Cholēswaran. The section on 'Architecture' in the *Encyclopaedia Britannica* describes the former temple as "by far the grandest temple in India" while the latter is described as "almost its feminine counterpart" by Percy Brown. It is indeed remarkable that both temples should be done completely in stone, from *upana* to *stooṇi*, in a territory where stone is almost a rarity.

Thirty-six miles south of Tanjavur, lie Tiruchirapalli, Srirangam and Thiruvanaikkavu. The Tiruchirapalli Rock, 273 feet above sea level, situ-

ated in the midst of the city, bears a noble temple to Thayumanavar—the Lord, the Father who became the Mother also, according to the local legend. Gunabhara, the Pallava Mahendravarman, was its author. Two rock-cut caves cut on this rock by him are also worthy of being seen.

Three miles to the north are the famous fanes of Srirangam and Tiruvanaikkavu in the Srirangam Island formed by the Cauvery river. The Ranganathaswami temple is almost a perfect one of its kind. Its gradual development is one of seven long centuries. Its nine *prakaras*, twenty one *gopuras*, its myriad pavilions within, inclusive of the thousand-pillared *mantapa* are wonders of sculptural and architectural skill. The *Garuda Mantapa* of Srirangam is a gallery of portrait sculptures of the Nayak kings who ruled over the Tiruchirappalli country in the seventeenth century. In its third *prakara*, there are again life-like figures of the Nayak Vijaya Ranga Chokkanatha, his royal consort, his heir and his daughter-in-law. The eight mighty colonnades without, are the best in the temple. They depict furious fighting steeds with riders on their backs, who stick javelins into the sides of attacking tigers. They are all so realistic and are suggestive of the heroic times of the Vijayanagar emperors. Wonderful are also the paintings in the second innermost *prakaras* of Sriranganatha and Ranganayaki. They are of high historic interest, worthy of a closer study. In the upper ceiling of Ranganayaki's second *prakara* various scenes of the times of the last of Tiruchirappalli Nayaks, Vijaya Ranga Chokkanatha, move before us. These are a few more of such specimens in various other temples.

Kancheepuram, the capital city of Pallavas and of Tondaimandalam, is an assemblage of 67 temples. They are of Siva and Vishnu and Jain cults. That of Varadaraja is the most important to Vaishnavites, and those of Ekambaranatha and Kamakshi, for the Saivites. Their style of architecture is one verging on magnificence and replete with sculptural art. The Jain Tiruparuttikunram temple, on the banks of the Palar, is a gallery of the painter's art, depicting scenes from the lives of the Tirthankaras. The earliest of them all is that of Kailasanatha, and a typical one too, for a study of the sculptor's art of the early seventh century.

Kumbakonam on the Cauvery is another city of temples. Sculptural art of the most exquisite type is to be seen in the Nageswara temple and in paintings at the Ramaswami temple. Two miles away from the city is another temple, which is almost a museum of the sculptor's art. The Darasuram temple of Raja Raja II is justly famous for sculpture, and words could only belie any description. The twin temples for the God and the Goddess are adjacent to each other, and every inch of them has to be seen and admired.

The five chief centres of architectural art in the Kongu Nadu, comprising of Coimbatore and Salem districts, are justly famous. Perur, Tiruchengode, Tadikombu, Taramangalam and Periyapalayam—each is a storehouse of the Silpi's skill. The *Natana Sabha* at Perur, the *Nritta-*



A Figure from the Srimushnam Temple

mantapa on the hill at Tiruchengode, the Maha Mandapa at Tadikkombu, and the temple at Taramangalam as a whole, and more famous still, the *Vali Vadha* in a mantapa there have to be seen and admired.

Mathurai, though a Pandyan capital, is a Nayak city of the sixteenth century. The centre of the city locates the magnificent twin temples to Sri Meenakshi and Sundareswarar. Excepting the innermost principal shrines of the deities in these great temples of the South, none of them is older than the sixteenth century, their older structures having been entirely destroyed by the Mussalman troops of Malik Kafur in 1310 A.D. Viśwanatha, the first of the Nayaks and the later Pandyas of Mathurai began anew the temple reconstructions. Tirumalai (A.D. 1623-59), the greatest of Mathurai Nayaks, built the *Pudumantapa*, the *Mahal*, the *Vandiyur* tank and a greater portion of the temple, which are all unrivalled for their beauty and magnificence.

