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**ARTICLES**

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## **GUIDELINES FOR SUBMISSION OF MANUSCRIPTS**

1. Manuscripts should be submitted in duplicate. They must be typed on one side only, double-spaced, with sufficient margins on all sides to facilitate editing and styling.
2. Charts, tables, etc., and photographs should be numbered consecutively in Arabic numerals. A short title should be provided at the bottom of each sheet. Photographs must be of good quality. Original charts, tables, etc., will be required for printing.
3. For Indian languages, authentic transliterated forms of expressions (including place names) should be followed.
4. Foot notes or End notes may be used. But it is advisable to use parenthetical documentation as recommended by MLA Handbook for writers for Research papers/The Chicago Manual of style. Notes should be worked into the text if they help clarity. References or works cited should be given at the end of the text consolidated into a final alphabetized section.
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6. No article shall be sent for publication in the Journal if it is currently being reviewed by any other Journal or press or if it has already been published or will be published elsewhere.
7. Submission of article does not guarantee publication.

## ACADEMIC PERFORMANCE AND COGNITIVE STYLE OF B.ED STUDENTS

**\*D. Seetharaman \*\* Dr. S. Rajasekar**

### Abstract

*The present study was conducted on 820 B.Ed student teachers of Kancheepuram Dist, and Chennai city of various college of education in Tamilnadu under Affiliated to Tamilnadu Teachers Education University. Gender, Subject Discipline, Type of management, Educational Qualification, Type of College, Place of residence, Nature of Institution, Place of locality, Medium of Instruction, Marital Status, Birth order, Fathers' occupation, Fathers' income, Fathers' education, Mothers' Education, Age group, Community, and Religious and Type of Family were the entire sample taken for this study. Descriptive analysis, Differential analysis, and chi-square analysis, were made. The cognitive style of entire sample of B.Ed student teachers are Field dependent. An Academic performance test has been constructed by the investigator. but of the entire sample of B.Ed students majority of them are moderate performance in respect of their Academic performance. Academic performance is not significantly correlated with cognitive style.*

### Keywords

*Academic performance, cognitive style field dependent-field independent*

### Introduction

Education brings about changes in the Individual's cognitive, affective and psycho-motor domains. These changes function in unison and not in isolation. When the change in these domains lead to development in desirable directions, the individual achieves knowledge, acquires skill and attains worthy aptitudes. The efficiency of educational system, therefore, depends upon the achievement of the Individuals who pass through the system.

As the process of Academic performance differs from student to student emphasis is on individualization of the instructional process. The differences in learning abilities can be observed in

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what the pupil learn (Product) and also in how they learn (Process). When once the “What” differences are identified than the “How” that could have caused the “What” are probed into.

Psychologists have used different approaches to study the thinking process or “How” and have identified different ways in which human beings perceive and categorize their environment in particular situations and their consistency of patterning in responding to various types of situations. These response pattern are given different names by different psychologists; Bruner “focusing and scanning”; pask and scott- “ Serialism and holism” ; Witkin - “ field-dependent and field-independent “; Guilford - “ convergence and divergence”. All these response pattern can be brought under the broad rubric “Cognitive style”. Cognitive style is not concerned with how much is learnt but rather with how information is received and organized cognitively by learner.

The cognitive style of on individual affects the way in which the individual approach the learning tasks he performs, how he relates to other pupils, feels and behaves in situation while engaging himself in learning activities. Wikin and his associates (1962) described a cognitive style based on analytic and Global continuum and named them as field-dependent and field-independent This study tries to find out the relationship between cognitive style and academic performance Test B.Ed students.

### **Objectives of the study**

1. To find out B.Ed Student- teachers level of Academic performance.
2. To find out B.Ed student teachers of Cognitive style.
3. To study whether the B.Ed student-teachers belonging to different categories based on Gender, Subject Discipline, Type of management, Educational Qualification, Type of College, Place of residence, Nature of Institution, Place of locality, Medium of Instruction, Marital Status, Birth order, Fathers’ occupation, Fathers’ income, Fathers’ education, Mothers’ Education, Age group, Community, and Religion, and Type of Family differ significantly in Cognitive Style and Academic Performance.
4. To find out the relationship between cognitive style and Academic Performance.

### **Tools used in the study**

1. Cognitive Style Inventory Group Embedded Figures Test (GEFT) constructed and Standardized by witkin et. al (1962).
2. Academic performance Test in Teacher Education Constructed and validated by the investigator.

**Statistical Techniques in the study**

1. Descriptive Analysis
2. Differential Analysis
3. Correlation Analysis.

**Sample of the study**

The present study was conducted with 820 B.Ed student teachers studying in kanchipuram Dist and Chennai city of Tamilnadu. under Affiliated to Tamilnadu Teachers Education University. The sample was selected by using simple random sampling Techniques. The sample forms a representative sample of the entire sample

**Cognitive Style; Group Embedded Figures Test (GEFT) Inventory.**

Cognitive style is a “ term that refers to stable individual performance in mode of perceptual organization and conceptual categorization of the external environment”

Field-dependence has been defined by Witkin and his colleagues (1954) in terms of capacity to overcome embedding contexts in perception. Subjects who easily break up an organized perceptual field, who can readily separate an items from its context are called field-independent and subjects who readily accept prevailing field or context and who have difficulty separating an item from its context are called field-dependent.

The type of cognitive style taken in this study is the one proposed by Witkin et al. (1962) . Witkin describes cognitive style based on analytical- Global continuum. He determines the extent to which individuals are able to overcome the effects of distracting background element (the field) when they are attempting to differentiate relevant aspect of a particular situation. The more independent the person is from the distracting elements the more analytic he is said to be conversely, the more dependent or incapable the individual is of being freed from the distracting elements. The more global he will be. Pupil who are able to operate in an analytic manner are said to be field-independent. The two types of pupils can be found out by using the Group Embedded Figures Test (GEFT) (Witkin 1950).

**Reliability and validity** The split half reliability for the test was estimated to be 0.825 significant at 0.01 level. The Test manual presents the validity between 0.63.

**Norms** The GEFT booklet was given to the pupils in the class and they were asked to complete the test within the given time . one mark was given for one correct answer. The total mark for the  
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entire test was 18. Marks were awarded to the answer paper of all pupils. The means score 14.44 and median 15.00 and mode 15.00. since the median student who have obtained less than 15 are designated as field-dependent and those who have obtained more than 16 and above are designated as field-independent.

Showing the categorization of B.Ed student teachers based on Field- dependent and field-independent.

**Table -1**

<b>Group</b>	<b>Score range</b>	<b>Number of student</b>
Field Dependent	0 - 15	585
Field Independent	16 and above	235
Total		820

### **Academic Performance Test**

Good (1959) defined achievement as “ accomplishment or proficiency of performance in a given skill or body of knowledge “

**Academic performance Inventory** The test for the main study consist of 100 multiple choice items for maximum of 200 marks to be answered in two hours.

### **Reliability and validity of the tool**

Item analysis of the achievement performance test was carried out by computing the index of discrimination and difficulty level for each of the item in the test. Only those item whose discriminative index is chosen 0.2 and difficulty level between 0.2 and 0.8 were chosen for the main study. The test-Retest reliability co-efficient of correlation was found to be 0.76.

The test was given to a panel experts and ten college of education principals and three head of department university seeking their views on the content coverage of the test. The found that the test contained questions from all the content areas of B.Ed Core paper in Tamilnadu Teachers Education University Syllabus. Thus the academic performance test constructed and used in the present study can be said to have Content validity. Further the academic performance test had been developed after framing a blue print and carrying out item analysis it works out to be 0.87 and hence the test has been considered to have high criterion validity.

**Percentile Norms****Table No.2 Percentile norms for Academic Performance Inventory**

Percentile	Score Range of percentage	Norms
Below p25	Below 66	Low performance
Between p26 to75	67 to 77	Moderate performance
Above p76	Above 78	High performance

**Descriptive and Differential Analysis****Analysis of Mean and S.D scores of Cognitive style of B.Ed Student Teachers**

The Cognitive style inventory has been administered 820 B.Ed student Teachers . The data were calculated the Mean and Standard deviation were calculated for the entire sample and its sub-sample and are given in Table

**The Mean and Standard Deviation of overall cognitive style Scores of B.Ed Student Teachers****Table 3**

Sub Sample		N	Mean	S.D	t-value	F-value
Entire Sample		820	14.44	1.58		
Gender	Male	394	14.30	1.74	2.33*	
	Female	426	14.56	1.41		
Subject Discipline	Tamil	162	14.54	1.39	2.32*	
	English	123	14.66	1.56		
	Mathematics	143	14.16	1.81		
	Bio-Science	82	14.67	1.31		
	Phy-Science	122	14.81	1.66		
	Humanities	72	14.06	1.51		
	Computer Science	116	14.47	1.62		
Type of Management	Government	120	14.33	1.42	0.34	
	Govt-Aided	139	14.89	1.53		
	Self-Finance	561	14.44	1.62		
Educational Qualification	Graduate	608	14.42	1.61	0.60	
	Post Graduate	212	14.49	1.47		
Type of College	Boys	294	14.39	1.86	0.23	
	Girls	212	14.49	1.50		
	Co-Education	314	14.45	1.33		
Place of Residence	Day Scalar	675	14.43	1.60	0.16	
	Hostel	145	14.46	1.50		

Place of Residence	Day Scalar	675	14.43	1.60	0.16	
	Hostel	145	14.46	1.50		
Nature of Institution	Autonomous	258	14.41	1.48	0.28	
	Non-Autonomous	562	14.45	1.62		
Place of Locality	Rural	522	14.47	1.51	0.72	
	Urban	298	14.38	1.70		
Medium of Instructions	Tamil Medium	546	14.40	1.55	0.99	
	English Medium	274	14.51	1.63		
Marital Status	Married	296	14.64	1.46	2.81**	
	Unmarried	524	14.32	1.63		
Birth Order	First Child	275	14.44	1.49	0.45	
	Second Child	265	14.37	1.69		
	Third Child	152	14.44	1.49		
	Fourth and Above	128	14.56	1.64		
Father Occupation	Unskilled Worker	488	14.34	1.56	2.40*	
	Semi Skilled	40	14.38	1.60		
	Skilled Worker	49	14.20	1.79		
	Clerical Worker	117	14.53	1.58		
	Professional	103	14.88	1.53		
	Higher-Professional	23	14.61	1.47		
Father Income	Below 10,000	461	14.37	1.58	1.77	
	Between 10001 to 25,000	263	14.46	1.50		
	Above 25001	96	14.70	1.77		
Father Education	Illiterate	180	14.23	1.49	3.34*	
	School Education	473	14.44	1.58		
	College Education	167	14.66	1.64		
Mother Education	Illiterate	410	14.17	1.58	13.27**	
	School Education	369	14.74	1.45		
	College Education	41	14.37	2.10		
Age Group	Below 25	552	14.37	1.62	2.94*	
	Between 26 to 30	142	14.42	1.54		
	Above 31	126	14.75	1.40		
Community	SC/ST	195	14.31	1.64	0.67	
	BC	365	14.45	1.59		
	MBC	234	14.48	1.53		
	General	26	14.69	1.31		
Religious	Hindu	608	14.48	1.59	1.80	
	Christian	161	14.22	1.47		
	Muslim	51	14.57	1.77		
Type of Family	Joint Family	256	14.43	1.62	0.08	
	Nuclear Family	564	14.44	1.56		

\*Significant at 0.05 level \*\* significant at 0.01 level

The Cognitive style of entire sample of B.Ed student teachers scores field - dependent (M=14.44) and median value (15.00) mode value 15.00 and standard deviation value 1.58.

The mean value of B.Ed student teachers their Type of management, Educational qualification, type of college, place of residence, nature of institution, place of locality, medium of instruction, Birth order, Father Income, Community, religious, type of family indicate since the value is not significant at 0.05 level the formulated null hypothesis is accepted and its concluded that there is no significant difference among the mean Cognitive style of B.Ed student teachers.

The mean value of B.Ed student teachers subsample Gender indicate 't' value is significant at 0.05 level. The mean value of sample marital status indicate 't' value is significant at 0.01 level. The above null hypothesis is rejected with respect to their cognitive style.

The mean value subsample subject discipline, father occupation, father education, Age group of student, indicate 'F' value significant at 0.05 level. Mother education indicate 'F' value significant at 0.01 level. The above null hypothesis is rejected with respect to their Cognitive style.

#### **Analysis of mean and S.D. scores of Academic performance of B.Ed student Teachers.**

The Academic performance inventory has been administer 820 B.Ed student teachers. The data were collected. The mean and Standard deviation were calculated for the entire sample and its subsample are given in table no.4

**Table 4**

#### **The Mean and Standard Deviation of Academic performance Scores of B.Ed Student Teachers.**

		N	Mean	S.D	t- Value	F-Value
Entire Sample		820	70.51	9.06		
Gender	Male	394	70.66	8.78	0.48	
	Female	426	70.36	9.32		
Subject Discipline	Tamil	162	69.43	9.74	2.74*	
	English	123	68.27	10.31		
	Mathematics	143	71.50	8.40		
	Bio-Science	82	72.20	8.35		
	Phy-Science	122	71.57	8.65		
	Arts	72	70.44	7.64		
	Computer Science	116	70.88	8.73		
Type of Management	Government	120	72.78	8.32	5.23**	
	Govt-Aided	139	69.27	9.31		
	Self-Finance	561	70.33	9.08		
Educational Qualification	Graduate	608	70.45	9.15	0.32	
	Post Graduate	212	70.67	8.81		
Type of College	Boys	294	70.85	9.01	3.58*	
	Girls	212	71.54	8.32		

	Co-Education	314	69.49	9.49		
Place of Residence	Day Scalar	675	70.24	9.10	1.82	
	Hostel	145	71.72	8.82		
Nature of Institution	Autonomous	258	70.86	9.02	0.76	
	Non-Autonomous	562	70.34	9.08		
Place of Locality	Rural	522	70.51	8.92	0.001	
	Urban	298	70.51	9.31		
Medium of Instructions	Tamil Medium	546	71.36	8.64	3.68***	
	English Medium	274	68.81	9.64		
Marital Status	Married	296	69.40	9.36	2.65*	
	Unmarried	524	71.13	8.82		
Birth Order	First Child	275	70.23	8.75		1.30
	Second Child	265	69.91	9.56		
	Third Child	152	71.16	8.61		
	Fourth and Above	128	71.55	9.13		
Fathers' Occupation	Unskilled Worker	488	70.64	8.98		1.99
	Semi Skilled	40	71.33	9.60		
	Skilled Worker	49	69.24	9.25		
	Clerical Worker	117	69.94	9.17		
	Professional	103	71.82	8.38		
	Higher-Professional	23	65.91	10.75		
Fathers' Income	Below 10,000	461	71.09	8.22		2.45
	Between 10001 to 25,000	263	69.96	10.01		
	Above 25001	96	69.20	9.97		
Fathers' Education	Illiterate	180	70.34	8.12		0.37
	School Education	473	70.73	9.33		
	College Education	167	70.06	9.25		
Mothers' Education	Illiterate	410	70.73	8.57		0.29
	School Education	369	70.33	9.54		
	College Education	41	69.88	9.55		
Age Group	Below 25	552	71.00	8.87		7.25**
	Between 26 to 30	142	71.09	8.30		
	Above 31	126	67.70	10.19		
Community	SC/ST	195	70.74	8.70		0.09
	BC	365	70.53	9.47		
	MBC	234	70.30	8.82		
	General	26	70.31	8.39		
Religion	Hindu	608	70.73	8.84		1.08
	Christian	161	69.57	9.81		
	Muslim	51	70.75	9.20		
Type of Family	Joint Family	256	70.86	8.61	0.78	
	Nuclear Family	564	70.34	9.26		

\*Significant at 0.05 level

\*\* Significant at 0.01 level

The academic performance of entire sample of B.Ed student Teachers shows moderate performance (M=70.51)

The mean value subsample of B.Ed student teachers Gender, Educational qualification, place of Residence, Nature of Institution ,place of locality, and Birth order, Fathers' occupation, Fathers' Income, Fathers' Education, mothers' Education, community, Religion and type of family indicate

Since the value of is not significant at 0.05 level the formulated null hypothesis is accepted and its concluded that there is no significant difference among the mean Academic performance of B.Ed student teachers.

The mean value subsample of B.Ed student teachers Marital status indicate 't' value is significantly 0.05 level. Medium of Instruction indicate 't' value is significant at 0.01 level.

The mean value sub sample Subject discipline, type of college indicate 'F' value is significant at 0.05 level . The type of management, Age group of student indicate 'F' value is significant at 0.01 level . The above null hypothesis is rejected with respect to their Academic performance in teacher Education.

The Academic performance were correlated with the cognitive style of the B.Ed student teachers and 'r' value are given the table

Categories	Mean	Standard deviation	'R'	Level of significance
Academic performance	70.51	9.06	0.04	Not significant
Cognitive style	14.44	1.58		

The 'r' value are not significant 0.04 at 0.05 level the table value(0.388). This shows that Academic performance is not significantly correlated with cognitive style.

### Recommendation

On the basis of this following recommendation are made:

1. The study shows that the cognitive style of entire sample of B.Ed student teachers is field-dependent Those prone to respond regarding the external are referred to as Field-dependent . hence self-consistent mode of functioning which individual show in their perceptual and intellectual activities. Self confidence, writing practice, development of unfailling memory.

2. The study show that the Academic performance of entire sample of B.Ed student teachers is moderate performance. Hence the practical model examination, Quiz programme and continue Formative and summative evaluation are to be conducted to enhance Academic performance.
3. Pleasure through in Education and Academic Achievement, congenial family atmosphere for education, planning of learning activities.

### **Conclusion**

From this investigation it can be inferred that the cognitive style of entire sample of B.Ed student teachers are field-dependent. Academic performance of entire sample of B.Ed student teachers are moderate performance. Cognitive style and academic performance are significantly related.

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## **SPATIAL DISPARITY IN THE OUTREACH OF SHG-BANK LINKAGE PROGRAMME IN INDIA**

**Dr.N.Muthu**

The SHG-Bank linkage programme launched by National Bank for Agricultural and Rural Development (NABARD) in 1992 has made considerable progress since its inception. But there is wide spatial disparity in the outreach of SHG –Bank linkage programme. This paper examines the regional disparity in the spread of SHGs linked with banks, savings of SHGs with banks and loans disbursed to SHGs under SHG-Bank linkage programme in India. The results show that the SHG-Bank linkage programme is more popular in Southern region as compared to the rest of the country. The Southern region accounts more than 46% of the total SHGs linked with banks as on March 2012 followed by Eastern and Western regions. In terms of savings of SHGs, the Southern region accounts more than half (56%) of the total savings of SHGs with banks as on March 2012. The average savings per SHG is higher in Southern region followed by Western and Central regions. At the lower end of the scale, the North-Eastern region records the lowest savings balance per SHG. In terms of share in the total bank loans disbursed to SHGs, the region –wise differential gets further magnified. While Southern region accounts for 76.57% of the total bank loans disbursed to SHGs the share of Northern region is just about 2.03% during 2011-12. For non-southern regions, even though the share of total SHGs credit linked with banks is close to 38.55%, their share in total bank loans disbursed to SHGs is only about 23.43% during 2011-12 implying that adequate credit is not being routed through SHGs in these regions. The average loan per SHG is higher in Southern region followed by Central and Northern regions. The Western region records lowest amount of bank loans per SHG.

### **Introduction**

The Self Help Group-Bank linkage programme was formally launched by National Bank for Agricultural and Rural Development in 1992, with the policy supports of the Reserve Bank of India (RBI). This programme was started on the basis of the recommendation of S.K. Kalla committee. The pilot phase was followed by the setting up of a working group on Non-Governmental Organizations (NGOs) and Self Help Groups (SHGs) by the RBI in 1994 which came out with wide ranging recommendations on SHG-Bank linkage as a potential innovation in the area of banking with the

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poor. The programme has mainstreamed with commercial banks, Regional Rural Banks (RRBs) and co-operative banks in 1996. The main objective of the programme has been financial inclusion by extending outreach to poor households in rural areas, making available credit services at their door step with easy and self engaged access to formal financial services on a sustainable basis and in a cost effective manner. The programme has designed to integrate informal savings and credit groups with the mainstream banking system. The strategy under SHG-Bank linkage programme includes financing of SHGs promoted by external facilitators like NGOs, bankers, socially spirited individuals and government agencies, as also promotion of SHGs by banks themselves and financing SHGs directly by banks or indirectly where NGOs and similar organizations act as financial intermediaries as well. SHG-Bank linkage programme has proved to be the major supplementary credit delivery system with wide acceptance by banks, NGOs and various government agencies.

SHG -Bank linkage programme has made considerable progress since its inception. But there is wide regional disparity in terms of spread of SHGs linked with banks, amount of savings of SHGs with banks and amount of bank loans disbursed to SHGs under this programme. **Amarender Reddy and Dharm pal Malik** in their study on “A Review of SHG-Bank linkage programme in India” have said that the SHG-Bank linkage programme since its initiation has shown severe spatial preferences. It has been predominant in certain states namely, Andhra Pradesh, Uttar Pradesh, Tamil Nadu and Karnataka. A study carried out by **Vanishree** has observed that the spread of the SHG-Bank linkage programme in different regions has been uneven on account of various factors like pro-active role of state governments, presence of well performing NGOs, socio-cultural factors, better performance of SHGs, etc. Another study carried out by **Uma Narang** has found that while the Southern region accounted for 71.4% of the total loans to SHGs, the share of North-Eastern region was just about 1.5%. For all regions excluding Southern region, even though the share of total SHGs linked with banks was close to 51.8%, their share in total loans to SHGs was only 28.6% in March 2008 implying that adequate credit is not being routed through SHGs in these regions. **Saghir Ahmed Ansari** in his study on “SHGs – Bank linkage programme: An overview”, has said that the SHG-Bank linkage programme is more popular in southern region as compared to the rest of the country. **Pankaj Kumar and Ramesh Golait** in their work on “Bank Penetration and SHG-Bank linkage programme: A critique” have examined that there is wide regional disparity both in terms of the spread of SHGs linked to banks and cumulative amount of bank loans disbursed to SHGs under the programme. They have concluded that the spread of SHG movement has been skewed in favour of the Southern region especially in terms of the region’s share in the total loans to SHGs linked to banks. In this concern, this study attempts to examine the spatial disparity in the outreach of SHG-Bank linkage programme in India.

## Methodology

In this paper an attempt has been made to examine the spatial disparity in terms of the spread of SHGs linked with banks, savings of SHGs with banks and bank loans disbursed to SHGs under SHG-Bank linkage programme between different regions in India as on March 2012. This study is based exclusively on the secondary data. The necessary data required for the study have been collected mostly from official publication of National Bank for Agricultural and Rural Development. Simple statistical tools such as percentage and average have been used to analyze the data. The data on total number of SHGs linked to banks, Number of savings linked SHGs with banks and amount of savings of SHGs with banks reflect the cumulative data up to March 2012 whereas the data on credit linked SHGs and amount of bank loans disbursed to SHGs show for the particular year, during 2011-12 only. From 2006-07 onwards, data on number of SHGs financed by banks and bank loans are exclusive of existing groups receiving repeat loans. Owing to this change, NABARD discontinued the publication of data on a cumulative basis from 2006-07.

### Regional spread of SHGs linked to banks

Notwithstanding the remarkable progress, geographically there has been a skewed development of SHG-Bank linkage programme in India. There is wider regional disparity in terms of the spread of SHGs linked with banks under SHG-Bank linkage programme. Table 1 shows the regional distribution of SHGs linked with banks

**Table-1: Regional spread of SHGs**

S.No	Region	March-2001		March-2012	
		Cumulative Number of SHGs	Percent to total	Cumulative Number of SHGs	Percent to total
1	Northern	9012	3.4	409326	5.15
2	North-Eastern	477	0.2	366718	4.61
3	Eastern	22252	8.4	1625714	20.43
4	Central	28851	10.9	812767	10.19
5	Western	15543	5.9	1062087	13.35
6	Southern	187690	71.2	3683737	46.27
	<b>All India</b>	<b>263825</b>	<b>100.0</b>	<b>7960349</b>	<b>100.00</b>

Source : NABARD

It shows that the SHG-Bank linkage programme has been more popular in Southern region as compared to the rest of the country. Southern region has accounted for 71.2% of the total SHGs linked with banks by March 2001 followed by Central (10.9%), Eastern (8.4%) and Western (5.9%) regions. However, over the years, the programme has picked-up and gained strength in non-southern regions also. A comparative analysis between March 2001 and March 2012 shows a significant decline in the relative share of Southern region in the total number of SHGs linked with banks. The relative share of Southern region has declined from 71.2% in 2001 to 46.27% in 2012 and consequently, the share of non-southern regions has increased from 28.8% to 53.73%. This reflects that the programme is becoming increasingly popular among the non-southern regions which have lagged behind still 2000-01. In fact, NABARD has identified 13 priority states from non-southern regions that account for 70% of the country's rural population (Viz. Assam, Bihar, Chhattisgarh, Gujarat, Himachal Pradesh, Jharkhand, Maharashtra, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh, West Bengal and Uttaranchal) and has undertaken special scaling-up efforts to expand the SHG-Bank linkage programme in these priority states. This has resulted in a manifold increase in the number of SHGs credit linked with banks in these states. Proactive measures such as emphasis on priority states, enlisting partnership and capacity building of partner agencies have served to expand the programme in non-southern regions. But Southern region still accounts for more than 46% of total SHGs linked with banks under SHG-Bank linkage programme.

### **Regional disparity in the savings of SHGs and loans disbursed to SHGs**

Under SHG-Bank linkage programme, NGOs and banks interact with the poor, especially women, to form small homogeneous groups. These small groups are encouraged to meet frequently and collect small thrift amounts from their members and are taught simple accounting methods to enable them to maintain their accounts. Although individually these poor could never have enough savings to open a bank account, the pooled savings enable them to open a formal bank account in the name of the group. This is the first step in establishing links with the formal banking system. Groups then, meet often and use the pooled thrift to impart small loans to members for meeting their small emergent needs. This saves them from usurious debt traps and thus begins their empowerment through group dynamics, decision making and funds management. Gradually the pooled thrift grows and soon they are ready to receive external funds in multiples of their group savings. The spread of SHG-Bank linkage programme in terms of amount of savings of SHGs and loans disbursed to SHGs have been uneven on account of various reasons. Table 2 shows the spread of savings of SHGs and loans disbursed to SHGs in different regions as on March – 2012. The table shows that 79.60 lakh SHGs have savings bank accounts with total savings of Rs.6551.41 crores as on March 2012. The Southern region accounts for 46.27% of the total SHGs savings linked with banks followed by Eastern region

(20.43%) and Western region (13.35%). The North-Eastern region accounts only for 4.61% of the total SHGs. Southern region, likewise, ahead in terms of amount of savings of SHGs with banks. It accounts for more than half (56%) of the total savings of SHGs with banks. Eastern and Western regions account for 14.4% and 13.3% respectively. The average savings per SHG is higher in Southern region followed by Western and Central regions. At the lower end of the scale the North-Eastern region records the lowest savings balance of Rs.4159 per SHG.

**Table-2: Region-Wise savings of SHGs and loans disbursed to SHGs**

S. No.	Region	Savings (cumulative as on March 2012 (Rs.Lakh)			Loans ( during 2011-2012) (Rs.Lakh)		
		No. of SHGs	Savings of SHGs	Savings per SHG	No. of SHGs	Loans disbursed to SHGs	Loans per SHG
1	Northern	409326 (5.15)	25276.88 (3.89)	6175	30751 (2.68)	33543.20 (2.03)	109080
2	North-Eastern	366718 (4.61)	15251.75 (2.33)	4159	51003 (4.44)	45128.74 (2.74)	88483
3	Eastern	1625714 (20.43)	94726.20 (14.44)	5827	201201 (17.53)	162406.15 (9.82)	80718
4	Central	812767 (10.19)	61358.23 (9.37)	7549	58460 (5.10)	70936.83 (4.29)	121343
5	Western	1062087 (13.35)	87193.68 (13.30)	8209	101044 (8.80)	75285.69 (4.55)	74508
6	Southern	3683737 (46.27)	371334.72 (56.67)	10080	705419 (61.45)	1266176.27 (76.57)	179493
<b>All India</b>		<b>7960349 (100.00)</b>	<b>655141.46 (100.00)</b>	<b>8230</b>	<b>1147878 (100.00)</b>	<b>1653476.87 (100.00)</b>	<b>144046</b>

**Source :** Status of micro Finance in India 2011-12, NABARD

**Note :** Figure in parenthesis indicates percentage to total.

SHG- Bank linkage programme has emerged as the biggest micro finance programme in India enabling poor households to gain access to micro finance facilities from the formal banking system (Commercial banks, RRBs, and Co-operative banks). Over the years it has become an accepted part of rural finance and a potential tool for inclusive finance and human development. During the year 2011-12, the loans amount of Rs.16535 crores has been financed by banks to 11.48 lakh SHGs. The bank loans disbursed to SHGs under SHG-Bank linkage programme in different regions have been uneven and there is wide regional disparity in terms of amount of bank loans disbursed to SHGs. The table above shows that the Southern region accounts for 61.45% of the total SHGs credit

linked with banks during the year 2011-12 whereas the share of Northern region is just 2.68%. In terms of share in the total bank loans disbursed to SHGs, the region-wise differential gets magnified. The SHG movement in the country is mostly south-centric and it is yet to take off in the real sense in other regions of India. While southern region accounts for 76.57% of the total loans disbursed to SHGs, the share of Northern region is just about 2.03%. For non-southern regions, even though the share of total SHGs credit linked with banks is close to 38.55% , their share in total bank loans disbursed to SHGs is only about 23.43% during 2011-12, implying that adequate credit is not being routed through SHGs in these regions. The average loan per SHG is higher in Southern region followed by Central and Northern regions. The Western region has lower amount of bank loans per SHG.

### **Conclusion**

Notwithstanding the remarkable progress, geographically there has been a skewed development of SHG-Bank linkage programme in India. There is wide regional disparity in terms of spread of SHGs linked with banks, savings of SHGs with banks and bank loans disbursed to SHGs under the programme. The SHG-Bank linkage programme is more popular in Southern region as compared to the rest of the country. While Southern region accounts for 46.27% of the total SHGs linked to banks, the share of North-Eastern region is just 4.61% as on March 2012. In terms of savings of SHGs with banks, the Southern region records 56.67% of total savings of SHGs with banks whereas North-Eastern region accounts only 2.33% of total savings of SHGs as on March 2012. The average savings per SHG is also higher in Southern region followed by Western and Central regions. At the lowest end of the scale the North-Eastern region records lowest average savings per SHG. In terms of share in the total bank loans disbursed to SHGs, the region-wise differential gets further magnified. While Southern region accounts 76.57% of the total loans disbursed to SHGs, the share of Northern region is just about 2.03% . For non-southern region, even though the share of total SHGs credit linked with banks is about 38.55%, their share in total bank loans disbursed to SHGs is only about 23.43% during 2011-12, implying that adequate credit is not being routed through SHGs in these regions. The average bank loans to the SHGs in the Western and North-Eastern regions are much lower than their Southern counter parts. From the study, there is clear evidence of the fact that the SHG movement in India has spread to other regions/states, though not to the same extent in the Southern states. Further progress in the SHG-bank linkage programme needs to reckon these regional variations in the spread of the programme. In order to reduce the regional imbalances in the spread of the SHG-Bank linkage programme, NABARD has identified 13 priority states from non-southern, which have large population of the poor, for focused attention. This has resulted in a manifold increase in the number of credit linked SHGs during the period between 2002 and 2012.

**Notes: The six regions covered in the study comprise the states as detailed below:**

- The Northern region:** Haryana, Himachal Pradesh, Punjab, Jammu and Kashmir, Rajasthan and New Delhi.
- The North-Eastern region:** Assam, Meghalaya, Nagaland, Tripura, Arunachal Pradesh, Mizoram, Manipur and Sikkim.
- The Western region:** Goa, Gujarat and Maharashtra.
- The Southern region:** Andhra Pradesh, Karnataka, Kerala, Tamil Nadu and Pondicherry.
- The Eastern region:** Bihar, Jharkhand, Orissa, West Bengal and A&N Islands.
- The Central region:** Chhattisgarh, Madhya Pradesh, Uttarakhand and Uttar Pradesh.

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## இலக்கியத்தில் அறிவியல் கருத்துக்கள்

முனைவர் ஆர். நிர்மலா தேவி

நாம் வாழும் உலகம் அறிவியல் உலகம். புதிய கண்டுபிடிப்புக்களும் தகவல் தொழில் நுட்பங்களும் மனித வாழ்வில் பெரும் தாக்கத்தை ஏற்படுத்தியுள்ளன. இது இயந்திர யுகம். கணிப்பொறி யுகம். அணுயுகம், அறிவியல், கலையியல் என்ற இருவகை அறிவின் தன்மை, சாராம்சம், விளைவு ஆகியவற்றைப் பற்றித் தெளிவாக அறிந்து கொள்ள வேண்டிய காலம். ஒரு பொருள் அல்லது செயல் அல்லது நிகழ்ச்சி அல்லது நிகழ்வு பற்றிய முறைப்படுத்தப்பட்ட ஆய்வு தான் அறிவியல். பொருள்களையும் நிகழ்வுகளையும் சில காலம் கூர்ந்து கவனித்துத் தற்காலிகமாக ஒரு முடிவுக்கு வருவதும், அம்முடிவினை ஆய்வுகள் மூலம் உரைத்துப் பார்த்துத் தவறெனில் தள்ளுவதும், சரியெனில் கோட்பாடாக ஏற்பதும் அறிவியலின் வழிமுறையாகும். இருப்பதை இருக்கும் விதமாகப் பார்ப்பது அறிவியல் பார்வை. இயற்கைச் சூழலிலே வாழ்ந்த தமிழர் இயற்கை நிகழ்வுகளைக் காண்பதிலும், அவற்றின் காரணம் அப்படி இருக்குமா, இப்படி இருக்குமா என்று துணிவதிலும், அடுத்துத் தோன்றும் சான்றுகளைக் கொண்டு துணிந்ததை உண்மையெனத் தெளிவதிலும் காலத்தைப் பயன்படுத்திவந்தனர். காட்சி, ஐயம், துணிவு, தெளிவு (Observation, Interpretation, Prediction and Realisation) என்பன பேசின் அறிவியலின் அடிப்படை ஆய்வுமுறையாகும். அறிவியல் வழி நின்று வையத்துள் வாழ்வாங்கு வாழ்ந்திருந்த பண்டைத் தமிழர்கள் அறிவியலை நன்கு அறிந்திருந்தனர் என்பதனை இலக்கியங்கள்வழி அறிய முடிகிறது. அது குறித்து விளக்க இக்கட்டுரை முனைகிறது.

### இலக்கியமும் இயற்பியலும்:

சூரியனின் வெள்ளை ஒளி பல நிறங்களைக் கொண்ட வண்ணக் கலவை எனக் கண்டறிந்தவர் ஐசக் நியூட்டன். அவருக்கு முன்னே வானில் முகில்களிலுள்ள நீர்த்திவலைகளின் வழியே சூரிய ஒளி உட்புகுந்து முழு எதிரொளிப்பு காரணமாக நிறப்பிரிகை அடைந்து வானவில் தோன்றும் என்பதைப் பெரும்பாணாற்றுப்படையில்,

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அகலிரு வானத்துக் குறைவில் ஏய்ப்ப (பெரும்.291-292)

என்ற பாடல் அடிகளும்

விடுசுடரான் கதிர் வீழ்புயன்மேல் விழுந்தால்

தனுவாம் அதன் தத்துவமே

என்னும் ஓளவையாரின் தனிப்பாடலும் குறிப்பிடுகின்றன.

முதன் முதலில் கலிலீயோ (Galileo,1564-1642) பல இலட்சக்கணக்கான விண்மீன்கள் அடங்கிய ஒரு பெரும் கூட்டம் அண்டம் என்றும், ஒன்றுடன் மற்றொன்று கொண்டிருக்கும் ஈர்ப்பு விசை காரணமாகக் கூட்டம் கூட்டமாக உள்ளன என்றும் கண்டறிந்தார். அண்டப்பகுதி இருந்ததைத் திருவாசகத்தில் திருவண்டப்பகுதியில் மாணிக்கவாசகர்,

‘அண்டப் பகுதியின் உண்டைப் பிறக்கம்

அளப்பெரும் தன்மை வளப்பெரும் காட்சி

ஒன்றனுக்கு ஒன்றுநின்று எழில் பகரின்

நூற்று ஒரு கோடியின் மேல் பட விரிந்தன

இல்நுழை கதிரின் துன்அணுப் புரைய

சிறியவாகப் பெரியோன் தெரியின்”

(திருவாசகம், 38)

பிரபஞ்சம் உருண்டையாகத் தான் பிறந்துள்ளது. அதிலே நூற்றியொரு கோடிக்கும் அதிகமான கோள்களும், விண்மீன்களும், சந்திரன்களும், இறைந்து கிடக்கின்றன. அவை ஒன்றுக்கு ஒன்று தம் ஒளியால் எழில் கொடுக்கின்றன. சூரியனின் துல்லியமான அணுக்கதிர்கள் தாக்குவதால் ஒளியற்ற கோள்கள் கூடச் சிறியதாக மின்னுகின்றன. இதனையே கம்பர், வாலி வதைப்படலத்தில்,

‘தன்னடி ஆழித லோடும் தாமரைத் தடங் கணானும்

பொன்னுடை வாளை நீட்டிப் நீயது பொறுத்தி என்றான்

என்னலும் உலகம் ஏழும் எத்தின இறந்து வாள்

அந்நிலை துறந்து வானுக்கு அப்புறத்து உலகம் ஆனான்”

(வாலி வதைப் படலம், 380)

அப்புறத்து உலகம் என்பது அண்டங்களைக் குறிக்கிறது. சிலப்பதிகாரம் பறக்கும் தட்டை

அதாவது ரேடாரைப் பற்றிப் பின்வருமாறு குறிக்கிறது.