Rameswaram is a small island in the Bay of Bengal. It contains a great temple of all-India interest and sanctity, reminiscent of the events of the epic Ramayana. The style of architecture of the temple is florid and Pandyan and its most striking feature is the corridor, 400 feet long and the longest found in any Indian temple.

There are many more treasures of sculpture and architecture in this part of our country which would amply reward the curious connoisseur.

Industrial Development in Madras State

SRI MR. MADHAVAN,
Lecturer in Economics.

THE process of industrialization in Madras State strictly conforms to the normal pattern of two stages of accent, first on agricultural base followed by that on the mineral. Cotton textiles, sugar, hides and skins and tobacco industries are of much earlier origin than cement, chemicals and engineering. The former group of industries may be said to have achieved the take-off even before the World War II and has made good strides in the post-war years. The latter group has not yet crossed its infancy and considerable progress and expansion lie ahead. A new stage in development, visible at the horizon, consists of the development of industries based on direct exploitation of two important minerals. An estimate of the present state of industrial development is briefly attempted here to serve as a background for an assessment of potentialities of future growth.

Apart from being one of the three largest producers of raw cotton in the world, India occupies the fourth place in regard to the manufacture of cotton textiles. There are nearly 450 textile mills in India of which 133 or 27.5% are in Madras, having 21.5% of the total spindleage. This is the largest organised industry in the State, accounting for 53.6% of productive capital employed which forms 13.6% of the Indian cotton textile industry (*vide* C. M. I. Report 1955). It provides employment for 105,000 workers, or nearly two-thirds of the factory labour force in the State. Madras leads in the production of cotton yarn, accounting for 45% of the total production in India. The structure of the industry in the State closely conforms to the all-India pattern: capital-output ratio works out to 1.52 as against 1.53 for all-India and the value of the output per worker to Rs. 2,170 against Rs. 2,200.

Some of the textile mills in Madras State are as old as any other in Bombay and other textile centres elsewhere. Yet the rapid growth of textile industry is noticeable only after the development of hydro-electric power and significantly during the fifties, with a tremendous increase in the number of mills. In this context, mention should also be made of the steady growth and the conspicuous position attained by handloom industry in this State.

The early establishment and the growth of the textile industry in the State owes not a little to the better varieties of cotton for which some districts of this State had been famous for long. The construction of the Bhavani Sagar will bring about 200,000 acres more of land under cotton. Uganda cotton in Rajapalayam region has been steadily gaining

in popularity and its production is making rapid progress as it has been found to be best suited for the manufacture of fine counts. The progress of the Madras textile industry is to an appreciable extent determined by the prosperity of the handloom industry in the State which has to its credit 475,000 registered looms or one-sixth of the handlooms in India. The low ratio of looms to spindles in the mill sector in Madras State is the result of the predominance of the handlooms which together with the recently established indigenous powerlooms, consume about $\frac{2}{3}$ of the yarn produced. In view of the large employment potential of the former, Government have instituted various measures to rehabilitate and revitalise it. The growing demand for the "bleeding Madras" varieties of handloom products from U.S.A. has given an impetus but this should not result in the loss of the traditional markets for our handloom products in Malaya and other Asian countries. The setting up of a Handloom Export Organisation as a subsidiary to the State Trading Corporation is bound to increase the foreign exchange earnings of the handloom industry. The textile mill and handloom industries of the Madras State have been by historic circumstances dovetailed into each other in a manner hardly seen anywhere else in India. The evolution of the textile spinning mills is an example of the product of the environment and needs which it will be wrong to disturb without serious repercussions.

Sugar industry is the next important from the point of view of capital employed. But in the all-India picture it occupies an insignificant position representing only 3.2% of the total output of sugar in the country. It has however developed the confectionary industry which produces 74% of the total output in India. The capital-output ratio of this industry is 2.74: 1 compared with 3.1: 1 in all-India.