‘பொலம்பூ வேங்கை நலங்கிளர் கொழுநிழல்  
ஒருமுலை இழந்தாள் ஓர்திருமா பத்தினிக்கு  
அமரர்க்கு அரசன் தமர்வந்து ஈண்டிஅவள்  
காதல் கொழுநனைக் காட்டி அவளொடும் எம்  
கட்புலம் காண விட்டிலம் போயது  
இறும்புது போலும் .....’ (வஞ்சிக் காண்டம்)

எலெக்ரான், புரோட்டான், நியூட்டான் ஆகிய மூன்று உட்பொருள்களின் சேர்க்கையே அணு. இவை வெடித்துச் சிதறுவது பெரு வெடிப்புக் கொள்கை என்று பிரபஞ்சத்தைப் பற்றி ஜார்ஜ் லாமேத்தர் என்பவர் வெளியிட்டார். 1940இல் வித்துவான் ப. இராமசாமி முதலியார் எழுதிய நூலான ‘அறிவு நூல் வழிகாட்டி’யில். அதில் பௌதீக சாஸ்திரம், ரசாயண சாஸ்திரம், இயற்கை சாஸ்திரம் என மூன்று பிரிவுகளாகப் பிரித்து பாமாலையாகப் பாடல்களைப் புனைந்துள்ளார். பௌதீக சாஸ்திரப் பிரிவில் இலகு இயந்திரங்கள் பற்றி அவர் கூறுவது :

‘இரிசில் சுழன்று விளிம்பில் பள்ளம்  
சார்ந்த சக்கரம் கப்பியாம்; இதுவே  
இயக்கக் கப்பி, நிலைக்கப்பியென  
இருவகையாக இயம்பவும் படுமே”

(அருள்தளபதி, அறிவியல் தமிழ் வளமும் வளர்ச்சியும், ப.எண், 29)

ஒளியைப்பற்றிப் பின்வருமாறு அவர் கூறுகிறார்:

ஒருபொருள் தன்னை உவப்புடன் பார்க்க  
உதவும் சக்தியே ஒளியெனப்படுவது”

(அருள்தளபதி, அறிவியல் தமிழ் வளமும் வளர்ச்சியும், ப.எண் 30)

புவிஈர்ப்புத் தானம் என்பதை ஏண்மையம் என அவர் குறிப்பிடுகிறார்.

‘ஒருபொருள் அணுக்களில் நிறையெல்லாம் ஒன்றாய்ச்  
சேர்ந்தொரு புள்ளியின் மூலமாய்த் தாக்கிப்  
பொருளை, பூமியை நோக்கி இழுப்பதாய்,  
எண்ணும் புள்ளியே ஏண்மையமாமே;

(அருள்தளபதி, அறிவியல் தமிழ் வளமும் வளர்ச்சியும், ப.எண் 29)

இவ்வாறு பாமாலையாக அறிவியல் தத்துவங்களை அவர் பாடியுள்ளார்.

### இலக்கியமும் வேதியியலும்:

வித்துவான் ப. இராமசாமி முதலியார் ரசாயண சாஸ்திரத்தில் தாதுக்களைப் பற்றிப் பின்வரு கூறுகிறார்:

எந்தச் சேர்க்கைப் பொருளிலும் உலோகம்

பிரித்தெடுக்க முடியுமோ அந்தச்

சேர்க்கைப் பொருளே தாதெனப் படுமே!

(அருள்தளபதி, அறிவியல் தமிழ் வளமும் வளர்ச்சியும், ப.எண் 29)

**Minerals** பிரித்தெடுக்கும் முறையினை மிக விரிவாக அவர் கூறியுள்ளார். உப்பு தயாரிக்கும் முறையினைக் ‘கழியுப்பு முகந்து கன்னாடு மடுக்கும் ஆரைச் சாகாட் சாழ்ச்சி போக்கு’ (புறம் 60:7-8) எனப் புறநானூறு சுட்டுகிறது.

அகத்திய சம்கிதம் என்பது அறிவியல் கருவூலத்தின் ஒரு பகுதி. ஒரு மண் குடுவையை எடுத்து அதனுள்ளே தாமிரத்தகட்டைச் செலுத்திச் சிறிதளவு சிகிக்கரிவம் நிரப்ப வேண்டும். பின்னே அதை ஈரமான மரத்தூள், பாதரசம் மற்றும் துத்தநாகத்தைக் கொண்டு பூசி இரண்டு கம்பிகளை இணைத்தால் மித்ரவருணசக்தியைப் பெறலாம் என்பது அகத்தியர் கூற்று.

தண்ணீரிலிருந்து ஹைட்ரஜனைப் பிரித்தெடுத்தால் கிடைக்கும் மாபெரும் சக்திக்கு மித்ரவருணசக்தி என்று பெயர். சூரியனின் சக்தி ஹைட்ரஜனில்தான் உள்ளது. இதனைப் பல்லாயிரம் ஆண்டுகளுக்கு முன்பே அகத்தியர் கண்டுபிடித்துள்ளார். வருணன் என்றால் தண்ணீர். மித்ரன் என்றால் சூரியன். ஹைட்ரஜனுக்கு மித்ரா என்ற வேறு பெயரும் உண்டு. சிகிக்கரிவம் என்ற சொல்லின் பொருள் மயிலின் கழுத்து. மயிலின் கழுத்து நிறத்திலுள்ள காப்பர் சல்பேட் வேதிப் பொருளாகப் பயன்படுத்தப்படுகிறது.

மேலும் அவர் இது போல 100 கலன்களைச் செய்து தண்ணீரைப் பயன்படுத்தினால் அது உயிர்வளி வாயுவாகவும், ஹைட்ரஜன் வாயுவாகவும் பிரியும் என்கிறார். இந்த ஹைட்ரஜன் மிதக்கும் தன்மையுள்ளது. இதை ஒரு பையில் அடைத்தால் பறக்கப் பயன் படுத்தலாம் என்றும் அக்காலத்தே தெரிவிக்கிறார்.

செயற்கையாகத் தங்கத்திற்குச் சாயம் பூசுவது எப்படி என (Electroplating) தெள்ளத் தெளிவாக அகத்தியர் குறிப்பிட்டுள்ளார்.

**இலக்கியமும் கணிதமும்:**

செயற்கைக் கோள் உதவியுமில்லாமல், தொலைக்காட்சிகளின் துணையுமில்லாமல் பன்னிரு மாதங்களின் கால நீட்டிப்பினை அறுதியிட்டு நம் பண்டைய தமிழர் கூறியுள்ளனர். காலத்தைக் கணிப்பதில் தமிழர்கள் மிகவும் சிறப்புற்றிருந்தனர். கால நீட்டிப்புக் கணிதம் என்பது சில மாதங்கள் நீட்டிப்பு இருப்பதை ஒரு பாடல் மூலம் அறியலாம்.

‘சித்திரையும் ஐப்பசியும் சீரொக்கும் சித்திரைவிட்டு  
ஐப்பசிமுன் னைந்தும் அருக்கேறும் - ஐப்பசிக்கும்  
பின்னைந்து மாதம் பிசகாமல் இரவேறும்  
பின்னே விடுபு முடி” (அறிவியல் களஞ்சியம் - வலைப்பின்னல்)

என்ற பழம்பாடல் கால நீட்டிப்பை உலகிற்கு எடுத்துக்காட்டுகிறது. தமிழன்தான் பகல் - இரவு நீட்டிப்பு அறிவியலை முதன் முதலில் உலகிற்குக் கூறியவன்.

சித்திரையும் ஐப்பசியும் இரவும் பகலும் சமமாக இருக்கும். பகல் 30, இரவு 30. ஐப்பசிக்கு முன்னைந்து என்பது வைகாசி, ஆனி, ஆடி, ஆவணி, புரட்டாசி ஆகிய ஐந்து மாதங்களிலும் பகல் நீடிக்கும், கார்த்திகை, மார்கழி, தை, மாசி, பங்குனி ஆகிய ஐந்து மாதங்களிலும் இரவு நீடிக்கும். மேலும் வி-டு-பூ-மு-டி குறிப்பது தான் மிகவும் வியப்பு. வ-வா-வி என்பன  $1/4-1/4-1/4 = 3/4$  அதாவது 18 நிமிடத்தைக் குறிக்கும். வைகாசி -  $3/4 - 18$  நிமிடம். ஆனி -  $1\frac{1}{4} - 30$  நிமிடம். ஆடி -  $1\frac{1}{2} - 36$  நிமிடம், ஆவணி --  $1\frac{1}{4} - 30$  நிமிடம், புரட்டாசி  $3/4 - 18$  நிமிடம். இதே போல் தான் பின்னைந்து மாதங்களும் ஆகும்.

ஓர் ஆண்டின் ஆறு மாதக் காலத்திற்குச் சூரியன் வடக்கிலிருந்து தெற்காகச் செல்லும் பயணத்தைத் தட்சணாயணகாலம் என்றும், மீதியுள்ள மாதக் காலத்தில் தெற்கிலிருந்து வடக்காகச் செல்லும் காலம் உத்தராயண காலம் என்றும் வழங்கப்படும். பழனி அருகே ஆண்டிப்பட்டியில் அறுபது ஆண்டுகள் பழமையான ஒரு சவுக்கை உள்ளது. மலையில் இரண்டு பெரும் கற்களுக்கு மேலே ஒரு பெரும் கல் காணப்படும். இது சவுக்கை என்று அழைக்கப்படும். தட்சணாயண காலத்தில் ஆடி 1 அன்று சூரிய உதயத்தில் ஒளிக்கதிர்கள் தென்மேற்காகத் துல்லியமாகச் சவுக்கை வழியாக ஊடுருவுதலையும், அதே போல் தை 1 அன்று சூரியன் மறையும் போது ஒளிக்கதிர்கள் தென்மேற்காகத் துல்லியமாகச் சவுக்கை வழியாக ஊடுருவுதலையும் இன்றும் காணலாம்.

கண் இமைக்கும் நேரமும் கை நொடிக்கும் நேரமும் ஒரு மாத்திரை என்பதைத் தொல்காப்பியம்

‘கண் இமை நொடி அவ்வே மாத்திரை” (தொல். எழுத்து 7) என்று கூறுகிறது. குறுகிய கால அளவைக் குறிப்பன கண்இமை, கைநொடி , கணம் போன்ற சொற்கள். அடுத்துப் பெரிய கால அளவு நாழிகை அல்லது கடிகை. இதனைத் தேவாரம், “நாழிகையும் பல ஞாயிறு ஆகி” எனச் சுட்டுகிறது. ஏழரை நாழியை ஒரு யாமம் என்பதை நான்மணிக்கடிகை,

“ஊழியும் யாண்டு எண்ணி யாத்த யாமமும்

நாழிகையானே நடந்தன” (நான்மணிக்கடிகை 71)

எனக் கூறுவதில் யாமம் என்பது பெரிய கால அளவு என்றும் இரவு நான்கு யாமங்களையும் பகல் நான்கு யாமங்களையும் கொண்டது என்பதும், ஒரு யாமம் ஏழரை நாழிகை கொண்டது என்பதும், பத்து நாழிகை கொண்ட வைகறை, காலை, நண்பகல், ஏற்பாடு, மாலை, யாமம் என்று நாளை முதற்பொருளாகக் கொண்டு பிரித்தறிந்ததையும், அல்லும் பகலும் அறுபது நாழிகையும் என்று பழமொழி கூறுவதிலிருந்து ஒரு நாள் அறுபது நாழிகையாக உள்ளதையும் அறியலாம். திங்களின் இயக்கத்தை அடியாகக் கொண்டு திங்கள் அல்லது மதி என்று மாதத்தையும், ஒரு மாதத்தில் எந்த விண்மீனோடு முழுத்திங்கள் இணைந்து திகழ்கிறதோ, அந்த விண்மீனின் பெயரால் அந்த மாதம் அழைக்கப்படும் என்பதையும், பதினைந்து நாள் வளர்பிறைத்திங்கட் காலம் என்றும், பதினைந்து நாள் தேய்பிறைத் திங்கட் காலம் எனவும் பகுத்து, திங்கட் காலத்தை ஏழு நாட்கள் கொண்ட வாரம் என்று நான்கு பகுதிகளாக்கி ஒவ்வொரு நாளையும் ஒவ்வொரு கோளின் பெயரை வைத்து அழைத்ததை இலக்கியங்களில் காணலாம்.

### இலக்கியமும் உயிரியியலும்:

கடல் வாழ் உயிரினங்களுள் ஒன்று ஆமை. கூட்டம் கூட்டமாக முட்டையிட்டுக் குஞ்சு பொரிப்பதற்காக வருடாவருடம் பல்லாயிரம் மைல்கள் கடந்து தமிழகம் மற்றும் ஓரிசா மாநிலக் கடற்கரையில் தஞ்சம் புகுவது பலரும் அறிந்ததே. ஓர் ஆமை ஒரு நாளைக்கு 85.கி.மீ.தூரம் மட்டுமே நீந்திக் கடக்க முடியும். ஆனால் இவ்வாமைகள் குறுகிய காலத்தில் பல்லாயிரக்கணக்கான மைல்கள் கடந்து வந்துள்ளன. RFID - செயற்கைக்கோள் சாதனத்தின் மூலம் ஆராய்ந்த போது ஆமைகள் Ocean Current எனப்படும் கடலில் பாயும் நீரோட்டங்களின் உதவியுடன் பல்லாயிரம் கிலோ மீட்டர் நீந்தாமல் மிதந்து கொண்டு பயணம் செய்தமை தெரிய வந்தது.

### சுரப்பிகள்:

பைனியல் க்ளாண்ட் என்ற சுரப்பி நெற்றியில் புருவ மத்தியில் அமைந்துள்ளது. இலக்கியங்கள் சிவபெருமானுக்கு நெற்றிக்கண் இருப்பதாகவும், தவறு செய்பவர்களை சிவன் நெற்றிக் கண்ணால் எரித்து விடுவார் என்றும், அவரையே நக்கீரர் நெற்றிக்கண் திறப்பினும்

குற்றம் குற்றமே என வாதிட்டதாகவும் திருவிளையாடல் புராணம் கூறுகிறது. யோக சாஸ்திரம் இதனை ஆக்ஞா சக்கத்தானம் எனக் குறிப்பிடுகிறது. மின் காந்த சக்தி நெற்றியின் புருவ மத்தியிலுள்ள நுண்ணிய பகுதியில் வெளிப்படும் மின்காந்தச் சக்தியை உண்டாக்கும் குளிர்ச்சியின் சக்தி அதிகமாக இருக்கும். மனத்துயரம், தீவிரமாகச் சிந்தித்தல் - வெப்பச்சக்தி ஆகியவை உண்டாக்கவே நெற்றியில் குளிர்ச்சியை உண்டாக்கும் குங்குமம், சந்தனத்தைப் பூசுகிறோம்.

முன் தலையில் குட்டிக் கொள்ளும் இடத்தின் இரு புறங்களிலும் (Tembler Lobe) என்ற ஞாபக சக்தியைத் தூண்டும் நாடிகள் அமைந்துள்ளது. நாம் விநாயகர் துதி பாடி, குட்டிக் கொள்ளும் போது நாடிகள் தூண்டப்பட்டு உடம்பில் சுறுசுறுப்பும், உள்ளழுச்சியும் உண்டாக்கும். நெற்றிப்பொட்டில் குட்டிக் கொள்ளும்போது உள்ளடங்கி இருக்கும் அமிர்தகலசம் இலேசாகத் திறந்து அதிலுள்ள அமிர்தம் உடல் முழுதும் பரவும் என்பது யோகியர் கூற்று.

சிலந்தி, தன் உள்ளிருந்து தோன்றி உமிழ்ந்த பொருளாலேயே வலை பின்னுகிறது. பின்னர் அதன் மீதே தங்குகிறது. அந்நிலையில் அக்கூடு புறத்தும், அதை ஆக்கிய பொருள் அகத்தும் ஆகச் சிலந்தி கொண்டிருப்பதால், உலகை உண்டும் உமிழ்ந்தும் பின்பு அதில் வாழ்ந்தும் அமையும் திருமாலின் தன்மை பொருந்தி நோக்கப்படுகிறது. ஆக்கல் - அழித்தல் - காத்தல் - நிலவுதல் ஆகியவற்றை மிக எளிமையாகவும் அருமையாகவும் சிலந்தியில் இணைத்துக் காட்டுவதன் நுண்மை நினைத்தற்பாலது.

இதற்கு மேலாகக் குழந்தை வளர்ச்சியைப் பற்றி மாணிக்கவாசகரால் தான் எழுதிய திருவாசகத்தில் நான்காவதாக அமைந்த போற்றித் திருவகவலில் இன்றைய மருத்துவம் கூறுவது போல நுட்பமாகக் கூறியுள்ளார்.

‘மானுடப் பிறப்பினுள் மாதா உதரத்து  
 ஈனமில் கிருமிச் செருவினிற் பிழைத்து  
 ஒருமதித் தான்றியின் இருமையிற் பிழைத்தும்  
 இருமதி விளைவின் ஒருமையிற் பிழைத்தும்  
 மும்மதி தன்னுள் அம்மதம் பிழைத்தும்  
 ஈரிரு திங்களில் பேரிருள் பிழைத்தும்  
 அஞ்சு திங்களில் முஞ்சுதல் பிழைத்தும்  
 அறு திங்களில் நூறலர் பிழைத்தும்  
 ஏழு திங்களில் தாழ்புவி பிழைத்தும்

எட்டுத் திங்களில் கட்டமும் பிழைத்தும்  
 ஒன்பதில் வருதரு துன்பமும் பிழைத்தும்  
 தக்க தசமதி தாயொடு தான் படுந்  
 துக்க சாகரத் துயரிடைப் பிழைத்தும் (போற்றித் திருஅகவல், 13-25)

பெண்ணின் கருப்பையைச் சென்று அடையும் உயிரணு எவ்வாறு ஒவ்வொரு மாதமும் வளர்ச்சியடைகிறது என்பதனைத் துல்லியமாகக் கூறியுள்ளார்.

வித்துவான் ப. இராமசாமி முதலியார் இயற்கைச் சாஸ்திரத்தில் சிறுநீரகத்தைப் பற்றி,

‘சிறுநீர்ப் பிரித்தியைச் செப்பக் கேண்முன்  
 அவரை விதைபோல் ஆகிரு உறுப்பு  
 நிறம் கருஞ்சிவப்பாய் நிலவும் அவைதாம்  
 முதுகென்பின் இரு பக்கலின் நிற்கும்....’

(அருள்தளபதி, அறிவியல் தமிழ் வளமும் வளர்ச்சியும், ப.எண், 28)

இரத்த ஓட்டம் பற்றி,

இரத்தம் என்றும் இடைவிடாமல்தான்  
 இதயத்திலிருந்து பாய்குழல் மூலமாய்  
 உடலில் உள்ள உறுப்புகளுக்கும்  
 மீண்டும் வண்ண வடிசுழாய் மூலமாய்  
 இருதயம் தனக்கும் இன்புடன் செல்லல்  
 இரத்த ஓட்டமாய் இயம்பலாம் நன்றே!

(அருள்தளபதி, அறிவியல் தமிழ் வளமும் வளர்ச்சியும், ப.எண், 29)

எனக் கூறியுள்ளார்.

**இலக்கியமும் மருத்துவமும்:**

ஆயுர்வேதம் என்பது ‘உயிர் வாழ்க்கையியல்’ என்று பொருள்படும். இது உடல் நலம் பற்றிய அறிவியல் துறையாகும். அடுத்து அகத்தியரை மூலவராய்க் கொண்டது சித்த மருத்துவம். சங்க இலக்கியங்களிலும் பெருங்கதை போன்ற பிற்காலத் தமிழ் நூல்களிலும் மருந்துகளையும்,

பல மூலிகைகளையும் பற்றிய செய்திகள் காணப்படுகின்றன. காலையில் இஞ்சி, பகலில் சுக்கு, மாலையில் கடுக்காயும் மண்டலம் கொண்டால் கிழவனும் கோலை விட்டுக் குலாவி நடப்பான் என்பது சித்த மருத்துவக் குறிப்பு. இயற்கையோடியைந்த மருத்துவம். மனித உடலில் இரத்தம், கோழை, மஞ்சள் பித்தம், கறுப்புப் பித்தம் என்ற நீர்மங்கள் இருந்து வெப்பம், தண்ப்பம், ஈரப்பசை அல்லது வறட்சியை நிர்ணயம் செய்கின்றன. இதனை ஆயுர் வேதம், வாதம், பித்தம், சிலேட்டுமம் என்கிறது.

அறுவை சிகிச்சையின் தந்தை சுஸ்ருதா. இவர் அறுவை சிகிச்சைகளை எட்டுப் பிரிவுகளாக வகைப்படுத்துகிறார். கம்பராமாயணத்தில் கும்பகர்ண வதைப்படலத்தில் அறுவை சிகிச்சை பற்றி

“உடலிடைத் தோன்றிற்று ஒன்றை அறுத்து அதன் உதிரம் ஊற்றிச்  
சுடல் உறச் சுட்டு வேறு மருந்தினால் துயரம் தீர்வர்”

(கம்பராமாயணம், - பா.எண் 1358)

உடலிலே உண்டான ஒரு கட்டியை அதன் விடநீர் உடலில் பரவாதவாறு, அறுத்து, அதிலுள்ள அசுத்த இரத்தத்தை வெளியேற்றி, காரம் பொருத்திச் சுட்டுப் புண்ணை ஆற்றும் வேறோர் மருந்தினால் எனக் கூறுவதிலிருந்து அக்கால மருத்துவ முறையை அறியலாம்.

### இலக்கியமும் நீர்மேலாண்மையும்:

பருவம் தவறாமல் பெய்யும் மழை நீரைத் தேக்கிக் கயம், வாவி, தடாகம், பொய்கை, குட்டம், குளம், ஏரி, கிடங்கு, மடு, மதகு, மடை போன்ற நீர்நிலைகளை உண்டாக்கி, அவற்றிலிருந்து தேவைக்கேற்ப நீரைப் பயன்படுத்தினர் என்பதை இலக்கியங்கள் வாயிலாக அறியலாம். ஓடைகளின் குறுக்கே கல்லாலான அணையைக் கட்டித் தண்ணீரைத் தேக்கிக் கால்வாய் வழியாக அனுப்பிய முறையினை, எதிர்த்து வரும் வீரர்களைக் கற்சிறை போல ஒருவனாக நின்று தடுத்து நிறுத்தும் தலைவனுக்கு உவமையாகக் கூறுகிறார் தொல்காப்பியர்.

வருசிறைப் புனலைக் கற்சிறை போல

ஒருவன் தாங்கிய பெருமை யானும் (தொல். பொருள். 657)

நீர்நிலைகளை உருவாக்கி இந்நிலவுலகில் தம் புகழைப் பதித்திட வேண்டுமென்ப பாண்டியன் நெடுஞ்செழியனைப் பார்த்துக் குடபுலவியனார் கூறும் அறிவுரையினைப் பின்வரும் புறநானூற்றுப் பாடல் மூலம் அறியலாம்.

அடுபோர்ச் செழிய! இகழாது வல்லே  
 நிலன்நெறி மருங்கில் நீர்நிலை பெருகத்  
 தட்டோர் அம்ம, இவன்தட் டோரே  
 தள்ளா தோர்இவன் தள்ளாதோரே (புறம்.18:27-30)

சோழ நாடு சோறுடைத்து என்ற பெருமைக்குக் காரணமாக விளங்கியவர் கரிகால்சோழன். 1800 ஆண்டுகளுக்கு முன்பே காவிரியின் குறுக்கே பெரிய கருங்கற்களும், களிமண் கலவையும் கொண்டு சுமார் 1080 அடி நீளமும், 40 முதல் 80 அடி அகலமும், 15 முதல் 18 அடி ஆழமும் என்ற விகிதத்தில் ஆற்றின் குறுக்கே நாக வடிவில் வளைவாகக் கல்லணையைக் கட்டி, நீர்ப்போக்கை ஒழுங்கு செய்து தமிழரின் பொறியியல் திறனை உலகுக்கு உணர்த்திய சிறப்புக்குரியவர் என்பதைப் பொருநராற்றுப்படையில் முடத்தாமக்ககண்ணியார் பாடல் உணர்த்துகிறது.

ஏரியும் ஏற்றத்தி னாலும் பிறர்நாட்டு  
 வாரி சுரக்கும் வளன்எல்லாம் தேரின்  
 அரிகாலின் கீழ்கூஉம் அந்நெல்லே சாலும்  
 கரிகாலன் காவிரிகுழ் நாடு. (பொரு., தனிப்பாடல்)

மணிமேகலையில்,

எந்திரக்கிணறும் இடுங்கற் குன்றமும்  
 வந்துவீ ழருவியும் மலர்ப்பூம் பந்தரும்  
 பரப்புநீர்ப் பொய்கையும் கரப்புநீர்க் கேணியும்  
 ஒளித்துறை யிடங்களும் பளிக்கறைப் பள்ளியும்  
 யாங்கனும் திரிந்து தாழ்ந்து விளையாடி

(மணிமேகலை, 19 சிறைக்கோட்டம் அறக்கோட்டமாக்கிய காதை, 102-106)

என்ற அடிகள் மூலம், ஒரு நகரப் பூங்கா – அருவி, பொய்கை, கேணி முதலியவற்றோடு பொலிதல் வேண்டுமென்பதைச் சீத்தலைச்சாத்தனார் காட்டுகிறார்.

அறிவியல் வளர்ச்சி வாழ்வியலை வளர்த்தது. கி.பி 1453ஆம் ஆண்டு துருக்கியர் கான்ஸ்டாண்டி நோபிளைக் கைப்பற்றி ஐரோப்பிய அறிஞர்களை வெளியேற்றியதால்தான்

ஐரோப்பாவில் அறியாமை அகன்றது. அறிவொளி படர்ந்தது. பல கண்டுபிடிப்புகள் கண்டறியப்பட்டன. இயந்திரங்கள் உருவாக்கப்பட்டுக் கைத்தொழில்கள் இயந்திரமயமாயின. பாரதி கண்ட கனவு நனவாயிற்று.

காசி நகர்ப் புலவர் பேசும் உரைதான்  
காஞ்சியில் கேட்பதற்கோர் கருவி செய்வோம்”

(பாரதியார் கவிதைகள், ப.எண்., 22)

இன்று நம் கண் முன் வானொலி, தொலைக்காட்சி, கணினி அலைபேசி எனப் பல்வேறு சாதனங்கள் உள்ளன. மானம், குலம், கல்வி, செல்வம், அறிவு, தானம், தவம், முயற்சி, ஊக்கம், காமம் ஆகிய பத்தும் பசி வந்தால் பறந்து போகும். அறிவியலின் வளர்ச்சியால் உழுவதற்கும், விதைப்பதற்கும், களை எடுப்பதற்கும், பூச்சிக்கொல்லி மருந்து தெளிப்பதற்கும், அறுவடை செய்வதற்கும் தனித்தனிக் கருவிகள் கண்டுபிடிக்கப்பட்டன.

மாக்கள் போல்வாழ்ந்த மக்களை மாமன்னர்கள் போல் மாண்புடன் வாழ வைப்பது அறிவியலே. அறிவியல் வளர்ச்சியால் குடிசையில் வாழ்ந்தவன், மாட மாளிகையில் மகிழ்கிறான். நடந்தவன் பறக்கிறான். குாலநிலையைக் கணக்கிடக் கற்றதோடு, நோயின்றி வறுமை குறைந்து வளமான வாழ்வுக்குப் பாதையமைத்தது அறிவியலே. அப்படிப்பட்ட அறிவியலை ஆக்கப் பணிக்கே அன்பையும் அறத்தையும் வளர்ப்பதோடு வாழ்வியல் பயன்படுத்தி நலம் பெற்று ஓங்க இளந் தலைமுறையினர் ஏற்ற பணிகளை ஆற்ற வேண்டும்.

## KULOTHUNGAN'S JOURNEY OF MAN: A CRITIQUE

V. Murugan\*

### Abstract

*Kulothungan's Journey of Man is an expansive literary epic in three Books that for the first time encapsulates the totality of human history in one long sweep spanning over several millennia from the primitive past to the present-day of enlightened disquiet and flux. The three Books body forth three dimensions of human experience, one embedded in another most intricately, representing as they do the three cultures which in their togetherness make for the fullness of human life on the earth.*

*Book I finds man gradually shaping into a social being and building up edifices of communal and political living. It also speaks of him as the maker of tools, beginning with his find of language, going through the epoch-making plough, down to the Internet of the present era. Book II is an unreserved celebration of science and scientists, the tools and methods of scientific inquiry, the achievements of science and the burgeoning avenues it has opened out for the onward march of man in his quest for excellence. Book III deals at length with the principal religions of the world and the significant philosophical systems that flourished on the Asian soil.*

*The overriding burden of this magnum opus of Kulothungan is the celebration of the towering grandeur and amplitude of human spirit, its unsurpassed tenacity and fortitude treated in poem after poem after poem, placing the poet in significant relationship with the classical writers the world over.*

Kulothungan's *Journey of Man* is an absorbing, evocative account of the human saga, of man's quest for the meaning of life and his search for moral and spiritual values, captured strenuously and meticulously from the individual exploits of the world's outstanding artists, philosophers, scientists and spiritualists as much as from the collective accomplishments of humanity. The *Journey of Man* then is an expansive literary epic, in three succinct books of 2122 four-line stanzas, having man, the universal man, for its protagonist. It recounts his journey from the primitive days, when he lived a drifting, vagabond life to the present-day when he is the proud possessor of the Internet 'a reincarnation

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of God on the earth' [549]. The epic then sets out to encapsulate the totality of human history in one long sweep that spans over several millennia, surely a daring attempt at “things unattempted yet in prose or rhyme” in any of the principal languages of the world, by a poet endowed with what Northrop Frye calls “a madness of much learning” as much as commendable faculties of fancy and imagination.

The three Books of the epic (*Book I: Society and Politics, Book II: Science, Book III : Religion and Spirituality*) constitute an oeuvre, bodying forth the totality of the expressions and experiences of man as he journeys through an extended span of time from the primitive past to the present-day of enlightened disquiet and flux. Obviously, the epic does not move on the chronological plane as does a historian's remaking of the past. Kulothungan's is an imaginatively conceptualized schematic plot in which the three spheres of human pursuit run not in historical succession, but in interactive simultaneity, one affecting and shaping the other. The three Books also represent the three dimensions of human experience, one embedded in another most intricately. They look like three principal streams running parallel to each other, meeting and mingling, and separating again. They are also the three cultures which in their togetherness make for the fullness of human life on the earth.

Even as the *Journey of Man* does not fully tread the path mapped out by the historiographer, Kulothungan, nevertheless, takes significant clues from him and shapes the history of man in tune with the demands of his conception of the epic which is all his own in its architectonics. Accordingly, the epic chooses to delineate the journey of man by holding aloft the myriad monuments of triumph that he has erected through the might of his muscle and mind, and the multitude of mileposts that he has planted on the face of the earth, along with his moments of failure and frustration, and hurt and disability which he stood up to with a steely fortitude and won over.

Book I, comprising 28 sections and 369 stanzas, finds man gradually shaping into a social being and building up edifices of communal and political living. Look at the poet introducing man, the protagonist of his epic:

Measured against the universe  
 Man is but a thing diminutive.  
 We've seen it for a certainty though  
 Isn't he big in dreaming dreams?

Who has found out the frontiers of  
 The ever-expanding cosmos of the desire  
 Of mankind to grow and grow  
 Bigger than all the biggest things?

It is deeper than the depth of the ocean;  
 It is wider than the widening cosmos;  
 A veritable well it is from which spring  
 Crores and crores of queries and queries. [6-8]

The next section speaks of man in glowing terms as the maker of tools, beginning with his find of language, going through the epoch-making plough, down to the Internet of the present era, by which he has scaled summit after summit in the course of his journey through several millennia. We see him growing mightier and mightier by the day, extending his sway farther and farther yet. But the source of his energy remains beyond comprehension, even as he is able to comprehend the universe around.

But human life O dear is a mystery ever  
 And man alive is an enigma unsolved! [36]

The poet then speaks of man ascending on the community life and the rule of law, followed by his establishment of family, the nucleus of social life:

A shrine sanctified it is  
 That draws in kith and kin all;  
 It's a farm nurturing bonds immaculate,  
 A garden teeming with cool blossoms called children. [56]  
 ... uplifting of human race on the earth  
 Does hinge upon domesticity virtue-born. [56-58]

The institution of marriage and the bliss of children are among the most beautiful things humanity has seen. Sexual love is the winning fountain of creativity unmatched by anything else known:

There is no divinity fancied by mankind  
 That is known to run into an attribute  
 Which stands loftier than love. [77]

The poet appropriately brings in the art called music, "the tongue of divinity on the earth", that resonates all around filling humanity with joy divine.

Among the gifts Nature has handed us  
 Music measures to the Himalayan heights;  
 It's manna the medicine from Heaven [80]  
 enlivening and invigorating our body and soul, our nerves and our veins of blood within  
 (79).

Look at the lamp perpetual called education which man has lit up and which keeps lighting him up! It is not just a tool, a key that unlocks the doors of realms we seek to explore (17), but a potent, divine fountainhead embodying the fourfold powers of creation, destruction, preservation and transformation (98).

Man and man alone is the author of change, which defines humanity's unceasing journey of ascent. A life that is unmarked by change humans are not prone to embrace. Things unchanging are things unknown to development (107-108).

The setting up of the monarchic order is a significant milestone in the journey of man, which yielded rewarding fruits to humanity. Its excesses in the long run gave rise to the bloom of the democratic path which the ancient Greeks inaugurated on the earth. The rise of democracy is synonymous with the rise of individual luminaries though on the lap of collectivity fostered by communal living.

The Greek trial with democracy sustaining not for long, there arose men of might, both benevolent and tyrannical, at the head of communities, races and nations who instilled in the minds of people a passion for the demonstration of the might of the muscle as the true measure of manliness, which led to many a bloody war across the world with disastrous consequences for the civilizational ascent of man. Look at the homicidal campaigns made in the name of God and religion which Kulothungan documents with a profoundly felt pain within:

Even the terminal floods billowing and wavy  
 Would stand inadequate, O dear  
 To wash the stains of disgrace  
 Slapped on the face of religion  
 Thanks to the crusades of the Church. [172-173]

No less a disaster was the act of the Mangols running down a crowning civilization, which draws blood from the heart of the poet.

One shudders to describe the wails of distress  
 Which human civilization let out in that hour,  
 Dispossessed of its eyes that it had been  
 In the hands of the derelicts of humanity; [194]

which all culminated in efforts for a democratic order of governance in many a nation, albeit their being dotted with vexations and grievous sufferings.

It's all a saga most distressing,  
 In the annals of mankind's history  
 On earth painted down that it was  
 In a brush dipped in human blood. [216]

But man is no defeatist, but the one endowed with “resoluteness cool and unflagging, nurtured by a heart hard as diamond” (222), that is ever wonted to make its way “up in the direction of the summit yonder, crawling and hopping all along (221). For he is that species on the earth exclusively blessed with the ability to make tools, put them to uses newer and newer yet and steer humanity right through the path of ascent (232). Look at his trail-blazing discovery of the plough, the printing machine and the steam engine down the line and the myriad of other tools he empowered the earth with!

The poet then turns to the voyages of the Western man in search of new lands and the dawn of the European Renaissance that lighted up a whole continent, and pours hearty acclaims on the guiding lights of these historic developments: Columbus, Gama, Cook, More, Bacon, Campenella, Hobbes, Adam Smith, Voltaire, Rousseau and their fraternity who all facilitated the shaping of a brave new world “teeming with lustrous blossoms to their fill” and bathing the earth's entirety in a glow sun's like (283). Along with the intellectual awakening grew the quest for an equitable social order whose architects include Robert Owen, Saint Simon, Karl Marx and Engels who “came on the scene in state and laid out a path new for human ascent” (311).

Then comes a long section of 49 stanzas devoted to the two massive wars of the twentieth century that shook humanity's faith in itself. The poet ends the section thus:

Should there unfold a path all new  
 From the mighty impact of the philosophy  
 That Gandhi the sage of non-violence has gifted us,  
 Humans can hope to survive past its present lot. [361]

Be that as it may, such aberrations cannot break the resolve of man who has his sight fixed at the summit and who would forever move ahead with a burning passion that knows no dying out. And this section closing Book I ends with the characteristic refrain of Kulothungan: “Tomorrow our earth is bound to be Heaven!” (369)

Book II, comprising 609 stanzas spread over 37 sections, is an unreserved celebration of science and scientists, the tools and methods of scientific inquiry, the achievements of science and the burgeoning avenues it has opened out for the onward march of man in his quest for excellence.

Scientific inquiry holds the key for unlocking the infinite treasure Mother Nature holds within, and people not given to the deed of penance called inquiry profound and penetrating would access not that treasure ever. It is this inquiring spirit that has landed man in the discoveries of the plough and the cart wheel besides other tools in their multitudes. Look at the paens that pour down from the poet over this exceptional gift of man:

It is the one no celestial is gifted with,  
It is not a creation of Divinity either;  
It is that ability acquired  
That finds him making tools.