The recent trends in sugar consumption show such a sharp rise that the country will have to achieve a much higher level of output if sugar economy should not follow food in ever growing gaps between supply and demand. There is also an urgent need for working towards a regional balance in production and consumption. The per capita consumption of white sugar in Madras is 5.5 lbs. compared to 11.5 lbs. for all-India, 20 lbs. for West Bengal and 25 lbs. in Bombay State. The very low level of present day consumption is bound to bring about a steep rise in the future when per capita incomes are expected to move upward. The further development of the industry in this region is of national importance. Madras has some real advantages in this regard such as a favourable climate and excellent yields, 24.75 tons per acre as against the average of only 12 tons in India as a whole, 10.33 tons in U.P. and 7.93 tons in Bihar. Hence the cost of cultivation is only about Rs. 1.08 per maund of cane as against Rs. 1.49 and Rs. 1.25 in U.P. and Bihar. The duration of the crushing season is longer in Madras than in other States. Though recovery percentage of sugar is only 9.77% as against the Indian average of 10.01%, it is more than compensated by the higher yield of sugar per acre,

The production of sugar in Madras falls short of requirements by 40,000 tons, which deficit is now being met by imports mainly from Andhra Pradesh. When the three sugar factories started in the co-operative sector go into full production, the requirements of the State may be met more fully. It may be added that the Madras Government which has planned to spend only Rs. 76 lakhs for the development of major industries has earmarked the entire amount for the development of the sugar industry.

Leather industry occupies an important position in the economy of Madras State. Madras is the most ancient home of this industry for several decades. It provides employment for nearly 5,700 persons. The per capita capital invested is about Rs. 3,800 as against Rs. 4,400 for India. Though only about 47% of the total productive capital and 56% of the total working force are employed in Madras factories, they account for 63% of the total value of products produced. In this State are tanned $\frac{2}{3}$ of the upper leather and 96% of sheep and goat skin produced in India. This industry earns sizeable foreign exchange.

Among other industries based on agriculture, mention may be made of manufacture of vegetable oil and tobacco industries.

The location of cement factories is conditioned by the availability of limestone of the requisite quality. Of the total value of products produced in the cement industry in India, 18% is attributable to the Madras units. Madras State's production of Portland cement, about 17.5% of the Indian production, is second only to Bihar. In spite of the lower per-capita capital invested in the Madras units, the capital-output ratio is 1.66 as against 3.11 and 3.17 for India and Bihar respectively. Output per worker in Madras is nearly 45% higher than that of Bihar and 33% than that of India. Though this may be partly attributed to larger number of working days, it should not be overlooked that the Madras units are also more efficient than those in other parts of the country. It is an awareness of these points that should have induced the Government of Madras to issue licences to start two more units and expand the existing ones.

A well-developed chemical industry with a large production programme is a pre-requisite to economic development. The chemical industry in the Madras State occupies the fourth place among the organised industries. The percentage of productive capital employed in the Madras units is about 4.1 of the all-India total and it provides employment for nearly 7% of the labour force employed in the Indian chemical industry.

Madras State accounts for nearly 15% of the total production of fertilizer in India, next only to Bihar. The requirements of the State are estimated to be nearly 3 lakh tons of ammonium and super sulphate. The present productive capacity of 80,000 tons meets only 27% of these requirements. With the establishment of a fertilizer plant at Neyveli,

self-sufficiency may be attained. But this is conditional to consumption remaining at the present level. The industry has a great future in places like Tuticorin and Coimbatore.

Turning to acids and alkalis, Madras manufactures sulphuric acid. Of the three plants engaged in the production of caustic soda in the country, two are located in this State. The absence of a Soda Ash manufacturing factory is conspicuous. This is to be particularly regretted because the natural advantages existing in the State are not put to the best use. It has been suggested that Madras city or any other coastal town such as Cuddalore may prove suitable for soda ash manufacture.

In the new industries of automobile and cycle manufacture, Madras plays a distinctive role. The Standard Motor Products of India and Ashok Leylands constitute the chief manufacturers of automobiles; Simpson and Company, India Pistons, Dunlop Rubber Factory, Addison Paints and Chemicals, the Motor Industries Company and Hydraulics Ltd., form the core of the ancillary industries to automobile manufacture. They produce passenger cars, tractors, commercial vehicles, diesel engines, pistons and piston rings, tyres and other automobile components and accessories.