Man is the one species on the earth  
That has the power within  
To foresee things to come  
And to analyse things on hand,

Not to speak of his wont to dream.  
Are there beings any these faculties armed with?  
Gods our ancient kin fancied didn't have them,  
And the demonic host didn't have them either. [391-393]

Kulothungan's conviction in the unmatched, towering greatness of man, the protagonist of his epic, is indeed the burden of the whole epic, the thread running through and unifying the three books of the epic. This conviction finds its most fervent expression in Book II, in which man, the inquirer supreme, armed with the tools he himself has made, keeps unravelling the mysteries in Nature one after another. No poet in any of the traditions of the world, past or present, seems to have conceptualized man in the way Kulothungan has done. Look at these stanzas:

The one that started as a drifter of  
The woods has risen to the status of a ruler!  
No one from the Heaven came down  
To show him the path of his ascent.

No power of magic there intervened,  
Nor was it the working of sorcery;  
He walked his path with his head erect,  
His ability native being his prop all.

He raised the questions himself  
And he took upon himself  
The penance of finding answers to them;  
He walked on day in day out

Taking the path upward to the summit,  
His journey being punctuated with  
His tripping down and rising up  
With added muscle planting his hands down.

He kept marching up ahead  
Taking hills and jungles in his stride  
And crossing the hurdles of the oceans cold  
Holding in hand the lamp called education;

Science paving him the path onward  
And technology the driving power of science  
Serving him right as the vehicle,  
Man came through figuring out the mysteries. [394-399]

The poet looks 'possessed' as he sings of the plough, the first momentous discovery of man.  
In the order of implements known  
It is the plough that stands foremost;  
Simplest of all things though it be  
Isn't it Himalayan in its import? [410]

The genius who conceived the plough,  
He stands worth clad in epic glory.  
Innovations obvious there are  
That witness decline in their newness;

They suffer disuse at the end of the day  
Falling at length in obsolescence sure.  
But it is the wonder tool called the plough,  
That takes incarnation in tune with the day

And keeps its utility alive and kicking. [412 - 414]

The journey of man's creativity goes further and further on, finding him strike one discovery after another:

He moved straight on in his journey  
The lamp lit by men of excelling wit amidst  
Guiding his stride through the way.

The fivefold sense organs we have are  
A boon Mother Nature has gifted unto us.  
Each one of them is a sinewy instrument

And a functional arm of the monarchic brain. [416-417]

And

He moved up to a stage by steps measured  
When he proclaimed aloud: "Give unto me  
A piece of land to stand on and a lever,  
And I will shake up this lovely earth sure." [419]

Man contrived by his mind's might devices overpowering his muscle's power "by multiples of times uncountable" (420). He dug up energy-giving fuel from under the earth, he made them into compounds and subjected them to chemical changes in accord with what he needed to make of them. He struck at the springs that held sources of energy in awesome measures, and thereby added up to his body's prowess by a million times. His potent mind worked out a lens that defied the law of Nature that the power of the eyesight would go declining with age (424). And

The day is not far off for sure  
When we accomplish the means  
By studies sharp-witted and persistent  
To extend our lifespan beyond a hundred. [428]

The epic then unfolds a portrait gallery of the "sages of scientific quest" who stood fired by the spirit of inquiry and who pursued things for the good of humanity.

The laboratories of research are  
The groves of instruments in all glow,  
The gardens where inventions new unfold  
The farms where worthy innovations sprout!

They were the places they worked  
 Giving their toil unwearied  
 And landing in achievement in their millions:  
 They're the sages of the day, devas on the earth. [434-435]

Among them, there stood out Galileo who heralded a new era on the earth “pregnant with prospects in their multitudes” (437). Thanks to him, a huge impetus scientific advances witnessed” as if acquiring wings and taking off heavenward” (438).

The breed of folks called the saints of science  
 Came upon the scene steadily through time,  
 The kind of breed that it was  
 Which relished heavenly joy in pursuits of science.

A million tools they devised  
 That let them look at the way  
 The fivefold elements worked  
 And at the rhythms of motion as well. [440-441]

Man contrived the telescope then, that excellent tool which extended the boundaries of man’s inquiry, bringing the planets and the stars aloft into his eye’s view. And he devised the microscope too

Through which to run his gaze  
 At things more minute than the atoms. [448]  
 But the mind of man that makes them all is mightier than the mightiest of all tools.

No instrument whatever holds the power  
 That rivals this gift of the mind;  
 Human mind is a thing of wonder  
 That surpasses all things wondrous. [452]

There witnessed a burst of geniuses on the earth who included Marconi, Robert Hooke, Sir Isaac Newton, Louis de Broglie, Schrodinger, Max Born and others who studied the relational dimensions of heat, light, sound, electricity and magnet, by which

Nature’s barriers man triumphed over  
 And stood towering like the Himalayas. [471]

The poet then dwells at length on the earth-centric and the sun-centric theories of planets,

moving his focus back and forth from the insights of the ancient Babylonians, Greeks, Egyptians, Vedic Indians and the Chinese down to the developments of the present era. Amongst them were the geniuses of Asia-India too.

Worthy of world's awesome accolades  
 There were masterful men of this land  
 That included the mighty Arya Bhatta,  
 And Bhaskara among his successors. [486]

There is, appropriately under the head "Burning Fire and the Unburnt Spirit", a weighty, passionate mention of a revolutionary pathfinder: Bruno who stood upright like a bull and embraced the fiery grave (526). The poet pays a moving tribute to this martyr of science:

Is there a word to hand  
 To speak of the deed inhuman  
 Of torching that angel of a man  
 Perpetrated in the name of God?  
  
 An act vilest of the vile it was  
 That surpassed all things abject!  
 A blame nothing could blot out,  
 And never could the world erase it. [534-535]

Throughout the epic, it has been Kulothungan's wont to dwell on the subject on hand and draw conclusions thereon, which in most cases translate into truths of abiding import, and which endow his artwork with a universality of appeal and standing. Look at the poetic voice at the close of the section on the martyrdom of this immortal scientist:

They are not counted among the dead  
 Who die for the good of humanity;  
 Their physical bodies may perish  
 But humanity would be beholden to them for ages.

Is there a deva measuring up to human fortitude  
 That braves the relentless fire consuming the body  
 For truth to prevail unperishing on the earth?  
 Isn't he who died on the cross also of our species?  
  
 Isn't the progress of human race on the earth

The crop flourishing in the waters  
Which are the sweat and blood of individual folks?  
Humanity's triumph is rooted in the periodic rise of geniuses.

The annals of history mark no time  
That witnessed the advent of things  
Which could be deemed damnable in toto  
Or lowly in worth across the board.

History throws up no golden age either  
Which yielded all things glorious  
Blessed with excellence unrivalled  
And drawing acclaim unmixed from all.

Should we look at the long span  
Marking human existence on the earth,  
Times there're when we wafted aloft in the sky  
And times too when we rolled on the streets down.

Human life is a book in truth  
Whose pages one and all  
Do show up rises and falls both  
As does a track that wheels roll on. [538-544]

And again, after the discussion on the earth-centric and the sun-centric theories:

As does the X-ray manifest  
That sends forth its vision gleaming  
Even if the heavens collapse and veil it  
And even if it's buried under ocean's depths

Far off from the human eye,  
Truth would come to the fore  
Piercing through things one and all.  
It is a thing of wonder most potent

That'd defy all attempts at shrouding it.  
Burn it to ashes and yet it would stand up;

Split it into parts numbering a crore,  
It would collect up and rise as one!

Never has it happened around  
That humans triumphed defying truth;  
From the lamp truth-seekers light up  
The lustre would pervade the universe. [512-515]

There is then the advent of Galileo, the pioneer of the experimental method of scientific inquiry, a sun radiant and blazing in the sky of science (553), who declared that

Nature's great book is written in mathematical symbols;  
Mathematics is the path leading unto truth;  
It is the lamp sure lighting up research. [554]

As he stood rock-like by the discovery of Copernicus, he was cast into incarceration at home, accused of heresy and forced to spend the evening of his life in darkness (560-565). The poet ends this section thus:

Albeit suffering an impaired vision  
And disabling incarceration protracted,  
He stood up with his towering genius  
Which outshines the radiant sun in the sky! [567]

Kulothungan then bemoans the failure of humanity to raise an aesthetic monument to tell the tale of these ladders of humanity's ascent:

No poetic fraternity has come up to this day  
That's supplied with wit's plenty meet  
To sing of the dawn of the new age  
Unfolding through the sweat of the gifted  
  
To see the dreams of humanity come real  
The day next if not right this day.  
No bard has marked his presence around  
Who could make an epic of a composition  
  
That holds aloft the throbbing zeal of folks  
To conquer frontiers one and all,  
That sings of those who came through  
In the war of eyes and ears against distance,

That celebrates people who made tools  
 For humanity to win the crown of earth's reign. [579-582]

The author of the evolution of species and the pioneering spirits of heredity theory justifiably occupy whole new sections, given their pathbreaking, revolutionary understanding of the origin and development of human species on the earth. The poet then takes up the science of healing with a focus on the makers of this science, both Eastern and Western, who at the extremes include the *siddhas* of the Tamil land and the Greek pioneers, the central space being occupied by a brilliant galaxy of Western minds like Harvey, Boyle, Hook, Lower, Mayow, Haller, Pavlov, Reamer, Buckner, Spallan Zani, Louis Pasteur, Koch, Beijerinck, Stanley and others.

The advent of revolution in conveyance is yet another rewarding gift of science dealt with in two full sections, which the poet ends with his characteristic passion for axiomatization:

Distance across the earth's expanse  
 Is no issue whatever today...

Hills do not separate humanity,  
 Jungles are no impediment to its bonding,  
 Wavy oceans do not hold us apart;  
 Man himself is his obstacle, isn't he?

There are countless walls of separation  
 That stand here, there and everywhere!  
 Even bodily complexions of men are moats of division  
 And their religions are forts of partition too.

The languages we speak are veils of barrier,  
 Our racial identities the antique forebears conceived  
 Are walls of separation rooted fast;  
 Nothing breaks us apart but our shrunken minds. [796-799]

The poet returns to the perennial wonder called the cosmos and treats of it in six successive sections of objective poetry, followed by a statement of truth which could come only from a scientist-poet:

Those multitudes of starry hosts  
 Counting up to crores and crores  
 Do keep moving around  
 By a certain law beyond knowing

In that immense expanse of the sky  
That stretches out all around  
And goes extending through all frontiers  
Defying the power of our fancy.

The tale of human pilgrimage is indeed  
That sacrificial devotion to truth  
That combines wit with passion  
Propped by facts and inferences therefrom. [847-849]

The poet, in the section “Is it a Boon or a Curse”, dwells on the threat the destructive potential of atom holds to the survival of humans on the earth, and says in conclusion:

When the tool he has designed  
Should work its creator’s undoing,  
What does it all come to mean?  
What for is the creation of life on the earth? [863]

The poetic energy of Kulothungan soars apace as it comes to singing about man’s landing on the moon:

An event earth-shaking it was  
In the annals of humankind’s history,  
Glowing like the radiance  
Of suns numbering a crore come into one.

A spectacle it looked like  
Of the world of the celestials  
Being sighted by a human  
Right with his naked eyes.

It houses no Heaven on it,  
Nor could we see there a hell.  
These are all beliefs unsubstantiated  
Born as they were in the days primitive. [888, 889, 892]

Then comes what looks like the acme of scientific accomplishment, viz. the advent of computer and the Internet.

That matchless wonder find of the day which  
Combined electronics and telecommunication! ...

To call it the Supreme Spirit is no misjudgement. [911]

The closing section of this Book titled “Humanity is Optimism Unfailing” is an enlightened, evocative commentary of the poet on the humanistic implications of man’s scientific accomplishments:

In every field of study we pursued  
Crowning success we did accomplish,  
Successes that for sure seemed like  
Exceeding the dimensions of the Himalayas.

But then as it went on and on,  
The world fell into fears unsettling  
That these deeds of triumph might engender things  
That go beyond the wielding power of our hands.

Nevertheless deterred we would not be,  
Weighed down by the fear  
That the victories we brought off...  
Would suffer derailment in the midst of the journey  
And get deflected off the chosen course.

For hard it would be for mankind  
To transgress righteous ways entrenched.  
The world would move on for certain  
And it would move farther and farther on. [971-977]

*Book III: Religion and Spirituality* is the largest among the three, comprising 35 sections and 1145 stanzas. It deals at length with the principal religions of the world and the significant philosophical systems that flourished on the Asian soil.

It bears repetition to say that the overriding burden of this magnum opus of Kulothungan is the celebration of the towering grandeur and amplitude of human spirit, its unsurpassed tenacity and fortitude treated in poem after poem after poem, an amplification as it were of the wonderment of Shakespeare’s Hamlet:

What a piece of work is man! How noble in reason! How infinite in faculties! In form and moving how express and admirable! In action how like an angel! In apprehension how like a god! The beauty of the world! The paragon of animals!

Kulothungan belongs to the great traditions of literature the world over in his conception of man as the measure of all things in the universe, standing as he does in significant relationship with the classical writers like Homer, Virgil and Dante, Valluvar and Kamban, Marlowe and Shakespeare. In his poetic universe, man occupies the exact centre of a universe that has no meaning except for him. If his man believed in God, he has no hesitation in imagining Him formed as he himself is formed or as his fellow men are formed. Look at the following lines extracted from the 700-page collected volume of Kulothungan's poetry:

We will not accept that  
There exists anything  
Beyond the power of humanity. [p. 108]

Has the earth to this day seen  
A divinity superior to man? [p. 576]

Should there exist God  
The boon I'd ask of Him is  
'I should become God myself.' [p. 125]

I'm God come to the earth. [p.133]

There's nothing called Heaven;  
Gods are but our own creations. [p.135]

Beyond the mind of man,  
Is there anything called God? [p. 136]

Of what avail is Heaven above  
While we can make a heaven of this earth? [p. 127]

And the *Journey of Man* represents an expansive continuum of this conception of humanity embodied in the seven volumes of poetry which Kulothungan composed over a span of more than six decades, adapted most dexterously to the form and structure of the epic poem on hand. Look at the following lines in the epic which represent the defining moments in the upward march of man on the civilizational scale:

It matters not much  
Whether what is called God  
Does exist or doesn't.  
Is there an abode in the cosmos

That houses the species of stars and planets  
 Wherein lives a being outsmarting man?  
 Has anyone ever seen a thing  
 Incomprehensible to man worshipping?  
 Man is endowed with a talent exceptional, ...  
 It is the one no celestial is gifted with,  
 It is not a creation of Divinity either;  
 It is that ability acquired  
 That finds him making tools. [386, 387, 390, 391]

Whoever but man can vouch for God?  
 Sans the presence of humanrace  
 The universe would remain incomplete  
 Isn't man the sole citizen of the universe? [2116]

Gods do not appear on the earth  
 They mark not their vision before humans;  
 Let's live our lives flesh and blood in this world,  
 Soar heavenward and become gods ourselves. [1991]

In love God manifests, they declare;  
 Compassion is the path we tread, they claim.  
 But look at the history known  
 Bearing out to their wars for religion  
 Wherein muscle's might came to the fore;  
 The blood shed streamed down in floods  
 Turning the earth into a ruddy slush  
 That outmired a miry fen. [2038, 2039]

But Kulothungan is not a doctrinaire iconoclast or agnostic or atheist, but a pragmatist who does not deny that there is in human affairs a space for believers and their search for solace through spiritual preoccupations. Look at his matured approach to spirituality and Godhead:

God's reign we do not see  
 In the realm science holds its sway;  
 Go beyond the frontiers of science  
 You find God's authority winning. [2023]

Existence of platforms we've seen  
 On either side of the road  
 For wayfarers in fatigue  
 To rest their burdens on head.

Beliefs stand to be such;  
 Pillars of prop they truly are  
 For folks to unburden their burdens of life;  
 Beliefs's hand of comfort many of us need.

Even the world of science  
 That privileges inquiry scientific  
 As a means of arriving at truth,  
 Does need to have the heart of spirituality.

Folks taking the boat of science  
 And crossing the river of life  
 Do need the paddle called spiritual path;

They make for the two sides of a life fulfilled. [2096-2099]

It is this approach that defines the conceptual basis of the third book of Kulothungan's *Journey of Man*, and that also provides the unifying link between the first two books and the third book. Accordingly, the poet significantly extends the boundaries of spirituality to encompass a wider realm of ethical concerns and pursuits that humanity tends to quest for:

That bond is indeed well conceived  
 Amongst God, universe and soul  
 Which makes for the meaning of life  
 That humanity is most fervently after.

The kinship among these three said  
 The realm of spirituality goes beyond;  
 It encompasses our obligations in life,  
 The deeds bearing on these obligations  
 And in brief all that we pursue in earnest  
 In quest after a life in virtue rooted.

There's nothing amongst them  
 That stands alien to the spiritual sphere. [2100-2102]

*Book III* of the *Journey of Man* is placed in the matrix of this extended conceptual standpoint, which also informs Kulothungan's critique of religion and spirituality in this book. Look at him prefacing this book with sections titled "Fear alone is Death to Knowledge", "A Mind Bewildered is a Breeding Ground for Fantasies" and "A Tiny Drop of Poison in a Potful of Nector":

No enemy is known to humankind  
That is more ruinous than the dread within;  
And reasoning rules not that mind  
Which lets fear hold sway over it. [996]

Dread is that feeling of mind ubiquitous  
Which sneaks into the might accomplished  
Of folks one and all on the earth;  
An enemy it is of the faculties of our senses.

Should dread come to rule our minds  
Nothing honour-born would be left in us for sure,  
No matter how large our learned worth is;  
Even emptiness would frighten us away.

Ghosts would look alive and real,  
Speaking spirits would seem to exist,  
And a thousand images would haunt our minds;  
See that fear is the mother of all these said. [997-999]

The nomadic man of the wilds of that day  
Called anything and everything a god;  
And the wise man of today settled and urbane  
Makes a divinity of all things under the sun. [1012]

A terminal disease is this fear  
That drives feeble-minded folks acquiescent  
Into disability unremitting and remorseless;  
A foe hostile to a persevering mind it is. [1015]

Peaks go receding from them who yield to fear;  
No medicine can work a cure for this ailment;  
The mind sunk into the depths of fright  
Would be more flimsy than the fibrous cotton. [1025]

It is to this fear, coupled with a sense of naïve wonder, that religion owes its birth, nurtured thereon by prolific wits and acquiescent societies (1032). The nature and function of religion in human affairs are:

It's a nectarine thing most prized  
For the minds restive and turbulent  
That look for the lap of serenity in life.

Religion fortifies that temper of mind  
That rests contented with what there is  
It keeps the mind in quiet repose  
With no wish to see things renewed.

It's a pillar on which to unburden  
Hardships and hurts of failure,  
Vexations and sorrows innumerable  
And the burdens of life on the earth. [1034-1036]

Having thus provided an insightful introduction to religion, Kulothungan goes about rereading the religions and philosophical systems of the world, viz. Hinduism, Jainism, Buddhism, Judaism, Christianity and Islam, the *Sankhya*, *Yoga*, *Vaisesika*, *Nyaya*, *Mimamsa* and *Vedanta* schools of thought, besides the materialistic philosophy, the philosophy of *Thirukkural*, *Saiva Siddhanta* philosophy, the *siddha* philosophy and Confucianism. The *upanishads* and the *Bhagawad Geeta* are also treated in separate full-length sections in so far as they remain the most significant works of religious philosophy on which stands Hinduism. The poet looks at these two expository texts with the absolute detachment and clarity of a scientist as he recounts the essence of their basic tenets.

Such is the way the *upanishads* are structured  
That they look like the answers  
A preceptor handed unto his disciple  
As he took lessons at the preceptor's front. [1049]

And this is what he makes of the *upanishads*:  
The *upanishads* do not end with  
Mere inquiry into soul and Godhead;  
They are fountains alive and vibrant  
That nurture our body and soul as well. [1079]

A clear-headed critique of the *Bhagawad Geeta* in as many as 45 verses is followed by a

succinct objective comment in 7 verses on things perceived to be unwholesome in it:

Critics hold it in censure deep saying,  
It runs down women, trading class and *sudras*  
As people coming from the wombs of sinful women,  
And puts them low on the scale.

The accusation hurled at this mighty work  
Holds up evidences apparent from within:  
It's one composition we know of  
That perpetrates casteism on the earth. [1129, 1130]

A similar strain runs through his treatment of Hindusim. Look at his unreserved praise for Hinduism for its conception of Siva as half female and half male in form:

Unique is the doctrinal facet of Hinduism  
Wherein Parvati holds a perfect half of Siva's body!  
Doesn't it epitomize the feminist creed  
That the world all should keep wondering at?

A conception reason-born it is for sure  
Worthy of contemplation time and time again  
As a solution to an issue that baffled mankind. [1461, 1462]

And the poet draws his reasoned conclusion from this facet:

Men and women share a whole by perfect halves;  
They are not one by nature and endowments;  
Both halves are entities original underived;  
And women are no replica of menfolk.

Where the two work not in unison  
Nothing turns to a meaningful whole;  
True they are two sides distinct  
And yet both must unite for a whole to emerge.

The lesson we need to make of this equation is  
When life's charges stand apportioned between the two,  
To rank men lower or higher on the scale  
Is no wise approach in life. [1464-1466]

And look at the poet seeing this faith, just as he does in the case of other faiths and philosophical systems, with the eye of one profoundly learned in the history of ideas:

A confluence of ancient wisdom is this faith  
 Drawn from sages and seers of yore  
 Should we look for its doctrinal tradition,  
 An ocean's expanse looks like  
 Taking in the Ganges and Cauvery looks alike. [1473, 1474]

And in conclusion:  
 It has gems and diamonds to the fill,  
 It holds within the nectar of devas as well,  
 It's a pile of ornaments but yet  
 There is no dearth of dirt as well. [1495]

The poet employs similar structural patterns in his critiques of other religions too, accomplishing thereby a structural unity which an epic composition stands on by tradition. And there are distinct linguistic deviances appropriate to each faith. Here is the heartbreaking picture of the Jews standing rootless, sans a home on the earth:

The Jews would come to be the most ancient  
 Among the species of humanity called refugees;  
 They lived in hellish wretchedness in sloughs,  
 In nooks and crannies and on bare grounds.  
 They knocked around the face of the earth  
 As do deer in the wild  
 Ever taking flight in fright  
 Of the prowling huntsmen, lions and tigers murderous.  
 Should the Maker bring forth a race on the earth  
 That's doomed to wailing over their lot for ever  
 And standing in consternation fretful  
 At the sword dangling relentlessly over their necks?  
 Should there exist a race in this world  
 That writhes in hurt, pain and grief,  
 That's scorched by afflictions raging flame like  
 And that's in mortal fright of malice and hostility?

Should he be God in truth  
 Who is a witness to misery and sorrow  
 Going on without an end in sight,  
 All perpetrated on one race of humanity? [1672-1676]

The death of Jesus on the cross evokes a telling truth of history in the mind of the poet:  
 Suffering alone is the recompense

Given unto folks at work  
 For humanity's ascent to heights.  
 An axiom it is that never goes falsified. [1831]

The philosophy of *Thirukkural* is accorded a towering place among the philosophical systems of the world, for it looks like the quintessence of all lofty philosophies across the world collected up in the crucible of the inquiring mind of Thiruvalluvar, the Tamil bard nonpareil:

Perception he does approve of  
 And he admits of inference as well,  
 But he wouldn't accept an authority  
 That comes without the test of scrutiny  
 However noble and weighty it be.  
 Such was the bent of mind Valluvar had.  
 He is the maker of the *Kural* adored  
 That stands as the scripture for mankind all.

The lores of Central Asia, Greece and China  
 Much versed in was this genius of a man,  
 Besides the works of his predecessors native;  
 And he went miles ahead too

To make his work a book of life;  
 A man of sage mind he was  
 Who swam thro' the oceans of wisdom all  
 And brought us silvery pearls therefrom.

The depths of wisdom's lores he probed deep,  
 The riches collected he melted in his mind's crucible  
 And cast them together into steely frames  
 Called the thoughts of the *Kural* consummate. [1266 – 1270]

The penultimate and closing sections of this book, which also conclude the epic, throw up a whole lot of questions and mysteries that neither science nor religion has solved to this day. Here is one such question of loaded import:

Vileness, deceit and duplicity  
 Besides thieving and mind's timidity  
 And acts iniquitous and depraved  
 Ruling the world at one end,  
 Ailments countless and tribulations of life,  
 Hurts imperceptible pressing down the heart  
 And worries and sufferings  
 Weighing us down at the other end,  
 Here is a question  
 Human mind raises in distress  
 Having pondered at length  
 The miseries most wretched  
 That afflict human body and mind  
 Much like the waves of the ocean  
 Assailing the shores relentlessly:  
 Is this the world sure  
 Brought into being by the one  
 Whom the world calls God  
 The embodiment of grace and love unfailing  
 And the ocean of compassion all-embracing? [2027-2031]

\* \* \*

The invocations which begin these three Books are as radically different as his vision of the supremacy of man and his earthly habitat. *Book I* begins with an invocation to Nature:

You nobility incarnate  
 That gladly hand out your fortune's plenty  
 In proportion to the toil of the seekers! ....

*Book II* begins with an invocation to Truth that is seen as the breath of all pursuits of human mind and muscle. *Book III* begins with an invocation to Shakthi, the power by which humans triumph over their circumstances and seek to make a heaven of their earthly home.

A poetic chronicle of the prodigious odyssey of man by one who is a great thinker, scientist, scientific visionary and an accomplished aesthetic practitioner all combined into one, the *Journey of Man* is replete with flashes of axiomatic statements and compulsive truths of life, manifesting either as the milestones man has crossed over in the course of his journey or as enlightened comments of the poet bearing on the saga of human triumphs and failures, which further fortify the imposing structure of this epic composition, and reinforce its claim to be placed alongside the imperishable literary treasures of the world.

A mind staying contented with its lot  
 May strike a fortune of gold; but  
 Ventures into realms unventured yet  
 Is for sure no endowment of a complacent mind. [28]

The land that is peopled with folks  
 Who are draped in contentment eternal  
 And who find the hand of Divinity pervasive  
 Ruling the affairs of the human world  
 Is not the place ripe for revolution; [207, 208]

Clouds do not open up their bounty  
 Sans a burst of lightning and thunder;  
 And no revolution would there materialize  
 Without hurts and deprivations attendant. [256]

Nature's ways we know for sure:  
 In our life on the earth  
 No fruit comes home unto us  
 Without toil's hand propping us up.

That species of coal called diamond  
 Does land on no hands but on  
 Those of the workmen who dig up  
 Mines deep and delve therein.

No farm comes into sight  
 And no species of crops grows on it  
 Where marks no tilling of soil  
 Aided by the bounty of rain clouds. [376-378]

An act ill-advised it should be for sure  
 That a weapon stuffed with massive power  
 Which holds destructive potential immeasurable in  
 Be handed even to God Supreme. [860]

Look at his firm belief in the institution of marriage and family life:

Should there be one thing on the earth  
 Which stands the best among the best  
 It is to be sure this institution of family. ....

It's the heart of communal life,  
 The sun among the celestial bodies,  
 A lamp lighting up the excellence of love's bond. [53,54, 57] ....

He then hands out a stern warning to those who tend to trample on this institution:

They know not the consequences imminent thereof,  
 Unaware they are of the sage foreboding  
 By the elders rooted in the wisdom of the world  
 That assault any on the covenant of marriage  
 Would occasion a return to beastly existence. [65 - 66]

Kulothungan has no doubt that it is individual men and women who map out and light the path of human ascent. In an earlier poem titled "I alone am Enough", he writes with the felt assurance of a scientific visionary:

For a sacred expedition in search of truth  
 There need be no crowd, no procession,  
 No flags, no slogans;  
 One shall design but many may build;  
 Greatest things are often achieved by the fewest of minds.

*(An Anthology of Kulothungan's Poetry. Trans. Kulothungan, pp. 115-117)*

In the present epic, it finds a more vibrant, more sublime expression:

The winning glory of Planet Earth  
 Stands to be the fruit of labour  
 Of a million arms unfatigued  
 Working in unity and unison.

Be that as it may,  
The path of human journey is  
Lit by the flashes of lightning  
Called the toil of individual geniuses, [140, 141] ...

They are of a piece with the sun indeed! [148]

Again,

Isn't the progress of human race on the earth  
The crop flourishing in the waters  
Which are the sweat and blood of individual folks? [540]

There is the burst of pure passionate poetry as he reflects on the present lot of womanhood:

Strange is the state of our womenfolk,  
The lovely species of humanity,  
The farm that puts forth life from antiquity  
And partakers of more than a half of life,

Who are mothers most loving,  
Sisters elder and younger,  
Wives, daughters and all,  
The fountains unfailing of energy

That sustain life on the earth,  
The ones bards adore as those  
The frontal-eyed God  
Shared one half of Himself with

And added glory to Himself,  
On whom we have slapped  
Chastity as a handcuff,  
Husbands as fetters,

Gracefulness of bearing as a curse,  
Motherhood as a burden of charge  
And all things noble in life  
As their responsibilities binding;

Who are held in servitude  
 Under menfolk's authority unfettered,  
 And who remain objects of pleasure  
 For menfolk's gratification at will.

Gods whom we acclaim as oceans of mercy  
 Are not seen to be indignant thereat  
 And spiritualists swearing by love and compassion  
 Show not any sympathy and concern

At this outrage unremitting against women.  
 If we were to witness change any,  
 If there were to be any advancement  
 Worthy of note on the earth,

If there existed God  
 Spoken of as omnipotent and omnipresent,  
 The fountainhead of life that women are  
 Must get a standing due unto them. [2084-2092]

Kulothungan's bardic sphere stands out distinct in his image-making also. Most of his images are of here and now, rooted in the concrete realities of the world, as different from the far-fetched conceits of the metaphysical kind and the exotic, abstract parallels many a poet evokes across cultures. Look at the following extended simile where the poet describes the arduous journey of man from monarchy to democracy.

There emerged folks driven by ambition ....  
 With an intent to ascend the seat of power  
 In the manner of weeds seizing the moment  
 And growing to the fill by duplicity as it were  
 When the field stands readied for cultivation  
 And the seeds are set to shoot forth ....

Some found themselves deep down in a bind  
 Wherein they looked like falling into a fire  
 As they tried in haste to flee  
 From the burning rays of the sun. [224, 225, 228]

On the advent of the printing machine and its contribution to the spread of knowledge:

Should the flowing waters of a river  
 Stored up in their plenty in a reservoir  
 Be brought to irrigate the fields around,  
 Sluices we must build therein. [238]

On the poet mentioning the most significant ones among the architects of human civilization:

Even as several names come to the fore  
 That toiled hard in the realm of inquiry  
 And made a mark abiding therein,  
 We shall here recount a few names  
 After the wont of the world  
 To offer worship to the sun  
 Among the stars lighting the sky  
 Which run past a crore in count. [738-739]

On the discovery of the steam engine:

In the manner of water  
 Gushing forth and flowing down  
 The expanse of fields all around  
 As the sluice gate is drawn up,  
 The advent of this marked event  
 Occasioned applications widespread. [779-780]

On truth:

Truth is an orphan today too  
 With no kin seeking it out [666]

We may conclude this critique with the observation of B.S. Ragavan, well-read in Tamil, English, Hindi and Bengali and an accomplished student of literature, in his foreword to Book III of the *Journey of Man*:

Kulothungan has gifted an unparalleled epic to world literature, not just to the Tamil language. It would remain a towering testimony to his genius and poetic gifts. I searched through that ocean of information called the Internet to see whether there is another poet in any other language who had the vision and the daring to make an epic comparable to the breadth and range of the *Journey of Man*.

The answer I got was a 'no'. I have no hesitation in saying that Kulothungan has reached a summit that is unscaled by any other poet.

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## **A STUDY ON EMOTIONAL INTELLIGENCE OF PROSPECTIVE TEACHERS OF SOUTHERN DISTRICTS OF TAMILNADU**

**\*K.L.Sheeba Beracah**

### **Abstract**

*An attempt was made to find out the level of emotional intelligence of prospective teachers and to assess the influence of locality of college, community, birth order and nature of college on the emotional intelligence of prospective teachers of southern districts of Tamilnadu ( Kanyakumari, Tirunelveli and Tuticorin). Anukool Hyde, et al Emotional Intelligence Scale was administered on a random sample of 900 prospective teachers. The prospective teachers differ in their emotional intelligence in relation to their locality of college, community, birth order, and nature of college.*

### **Introduction**

Emotional Intelligence (often given the acronym EQ, the emotional-intelligence equivalent of IQ) encompasses social intelligence and emphasizes the affect of emotions on our ability to view situations objectively and thus to understand ourselves and other people. It is the ability to sense, understand, and effectively apply the power of emotions, appropriately channeled as a source of energy, creativity and influence. Balancing and integrating the head and heart, channeled through the left and right brain, is the mission of personal growth work in the domain of emotional intelligence. (Goleman, 1995). Buck (1985) has defined emotion as the process by which motivational potential is realized or read out when activated by challenging stimuli. Emotion is the messenger of love; it is the vehicle that carries every signal from one brimming heart to another. Emotional intelligence is the product of one's heredity and its interaction with his environmental forces. Emotional intelligence is a relatively recent behavioral model, rising to prominence with Daniel Goleman's (1995) book called 'Emotional Intelligence'. Goleman identified the five domains of emotional intelligence as knowing your emotions, managing your own emotions, motivating yourself, recognizing and understanding other people's emotions and managing relationships.

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### **Need and significance of the study**

Education is a noble calling that entails both challenges and responsibilities. All B.Ed trainees who are said to be the prospective teachers should act with self confidence, avoid anger, take decisions on a rational basis and think clearly, maturely and intelligently while interacting with others. Emotionally intelligent people have the ability to marshal their emotional impulses, they have the self awareness to know what they are feeling and are able to think about and express those things. They have empathy for the feelings of others and insight into how others think, they are optimistic and generally positive; they understand easily the dynamic of a group. Thus, emotional intelligence has become increasingly popular nowadays.

### **Objectives of the Study**

1. To find out the level of emotional intelligence of prospective teachers in terms of locality of college, community, birth order, and nature of college.
2. To find out the significant difference, if any, in the emotional intelligence of prospective teachers in terms of locality of college, community, birth order, and nature of college.

### **Hypothesis**

1. There is no significant difference in emotional intelligence of prospective teachers with regard to locality of college.
2. There is no significant difference in emotional intelligence of prospective teachers with regard to community.
3. There is no significant difference in emotional intelligence of prospective teachers with regard to birth order.
4. There is no significant difference in emotional intelligence of prospective teachers with regard to nature of college.

### **Methodology**

The investigator for the present study adopts the survey method of research. In this study the investigator attempts to investigate the level of emotional intelligence of prospective teachers and the influence of locality of college, community, birth order and nature of college on the emotional intelligence of prospective teachers of southern districts of Tamilnadu.

The population for the present study consists of the student teachers studying in Colleges of Education of Tirunelveli, Tuticorin and Kanyakumari Districts affiliated to Tamilnadu Teachers Education University, Chennai.

The investigator collected samples through stratified random sampling technique. The investigator has divided the population into strata or groups in terms of locality of college (rural and urban), community (FC, BC, MBC, SC, ST), birth order (first, second, third and above third), and nature of college (Boys, Girls, Co-education) and accordingly a total number of 900 samples were selected.

### Tools Used For The Present Study

Emotional Intelligence Scale (EIS) which was developed and standardized by Anukool Hyde, Sanjyout Pethe and Upender Dhar (2001) was adopted to investigate the emotional intelligence of student teachers. The reliability of the scale was determined by calculating reliability coefficient and it was found to be 0.88. In order to find out the validity from the coefficient of reliability, the reliability index was calculated, which indicated high validity on account of being 0.93. Five point scale (strongly agree, agree, uncertain, disagree and strongly disagree) column was given against each statement. The prospective secondary teachers were asked to put a tick mark against each statement in the appropriate column. Each item should be scored 5 for strongly agree, 4 for agree, 3 for uncertain, 2 for disagree and 1 for strongly disagree.

### Statistical Techniques Used

For the present study the investigator employed the following statistical techniques namely, percentage analysis, t-test, and ANOVA.

### Analysis of Data

After calculating mean and standard deviation the raw scores are converted into t-scores. The percentage analysis is used to study the level of emotional intelligence of prospective teachers.

**Table-1 Level of emotional intelligence of prospective teachers**

Low		Average		High	
N	%	N	%	N	%
140	15.6	678	75.3	82	9.1

It is inferred from the table 1, that 75.3% of the prospective teachers have average level of emotional intelligence. 15.6 % of the prospective teachers have low level of emotional intelligence and 9.1 % of prospective teachers have high level of emotional intelligence. From this table we can infer that majority of the prospective teachers have an average level of emotional intelligence.

The emotional intelligence of prospective teachers is compared in terms of locality of college, nature of college, community and birth order.

**Table-2 Difference between prospective teachers in emotional intelligence with regard to locality of college**

rural		urban		Calculated value of 't'	Remarks (5% level)
Mean	SD	Mean	SD		
137.97	10.05	135.60	13.79	2.95	S

It is clear from the table-2, that the calculated values are greater than the table value for df 898 at 0.05 level of significance. Hence the null hypothesis is rejected. It shows that there is significant difference between prospective teachers in emotional intelligence with regard to locality of college.

**Table-3 Difference among prospective teachers in emotional intelligence with regard to nature of college, community and birth order**

	Source of variation	Sum of squares	Mean scores of variance	F value	Significant at 5 % level
Nature of college	Between	1258	629	4.31	S
	Within	130978	146.02		
Community	Between	98.05	24.51	2.44	S
	Within	8983.08	10.04		
Birth order	Between	165.72	82.86	3.89	S
	Within	19097.81	21.29		

The above table-3 shows that the calculated values are greater than the table value for df 2,897 at 0.05 level of significance. Hence the null hypothesis is rejected. It shows that there is significant difference among prospective teachers in emotional intelligence with regard to nature of college.