Though a major portion of the bicycle industry is concentrated in different regions of North India, the units in Madras State account for nearly 18% of the cycles produced in India. The factory of T.I. Cycles of India Ltd., one of the four larger producers of cycles, is situated near Madras city. There are 5 more units engaged in the production of bicycles each with an installed capacity of 5,000 bicycles per annum. Electric resistance-welded steel tubes, a product necessary for the manufacture of cycle frames, are now produced by Tube Products of India, Avadi, near Madras city. This unit is responsible for nearly half the total of such products produced in the country.

Match industry in this State accounts for 55% of the labour force employed in the industry all over India. It provides employment for nearly 11,000 persons and from employment angle it is second only to cotton textiles. The units are generally small-sized and the industry is labour-intensive. It may be seen from the fact that productive capital employed works out to Rs. 941 per worker in the State against Rs. 2,213 in all-India.

Among other industries in the State, mention may be made of vegetable oil, glass ware, soap and general engineering industries.

With these sketches of the major industries, a general assessment of the effects of industrialisation may be made. Madras State has an estimated population of 34 millions or about 8.3% of that of India. According to the livelihood classification (1951 census) about 35.5% of the population depend on non-agricultural occupations against an all-

India average of 30.3%. The percentage of people depending on commerce, transport and production other than agriculture is about 22 in Madras State compared with 18 in India. About 9% of the total working force employed in India derive their livelihood from the industrial establishments in Madras and the State accounts for 11.3% of the factory establishments and 7.3% of the productive capital employed in the industries covered by the Census of Manufactures (1955). While the capital-output ratio in Madras is about 1.86 as against 2.05 for the country as a whole, output per worker is little less by Rs. 200 in Madras compared to the all-India average of Rs. 2,360. Capital invested per head in Madras is Rs. 3,990 against Rs. 4,838 in India. The value added by manufacture in the C.M.I. industries in Madras is Rs. 34 crores or 8% of the national total. These figures indicate that the standards of achievements of Madras State compare favourably with those of all-India.

The future industrial development of Madras State depends on projects for the exploitation of mineral resources and expansion of engineering and machine tool industries. The foremost among them is the Neyveli Lignite Project which will lead to the establishment of a large sized fertilizer factory and generation of thermal power. Next in order of importance is the establishment of a plant for the manufacture of high grade steel from the magnesite ores of Salem harnessing fully the power resources of Neyveli. The permission granted to private firms to set up small plants for the manufacture of pig iron may be viewed as the first phase of development in this direction. The recent decision of the Government of India to start an Aluminium factory making use of the bauxite ore in Shervaroy Hills, the proposals to set up one of the factories for making watches in Madras, one for the manufacture for raw films at Ooty and one for the manufacture of precision instruments in this State give an indication of the new fields of industrial development in the immediate future. The potentialities for the establishment of two paper mills are under investigation. With these projects in the investigational and initial stages of development, one may confidently look forward to an all-round industrial development in Madras State.

A Song of Devotion

SRI G. SUBRAMANIYA PILLAI,

Professor of Tamil (Research)

An erring son flinches even to face his father. Forgotten is the nourishment he gained as a child from his father's love and the close companionship of his boyhood days. Now, the young man with his new found friends, has strayed from the path of duty and faith and lives in constant embarrassment at the thought of parental disapproval, avoiding his father, fearing even to meet his steady gaze.

In the Old Testament is a story (Genesis, Chapter III) that brings out a similar relationship between erring humanity and God. Adam and Eve, installed in the Garden of Eden, live in pure bliss, basking in the love of the Lord, having to obey but one restriction—not to eat of the fruit of the tree of knowledge. But tempted by Satan in the guise of a serpent, Eve prevails upon Adam to break God's command and both taste the forbidden fruit. Then it is that they feel, for the first time, shame, sorrow and fear. They who had before waited in joyous anticipation for His visits, now hide themselves among the trees when they hear God's approaching foot steps. And at God's call, Adam is not able to come forward and meet his Maker face to face.