It is also clear that the calculated values are greater than the table value for df 4,895 at 0.05 level of significance. Hence the null hypothesis is rejected. It shows that there is significant difference among prospective teachers in emotional intelligence with regard to community.

We can also infer that the calculated values are greater than the table value for df 3,896 at 0.05 level of significance. Hence, the null hypothesis is rejected. It shows that there is significant difference among prospective teachers in emotional intelligence with regard to Birth order.

## Results And Discussion

In the present study majority of the prospective teachers have an average level of emotional intelligence. The prospective teachers learning in colleges of education are mostly in the period of adulthood and in this age they have to face a lot of problems like marriage, future job opportunities, family and new responsibilities, and if these problems are properly solved then they can attain high emotional intelligence. There is also significant difference between prospective teachers in their emotional intelligence with respect to locality of college, community, nature of college and birth order. The present study is an eye opener for the policy makers and teacher educators to review the teacher education curriculum which in turn will help the prospective teachers to develop their emotional intelligence to their maximum expectation level.

## Educational Implications

India is making rapid progress in the field of education. Education is a complex process as it aims at the all round development of an individual. The teachers' role in moulding a student's personality is vital. It is in turn related to the ability to handle the situations which are apparently controlled with heightened emotional expressions. The colleges should concentrate on the personality development of the students. Teaching strategies should be developed by using different dimensions of emotional intelligence like empathy, mood management, self awareness, self motivation and managing relations. Group study methods should be encouraged. The institution may design programs to promote self confidence in the students. Teacher Educators must be given orientation and refresher courses to strengthen their potentials. Because only a diamond can cut another diamond, a burning light can lit another lamp, so also a learning teacher can transform the learners with required talents and potentialities.

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## USE OF MEDIA GADGETS BY TODAY'S TINY TOTS IN AN URBAN SETTING

Shanmuga Priya.S \* and Dr.Sakthi #

### Abstract

*In this century of technology and scientific advancements increasing recognition of the importance of social factors associated with various criteria are being considered. In the scenario of competitiveness in education, an area which is gaining prominence is the concept of pre-schooling. Socialization which is a natural process, is being handed over to other agencies. Kids start to learn from so many elements even before they enter the portals of school. Technological advancement has added more features to this concept. Kids just one and half years are skillfully handling all gadgets and the learning process has become digital.*

*The kids' online identity at times begins from womb itself where a profile is created for the unborn and likes pile up even before the baby is out. The role reversal between social media and parents increases curiosity from sociological perspective that has led to this snap short study.*

### Introduction

“Childhood is a joy forever.” Let early education be a sort of amusement, you will then be better able to find out the natural bent. – Plato, 340AD(n.d.Brainy Quotes.com)

All play and no work may make a Jack or Jill a dull child. But on the contrary too much strain or neglect in the early stages may stump their growth forever or lead to deviance.

The germination of a seed happens over a span of time with nurtured care and tender shower of sunlight and the elixir water. In case of a child the growing up is more sensitized and the various persons who play a role are the members of the family, kin group, relatives, peer group, neighborhood and various social segments of stratification and society at large.

For a child to turn out to be a great sapling and branch into a strong tree it requires care with loads of affection and a support system that could rely on.

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Families breaking down from joint structures to nuclear forms suffer from compatible performers to cater to roles such as socializing the child which were earlier given care by the older generation- grandparents.

The demanding economy with double earning members becoming a requisite leaves very little energy and time with the parents to express and entertain their kids. The gadgets at home – TV, Computer, Tab, iPad, mobile phones which seems to have the World Wide Web (internet) connectivity seems to take over as their Gurus.

This role reversal coming into being is the prior focus of study. The socializing of the kids is to prepare them for the future. The way that they are shaped would be the reflection of the future of the society. The human infant is born as a biological organism with mostly animal needs and impulses. It learns as it grows up due to the inborn capacity to learn and to communicate. Gradually, the infant also learns the group defined ways of acting and feeling. The process through which the infant learns to internalize the values and norms into its self or the mode of learning to live in society is called the process of socialization.

To internalize is to absorb something within the mind so deeply that it becomes part of person's behavior. Therefore, socialization is basically the learning of social values and roles by its members. Most human behavior is learned. Social scientists have referred to this capacity of the child to learn and to internalize as the plasticity of human nature. Family instils this training but now gadgets have also become members of the family.

Parents are usually the most potent socializing force working on the individual in the early stages of childhood. Both consciously and unconsciously they push the child in certain directions disposing them to learn in a particular way. It is viewed as a continuous and dynamic process that continues throughout life and demands re-socialization at different stages of one's life. Indeed raising children today is arguably challenging than ever before. It is therefore justifiable on their part to be well versed with the latest trends, gadgets and wares that one needs to be equipped to be a good parent.

### **Role Reversal: Family to Media**

Socialization and social control what parents do or did by instinct and with love, media seems to replace with attractiveness. The universality of learning however does not mean that all learning is socialization just as all education is not socialization. Certain learning may be relevant or irrelevant to that norm of participation in the given social roles among certain social groups. However, the process of acquisition may vary. Media merely instructs and influences development of character

and of mental powers. There cannot be a choice on what it reflects and what does not. Whereas socialization is the categories of thought, in the mind of individuals that develops, transmits knowledge from one generation to the next. It helps bringing social control by enabling the individual to know what to think and what not to think, what to do and what not to do.

Media may not be a place where formal education is imparted. It is where they meet, interact and combine learning with play. But it is definitely the first place where they have their first taste of independence. Media adds a lot of value addition to preliminary education. It does not try to instruct or set up a role model in terms of behavior for the child to follow. But it creates a reflection of the world to be understood.

Media actually does not meet up with the role of socializing agent or an educator. It creates a wide gap between the two extremes of real world and virtual world. The study hence is intended to highlight such differentiation and the need to bridge up this gap as the saying goes, what they see – they imitate, what they imitate – they practice, what they practice – they follow, what they follow – they pass on.

எந்த குழந்தையும், நல்ல குழந்தைதான் மண்ணில் பிறக்கையிலே

அவன் நல்லவன் ஆவதும் தீயவன் ஆவதும் சமூக சுழலிலே.

(rephrased popular tamil film song by poet Kannadasan for the movie Nidhiku thalai vanangu)

It is the moulding that makes the difference. Parents should realize that they are the rays of positive energy that they spread and how complete they make the life of the child by being a silent pillar of burdens and exists as shadows behind their great achievements. When realization draws upon then deviance will perish.

Only awareness will initiate action. The social responsibility of Media is to keep in mind the sensitive and emotional issue of raising a child rather than being an outsourced act. This could kindle an improvement in the quality of socialization of the pillars of tomorrow's society. It becomes a collaborative role to decide and ensure a qualitative and supportive upbringing. Hence, this study gains prominence and becomes vital for bringing betterment.

### **Objectives of the study**

The recent prominence being given to the concept of Media schooling has made it an area of impending interests. Hence, the following are set as objectives of the study.

- to find out the outcomes of role reversal between family and media
- to know which strata of society prefers media exposure
- to determine the content of media in today's trend
- to examine how kids react and respond to media

### **Limitations of the study**

The study includes respondents who have access to any type of media gadgets and is not a comparison study. The study pertains to North Chennai area – Royapuram urban scenario and cannot be generalized to other remote areas.

### **Review of Literature**

Not many studies in the area of Socialization with reference to family or any other dimension or agency have been undertaken in Indian scenario. Therefore, the scholar depends on own observations to illustrate the relationship between family and socialization. The few studies that are related to Media and children are:

Study by a Leading Education Chain Kangaroo Kids Education Ltd, 2010: There is a need to provide a brain based learning environment and scientific, research driven curriculum. Child Development Research Studies of the Ltd. say that more than 50 percent of a person's ability to learn is developed in the formative first four years of life. The curriculum should be the results of years of research on how the brain best learns. The aim is to maximize children's ability to learn and gain a head start in life. The daily activities encourage the development of tracking skills, which also form the basis of pre reading and speaking skills. This is based on the prediction that with man having outgrown the agricultural and industrial ages and now moving into the age of information, having content in one's memory is going to be far less useful than surfing the Internet for content. One who tracks faster is going to be able to skim text and process the information at greater speeds and will enjoy a definite edge.

Each child's brain and learning experience is unique. Children develop preferred ways for learning and their learning changes the physical structure of their brains. Media caters to the different learning styles and multiple intelligences, enabling them to pursue their special talents and demonstrate areas of strength. The emphasis is on teaching each child in a manner in which s/he learns best. The approach involves plenty of physical activity and opportunities to explore nature and social interaction along with traditional academics. A child experiences through all the senses. This leads to the formation of brain connections or circuits that become permanent when enriching experiences are provided repeatedly.

Study published in Dispatches by Kids don't Count Programme: Research conducted in America has proven that infant education really does make a difference to child's ability later in life. Encouraging them by reading them stories and showing them pictures in infant books, playing with educational toys, using flash cards, educational toddlers DVDs and familiarizing them with simple things like the alphabet, shapes and colours allows a toddlers brain to develop in much the same way that a body builder would develop their muscles with regular workouts. The more they exercise their brains, the easier they find it to learn and understand. The lack of early education left older children confronted with a harder task. The solution is to introduce the right educational games and infant books early enough to capture and harness their natural interest.

Study conducted for the Brainy Baby ® company <http://www.brainy-baby.co.uk> an online' Early Learning Centre specializing in educational toys: The recently commissioned study through the University of Texas, (2011) showed that a group of toddlers using their educational DVD and youtube videos were 22 times more successful in learning and recognizing a new and unfamiliar shape than a group of toddlers who haven't seen such videos. They've proven that the earliest children are encouraged to educate themselves by using media tools, the better and easier they will like and learn.

Study by Disney©, 2001 in UK: The study on the Disney Baby Einstein educational media tools has brought out the argument against media tools as a virtual baby sitter. It is not an appropriate, or effective method of learning. Parents want to be part of their children's learning experience and want to help kids by sharing time playing with educational toys together.

### **Conceptual background**

A **gadget** is a small tool such as a machine that has a particular function, but is often thought of as a novelty. Gadgets are sometimes referred to as *gizmos*. By the second half of the twentieth century, the term "gadget" had taken on the connotations of compactness and mobility. ([www.businessdictionary.com](http://www.businessdictionary.com))

**Media** (singular **medium**) are the transmission channels or tools used to store and deliver information or data. It is often referred to as synonymous with mass media or news media, but may refer to any means of information communication. ([dictionary.reference.com](http://dictionary.reference.com))

The benefits of media are that it helps children to fight separation anxiety. In nuclear families where the child is totally dependent on parents, it helps in a way. The absence of parent is forgotten with the gadgets showered unto them. Media prepares a child to become confident and independent

and allows them to become part of the fast advancing hi-tech world that they will soon be brushing shoulders with.

Child Counsellors are highly discussing in their forum, “How early is too early for this media access? Perhaps when they’re still in diapers. If you’re going to give a 1-year-old an iPad to play with, you talk at that developmental level, about playing with a computer vs. playing with a toy.” This discussion can continue at every developmental phase. It can make the child a fast learner, but it is also associated with a host of psychological disorders. (<http://www.tootstowings.in/parents-corner/parenting.asp>)

Some of the disorders could be - Narcissism - Media provides the opportunity to say what you want with no one seeing you and learn or imitate things unknown, Anxiety and Depression, Greater Distractibility - Media can be a distraction during regular pattern of lifestyle. It creates technological breaks that last forever. Children seem to be eating, playing and whiling away time and even sleeping just by holding onto or hooked to these gadgets. Virtual Empathy - Children tend to start reacting with the media. They start to practice virtual empathy with the animated versions and characters that they see and operate with. Task Switching - In a given opportunity to do multiple tasks within the same timeframe, younger people often opt to do more, something that can be called “task switching” (as opposed to multitasking). They’ve grown up with technology and are used to doing several things at once. They’re also more likely to do more difficult kinds of task switching, such as reading and playing video games. It can at times lead to problems and not have enough concentration on what they are supposed to be actually doing. E.g. eating and watching videos. Socializing- Rarely does Media provide an opportunity to shy kids to transform. It has qualities to make them more introvert or move into a shell of their own.

And of course, on the flip side there could be problems with cyber-bullying or media misuse, which is why it requires parental involvement during media use.

Media reared children are common in the west. The societal set up of the Western countries has been formulated in such a way that “individualism” is a norm and way of life. Moreover, in the West it is more of the self-concept rather than a family set up. So the care extension is sourced out. Whereas in India, a culturally rich country, traditions and customs are upheld as a joint possession by a strong family setup, this trend is considered as upsetting the structure of bringing up the children as they seem to create a gap in bonding between two generations.

As the child grows, the generation gap further widens thus may also lead to a dictum the more earlier kids move towards media the more they move away from familial bonding and bridging.

## **Materials and Methods**

The present study is descriptive in nature. Primary data from Royapuram area in Chennai Metropolitan City is the source for the study. The sampling frame consists of 136 families, which have toddlers at their home who are making use of media gadgets. These families were identified with the help of the play schools in this area. Out of these 136 families, the researchers have collected data from 100 sample parents who have come forward to provide information needed for the study. The respondents are any one of the parents of the kids. The data has been collected administering the interview schedule by visiting the concerned houses and through observation method. In spite of this the limitation is that the respondents (any one of the parents) might have answered what they think they should feel rather than how they really feel about it.

## **Results and Discussions**

### ***Background Characteristics of the Parents***

Details about the major background characteristics of the parents of the kids are provided in Table 1. From panel 1, it is evident that a majority of the fathers are graduates (57%) and studied up to higher secondary school level (21%). In the case of the mothers of the toddlers (panel 2), more or less similar pattern exist (50% are graduates and 20% completed higher secondary school level education) and interestingly, 17 percent mothers as against 7 percent of fathers only have post graduate level education. In the present context, all these figures show that educational advancement makes them more aware about many upcoming fields and changing trends in society including increased media gadgets to rear kids.

In the study area (Royapuram, northern part of Chennai city), though people are engaged in different occupations, a large majority of the fathers have occupied themselves in self-employment/business and a substantial [portion of them are working in private firms/institutions (as blue collar workers, clerks, supervisors, etc.), whereas two only are working in government sector/establishment (panel 3). From this finding, one can interpret that fathers are having free flow of monetary resources through self-employment / business and thereby, appears to be willing mostly to invest to the extent of whatever needed for purchasing (providing) innovative media gadgets for their kids.

**Table 1****Percentage Distribution of the Parents by their Background Characteristics**

<b>Background Characteristics of Parents</b>	<b>Percentage</b>
<b>1.Educational Status of Father</b>	
Illiterate	5
Schooling	10
Higher Secondary	21
Graduate	57
Post Graduate	7
<b>2.Educational Status of Mother</b>	
Illiterate	10
Schooling	3
Higher Secondary	20
Graduate	50
Post Graduate	17
<b>3.Occupational Status of Father</b>	
Private firm \ Institution	31
Government sector \ Agency	02
Self-employment \ Business	67
<b>4.Occupational Status of Mother</b>	
Full time employed	27
Part time employed	01
Work from home	12
Home makers	60
<b>5.Family Type</b>	
Nuclear Family	59
Extended Nuclear Family	38
Joint family	03
<b>Total</b>	<b>100</b>

Mothers are supposed to be more attached to their kids and kids tend to learn more from their mothers in terms of socialization elements. Kids are more comfortable with their mothers and they require their encouragement and support to explore into new ventures. The role of maternal employment in the socialization of children is much debated and mixed. By and large, mothers mostly over protect their children, worrying excessively and discourage the children's independence or at times physically may not be able to look after their kids. In the present study (panel 4), as high as 60 percent of the mothers are homemakers, a sizeable percentage of them are full-time employed and some of them work from home. Thus, this finding indicates that mothers who are homemakers mostly prefer to provide media gadgets rather than just being baby sitters

Providing media gadgets to kids for play time mostly depends on the economic condition of the family. In the study area, a greater majority of the parents (81%) average monthly income fall in the slab of Rs.20,000 – Rs.40,000. This shows the economic prosperity of the family increases the chances for the kids to have access to media gadgets. (Table not given)

Every family is a system – a complex whole made up of interrelated and interacting parts. The basic components of social relationships are learnt from the family. Parent child relationship plays a basic way of constructing such social relationship. The traditional set up of a joint family would have had many members and hence division of labour used to be practiced. There would be many hands at leisure to socialize the kids and mould their growth. However, the cosmopolitan life style has transformed families to trim their sizes and thus, stay nuclear, which are mostly in anonymity (in isolation away from/ not known even to neighbours). Obviously, in the study area (panel 5), majority of the families are nuclear in nature (comprising parents and offspring alone) type followed by extended nuclear families (comprising parents, offspring along with any one or both grandparents) and hardly 3 (out of 100) only found to be joint family type (comprising parents, offspring, grandparents, aunts, uncles, their children under one common roof). Generally, in nuclear families, the children are chiefly restricted to parents only instead of nurturing/ socializing in the midst of a large number of close relatives in joint families. This would be further restricted by the occupation of the mothers. Further, in reality the parents are forced to entrust the caretakers' role to media and modern gadgets.

### **Use of Media Gadgets by Kids and Related Aspects**

Every childhood is distinct and denotes the first chapter of a new biography. Media and gadgets create different vibes in these pages. In order to understand such new insights, information about the media gadgets used by the kids and related issues is provided in Table2. On the whole, one can expect and the data provided in panel 1 too support the fact that kids are in touch with one or the

other form of media gadgets in their day-to-day life. Further details show that all the sample kids have access to television/radio and mobile phone, and large percentages of them are accessed audio/visual aids, computer/ internet/ tab/ Ipad and books/ paper/magazines. All these figures indicate that kids are predominantly engaged with media and gadgets and thereby, media keeps them occupied without disturbing the caretakers.

The formative years of the child is like raw clay and it can be moulded into any shape that the potter (parents, society) wishes to. It is the clear state of mind of the kid at the tender ages that is ready like an empty cup to receive all that it can. The parent can inculcate the best of qualities in the child and transform the baby into a better citizen. Unfortunately today's child is mostly supposed to be under the care of Media and gadgets for a prolonged period which even becomes foster parents at very early ages. It leaves us astonished to observe how the Socialization process is getting transformed.

The study clearly highlighted the fact that children have been introduced to gadgets at early ages even one year old. Data provided in panel 2 of Table 2 indicates that the majority 89% of the kids have had access to media gadgets between one to two years which shows the plain fact that caretakers or parents take relief from the duty of taking care as they are engaged in other priorities. This cannot be judged right or wrong but can be insisted that due attention is paid to the age criterion of the kid and activities using the gadgets are framed accordingly.