Thiruvachagam, a great classic of Tamil devotional poetry of the ninth century, contains a stanza that expresses, movingly and beautifully, the feelings of one who has become unworthy of communion with God. The poet, Manickavasagar, the trusted minister of a Pandyan monarch, realises a state of grace through the guidance of a Guru, who is none other than God Himself. At the feet of the Lord, Manickavasagar gains supreme understanding, tastes infinite bliss and forgets himself and the world around him. And when He vanishes suddenly, the poet, deprived of the very source of his sustenance, is lured back into the sensual pleasures of earthly existence. He is increasingly tormented by shame and a sense of having deviated from God's chosen path and laments over his sins. In bleak and deep despair he seeks to comprehend his loss; in intense remorse he sees he has lost Divine Guidance only because he is unworthy; in helpless agitation he realises he cannot again seek that bliss, should God return. With such feelings has the poet sung:

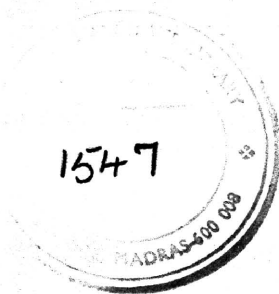
Thy sacred Feet I see no more and seeing them with gladdened eyes,

To Thee no more I pray! My Lord! Of late to madly rave I've ceased!

I've lost the virtue of melting in thought of Thee, Thanu! I've
ceased

To see Thee, since I'm mean! Shouldst Thou come once more,
e'en to see Thee I would blush!

This verse is clearly an appropriate description of the state of mind of the erring son and of Adam, after he broke the Divine command. Actually, Manickavasagar considers himself a sinner who cannot face God, his Father, and the verse is the spontaneous outpourings of his agonised heart. The thought that a Saint who had realised God was moved to these feelings makes one wonder at the lot of ordinary mortals, who carelessly pass their lives in vain pursuit of gratification of their senses and in utter forgetfulness of God, the Universal Father.



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எங்கள் வெளியீடுகளில் சில

1. அண்ணாமலை அரசர் ... ரூ. 1—00
திரு. பண்டிதமணி முத்தமிழ் வித்தகர் பேராசிரியர்
லெ. ப. கரு. இராமநாதன் செட்டியார்
2. சோழ வேந்தர் மூவர் ... ரூ. 1—00
திரு. பண்டிதமணி முத்தமிழ் வித்தகர் பேராசிரியர்
லெ. ப. கரு. இராமநாதன் செட்டியார்
3. சங்ககீர்த்தி தமிழர் வாழ்வு ... ரூ. 2—00
திரு. பண்டிதமணி முத்தமிழ் வித்தகர் பேராசிரியர்
லெ. ப. கரு. இராமநாதன் செட்டியார்
4. நான் கண்ட ஜப்பான் ... ரூ. 2—00
திரு. சு. இராமசுவாமி நாயுடு
(முன்னாள் மேயர், சென்னை)
5. நான் கண்ட ஆஸ்திரேலியா ... ரூ. 2—00
திரு. சு. இராமசுவாமி நாயுடு
(முன்னாள் மேயர், சென்னை)
6. ஆஸ்திரேலியாவில் சில நாட்கள் ... ரூ. 1—00
திரு. சு. இராமசுவாமி நாயுடு
(முன்னாள் மேயர், சென்னை)
7. தமிழர் செல்வம் ... ரூ. 1—75
திரு. அ. வ. இராமநாதன் செட்டியார், M.A.
8. சப்பான் நாடு ... ரூ. 2—00
திரு. T. மாணிக்கவாசகம் செட்டியார், B.A.
9. சப்பான் ... ரூ. 2—25
திரு. T. மாணிக்கவாசகம் செட்டியார், B.A.
10. புதுமை கண்ட பேரறிஞர் ... ரூ. 1—00
புலவர் நா. சுந்தரராசனார்
11. புதுமுறைச் சித்திரக் கணிதம் ... ரூ. 1—50
திரு. A. ஜார்ஜ்; M.A., B.Sc., (Hons.) L.T.
திரு. K. சீதாராமன்.

மற்றும் எங்களிடம் பிற எழுத்தாளர்களின் புத்தகங்களும்
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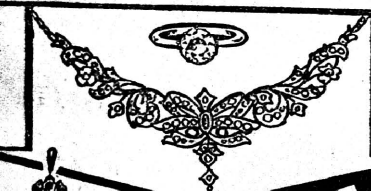
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