Parents want their children to grow into healthy, happy, socially matured individuals, but they are not sure how to help their children reach this goal. Good parenting takes time. It means committing oneself to provide children with a warm supportive, safe and stimulating environment that will make them feel secure and allow them to reach their full potential. But contemporary families face many pressures that add to the difficulties of devoting time and effort to parenting. With more children being raised by two working parents, the time parents have to spend with their children is being squeezed and the quality of childcare is of concern to many. There are an increasing number of latch key children – those at home alone after school or otherwise at care of maids. Hence the study focused on bringing out the factors behind providing access to Media gadgets and the expectations with which the parents opt for them rather than the other form of agencies available.

Information provided in panel 3 indicates that the choice of media gadgets is not the first choice as only 23 percent of the parents have opted to it on their own interest whereas a large majority of them (60%) have stated that they have been forced to allow usage of media gadgets as an alternative way of babysitting. Some of them introduced such gadgets to their children based on the advice/ experience of their friends/neighbours.

**Table 2****Percentage Distribution of the Respondents about the Use of Media Gadgets by kids and related Aspects (N=100)**

<b>Use of Media Gadgets by kids and related Aspects</b>	<b>Percentage</b>
<b>1.Access to Media Gadgets</b>	
Television/Radio	100
Mobile phone	100
Audio/Videos aids	81
Internet via Computer, Tab, iPad	72
Books/Paper/Magazine	64
<b>2.Age at Access to Media Gadgets</b>	
Below 1year	02
1 to 2 years	89
2 to 3 years	08
Above 3	01
<b>3.Idea to Introduce Media Gadgets</b>	
Forced Situation	60
Self-Desire	23
Friends and Relatives	12
Learnt on own	05
<b>4.Attachment and Influence of Media Gadgets</b>	
Yes	78
No	22
<b>5.Reaction to usage of Media Gadgets</b>	
Eager and excited	73
A new passive habit	27
<b>6.Parents' Rating to the Features of Media Gadgets</b>	
Educational Content	35
Communication and Skill Development	25
Disciplining tool	13
Entertainment	11
Socializing Process	02

Media gadgets influence is a kind of reactionary phase. The impact on the kid's clear mindset is based on the level of contact and the degree of intimacy. For today's kids gadgets are their sixth finger in which they spend most of the time so automatically it turns out to be a teacher, influencer and get attached to it and they try to emulate them in many ways. When the parents were asked whether their kids have any attachment and influence to the media gadgets (panel 4), a greater percentage of them felt affirmative (78%) and the rest 22 percent stated that they have not felt that their children have developed such an attachment and influence. The types of attachments and influences include changes in thoughts, feelings and behaviors regarding standards of right and wrong. It has an interpersonal dimension, which regulates social interactions and arbitrates conflict.

The parents were further enquired about the reaction of their kids to the usage of media gadgets (panel 5). As high as 73 percent of the parents mentioned that their kids use to be eager to play/ have a glance and become excited with the use of media gadgets, whereas the rest 27 percent felt that their children use such gadgets as a new passive habit. In fact, some parents complained that at times it becomes difficult to separate the gadget and the child.

Parents of the present study were also asked the reasons behind giving preference to media gadgets. Nearly half of them (47%) felt that they mainly serve as substitutes for caretaking, whereas about one-fifth of them reported that they are useful as better time occupant and proving good exposure. Interestingly, one-tenth of them felt that they provide enriched experience and thereby, improve the chances for school admission. (Table not given)

Information about the features of media gadgets as rated by the parents is provided in panel 6 of Table 2. Majority of the parents rated that media gadgets have educational content (35%) closely followed by features like communication and skill development (25%). On the other hand, some of them felt that the media gadgets would be very useful in disciplining the kids, whereas some more opined that these gadgets have the entertainment attribute and thereby, they help to while away time by kids. According to them as kids who used to be very active (always moving about and running here and there) and restless, these gadgets makes them to sit glued at one place and confines them to be inside the house. Hardly 2 percent of the parents informed that the media gadgets serve for socialization process, which is the much needed requirement for kids at that age.

### **Pro-social Behaviour of Kids Using Media Gadgets**

In the present study, it is explored to find out whether the kids are likely to develop any sort of pro-social behavior, which includes some of the basic and most elementary forms of socialization outcomes, while using the media gadgets under consideration (Table 3). It is conspicuous to note that as high as

70 percent of the parents reported that their kids always show tantrums (stubborn and demanding things their way by unruly manner), whereas a greater number of kids sometimes hurt others. It is also clear that a large percentage of the parents stated that their kids (who are using media gadgets) have imbibed the norm of greeting others (68%) closely followed by responding to the commands given by them (63%), but sometimes only. While about half of the kids stated to be developed the behavior of mingling with any social group sometimes, about the same percentage of them exhibit the habit of forcefully taking away things like chocolates or toys that they use to play from others. It is fascinating to note that a greater percentage of parents noted that while using media gadgets their kids never do things at their (parents') free will and thereby, do not seek permission, closely followed by do not easily budge to say sorry for wrong doings and have developed the habit of not showing sharing tendency. All these figures show that a majority of the kids who are accessed to media gadgets seem to be developing pro-social behavior to a lesser extent only. Instead majority of them are becoming little adamant, hurting others, taking away things from others, etc. The behavior of the kids could have been streamlined in a much better manner provided they are under constant supervision. Media sometimes tend to give unwanted and negative lessons that are imbibed promptly for example bad words, swearing, violence, etc. Creative freedom has been violated more on an abusing way. Revenge is shown as the way of life.

**Table 3**

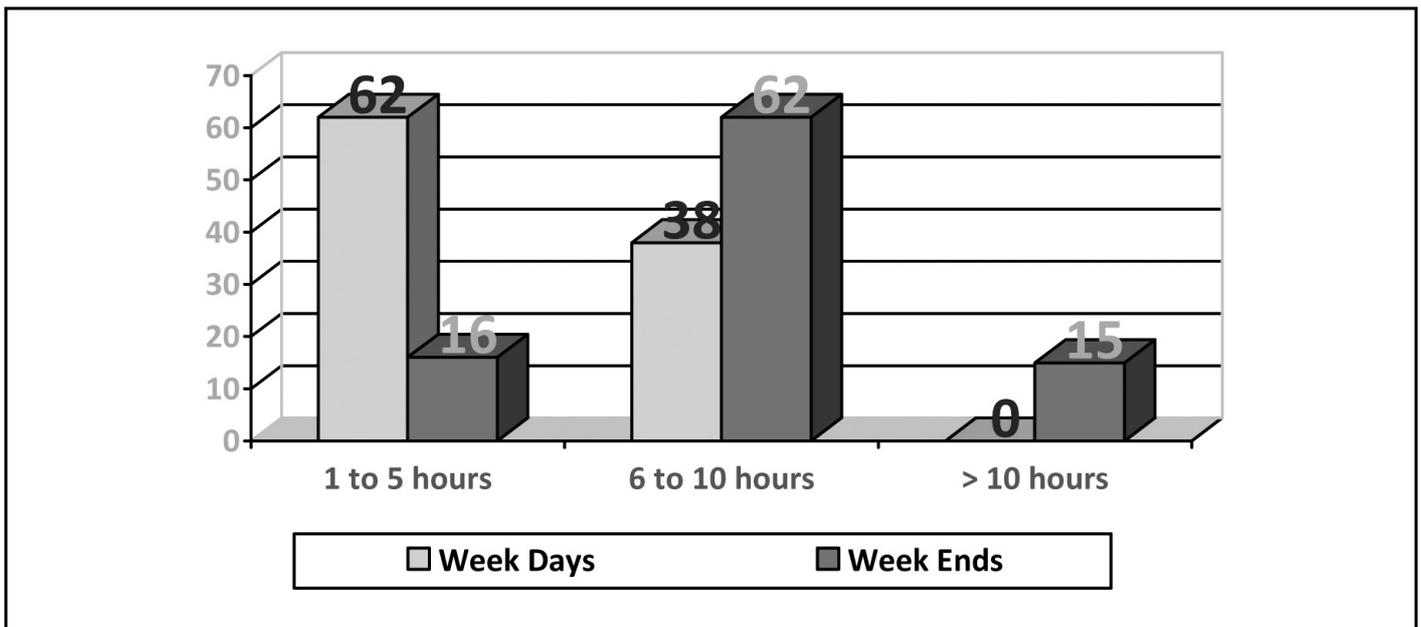
**Percentage Distribution of the Respondents by their views on  
Frequency of Different Pro-Social Behaviour of Kids (N=100)**

Different Pro-Social Behaviour of Kids	Frequency of Pro-Social Behaviour of Kids		
	Always	Sometimes	Never
<b>Greet</b>	20	68	12
<b>Mingle</b>	12	54	34
<b>Respond</b>	25	63	12
<b>Tantrum</b>	70	22	08
<b>Share</b>	17	22	61
<b>Accept / Sorry</b>	13	14	73
<b>Hurt Others</b>	15	78	07
<b>Take Away Things</b>	43	47	10
<b>Ask Permission</b>	08	16	76

Note - The percentages have been computed for each row

**Diagram No 1**

**Distribution based on Quality time Parents spend with kids**



**Quality of Time Spent by Parents with Children**

The kids are in the process of trying one face after another looking for a face of their own. This seeking out for new faces can be motivated by parents. Hence, the study tried to find out the Quality Productive time Parents are able to spend with their kids.

The Diagram No 1 shows that 62% parents spend about 1 to 5 hours in engaging in some kind of activity with their kids like helping each other, making any interesting conversations, telling and listening to stories or working at each other's hobbies. And during weekends, it is somewhere around 6 to 10 hours. It is a sad state of happening that even at very early stages of 1 or 2 years the kids are getting only so little effective time from their parents. It leaves us to wonder whether these kids will have any nostalgic memories when they grow old or happen to share with their own kids. It is actually the responsibility of the parents to rear their offspring but the demands of complicated lifestyles make them have restriction on the quality time (the time that is well spent on interaction and utilized for expressing bonding inter relationship) that either of the parents get to spend with their kids.

It is not technology that is required at this age but more of values, attitudes and beliefs, learning process which is the essential aspect. Competent early childhood should focus on socio-emotional development and not exclusively on cognitive development. It should involve building trusting relationships. The current scenario of technological revolution is dragging the kids into boots that are

oversized for them. Tiny fingers that need to build towers and sand castles are restlessly shooting down angry birds, chopping fruits and crushing candies.

The real requirement of the children at this stage is just to be able to understand about their self and be themselves. The norms and means of adapting themselves to the society is what are to be shown to them rather than teaching them portions from the bulkiest of books or fancy gadgets. This technology can be introduced, observed and learnt at any age or even later; whereas the molding of the kid is to happen at the tender stage when one's personality is being built. If this foundation is not laid out strongly then the character and the personality of the child can turn out to be not in confinement with societal norms.

### **Suggestions, Implications and Conclusions**

ஓடி விளையாடு பாப்பா ! - நீ

ஓய்ந்திருக்கலாகாது பாப்பா!

கூடி விளையாடு பாப்பா!- ஒரு

குழந்தையை வையாதே பாப்பா!

சின்னஞ் சிறு குருவி போலே - நீ

திறிந்து பறந்து வா பாப்பா

வண்ண பறவைகளை கண்டு - நீ

மனதில் மகிழ்ச்சி கொள்ளு பாப்பா

-மகாகவி பாரதியார் (Paapaa paatu, Bharathiyar kavithaikal, third ed, 1978, pg 202 verses 1 and 2)

Child development is about the rhythm and meaning of children's lives, about turning mystery into understanding and about weaving together a portrait of who each of us was, is and will be. A baby is the most complicated object made by unskilled labour. Though popularity may lure into the use of today's trends caution is required to not let that, cloud the feelings for what is best for an individual child. The trend of mushrooming technological domination is of very recent just spread over a span of few years but the impact multiplies as there are multitude of tools and it is omnipresent in every home.

One of the major findings showed that higher frequency of introducing kids to access Media gadgets by the highly educated parents who have high patronage of such gadgets and hence is easily adapted by their kids. Women being employed or even otherwise engaged at household chores are

also proved to be reason that these gadgets compliment part of growing up as an alternative for the time lost in interaction. There is also a definite positive co-relation between the economic background of the parents as the more the disposable monetary resources that parents had has allowed to them invest in such gadgets for their kids.

The need of the hour is reintroducing the concept of family time through which parents get to spend more time with the kids. A lot of together time is essential. This would bridge the gap that Media Gadgets have created and bring in the required bonding. Opening up and listening to the kids is a mutually benefitting task. Parental warmth, care and acceptance are pivotal ingredients in effective parenting. This can never be replaced by even the best of highly advanced technology sophisticated Media Gadgets. Allowing the child to explore childhood fun and develop a sense of self direction and simultaneously boost their self-esteem is the type quality care during early years which is vital component of each child's life.

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## **WOMEN & CHILD WELFARE MEASURES IN TAMILNADU AFTER INDEPENDENCE..**

**Tmt. B.Meharunnisha**

**“Development if not engendered  
Is indeed endangered”  
-UNFPA India Report 1987.**

Tamil Nadu Govt., has consistently claimed the superiority of its schemes for women’s welfare, Vis-à-vis other states. While schemes are aplenty, the ground reality of women in Tamil Nadu, among clearly identifiable sections, remains a grave area of concern. The fact that, with all its numberless schemes. Tamil Nadu stands number one in the country in terms of women in prisons, is a grim reminder that a rights- based approach and women’s perspectives are clearly missing in the State Governments’ approach to women’s welfare in Tamil Nadu. As per the 1991 Census there were 275, 59,791 women in Tamil Nadu, constituting 49.34% of the total population.

***From the fifth five plan (1974-88) onwards there has been  
Marked shift in the approach to women’s issues from welfare to  
development. In recent years, the employment of women has  
Been recognized as the central issue in determining the status of women”***

***- Ninth five year plan report of the Working group on women’s development***

### **Introduction**

The measures introduced by the Government of Tamil Nadu motivated women of transcending the barriers laid by the social system in their struggle for new identities. However, the tremendous developmental efforts undertaken by the Government have benefited only a small section of women mainly of the urban middle class and still women are facing hardships in many fields. It is quite sure that it is difficult to abolish social melodies of women without the proper implementation of welfare measures. The welfare measures are considered and instruments to overcome the social and economic barriers. The Government of Tamil Nadu has implemented a number of welfare measure to get rid of

the sufferings of women on the one hand and empowering them on the other. To measure the changes in the position of women in Tamil Nadu a critical analysis is necessary on the women's welfare programmes implemented by the Government of Tamil Nadu.

This study attempts to enumerate the welfare measures by the Government of Tamil Nadu, aimed at the empowerment of women.

### **Statement of the problem**

The Economic status of women is considered as an indicator of a society's development. The real indicators to measure the status of women are the level of economic independence and equality in a society. The status of women in contemporary Indian society is better than that of previous period. Many legal disabilities of women were removed by series of Act after independence. Equal rights in society have been guaranteed to women by the Indian Constitution.

In India in general and in Tamil Nadu in Particular, many welfare schemes have been implemented for the betterment and empowerment of women. Because of the implementation of the welfare measure and schemes, women have reached important positions in making decision. In spite of a number of measures taken by Central and State Governments, The status of women, still, is found deplorable. Hence an attempt has been made to study the affective implementation of women welfare measures in Tamil Nadu.

### **Scope of the study**

The present study makes a socio-economic approach to the problem of women welfare measure Implemented by the Tamil Nadu Government, mainly on the causes and consequences of women welfare measures during the period after independence. The study is made in social and legal proception relating to the upliftment of the womenfolk in Tamil Nadu.

### **Methodology of the study**

This is a ex-post facto evaluation study in historical perspective using descriptive and analytical techniques. Where are possible attempt has been made to quantity data and present data in the form statistical tables. Simple statistical tools have been used to analysis data to arrive to logical conclusions.

### **Sources**

The study has predominantly used Primary Sources. This study depends more on primary Sources like the Indian Constitution, Central Government orders, Lok Sabha Debates, Legislative Assembly Debates, Tamilnadu State Governments Orders, Policy Notes and Proceedings on Education

and Records.

Further the Secondary Sources related to women issues such as published works, journals, research papers, articles, souvenirs, newspapers, magazines, encyclopedias etc., have also been used.

The British Government passed some acts for the welfare of the women. Some of them were **Indian Divorce Act 1869**, **Married women's property Act 1874**, **Hindu Women's Right to property Act 1937** etc., are some remarkable advantage of the British Government. The traditional programmes of women's welfare undertaken by the Tamilnadu Government have been mostly at the level of social assistance. Such for widow's pensions, marriage grants etc., In the early 1960's Mahalir Mandrams had been initiated with the view to propagate various Govt. schemes.

The setting up of the **Tamilnadu Corporation for Development of Women (TCDW)** has led covert in qualitative change in the type of schemes. The major programmes taken up by the State Govt. Under TCDW, are 1) Mahalir Thittam (MATHI) 2) Vocational training programme (VTP ) 3) Entrepreneurship Development programme (EDP) and 4) women recreation centers (WRC).

### **Women and Other Welfare Legislation**

The Indian constitution guarantees equal rights to both sexes and does not discriminate on the basis of caste, color and creed. The concept of social security is essentially related to high ideas of Human Dignity and social justice. The Act passed by the Government for the benefit and empowerment of women, her social security and welfare numerous, but a few required here:

#### **Personal Law**

Hindu Laws were codified after independence, which brought out radical reforms to improve condition of women. Though Hindu women occupy a high position during Vedic times, later on she was subject to much social discrimination. Hindu women become subservient. She was never considered an equal partner in life. To uplift the position of women many Act were passed some of them are:

- (i) **Hindu Marriage Act, 1955:** Under Hindu Marriage Act, 1955 provisions have been made to prohibit Bigamy and by the Act Divorce can be given by the wife, subject to fulfillment of certain conditions.
- (ii) **Hindu Marriage Act, 1956:** By the Act women have been given right of enjoyment of property rights and other entitlements to the women. The 1956 Act gave absolute share to the widow as well as daughters in the self acquired property of the husband and father respectively.

- (iii) **The Law of Adoption and Maintenance Act, 1956:** The Act provided for maintenance of wife, widow minor children and poor parents. It pays special attention towards women. Hindu women got the right to adopt a child. A women who is unmarried, I widow or her husband renounced the world may adopt a child.
- (iv) **Dowry Prohibition Act 1961 and Amendment Act, 1986:** Among all the social evils, down system is the most serious evil, to prohibit this evil, parliament enacted the dowry prohibition Act, 1961, which was amended in 1986 for making its provision more stringent and effective. By this Act a new offence of “Dowry death” was included in I.P.C. and necessary amendment has been made in Cr. P.C. and Indian evidence Act.

The offence relating to dowry are now cognizable, Non – bail able and not compoundable. The burden of proof of innocence rests on the accused.

- (v) **Prevention of Atrocities Act, 1989:** This Act makes provision for safeguarding the women of weaker section, belongs to SC & ST classes. By this Act assault or using force to women is punishable for not less than 6 months and up to a maximum of five years with fine.
- (vi) **National Commission for Women Act 1990:** To facilitate redressal for grievances and for the setting up of an agency, the National Commission for women Act, 1990 was enacted. The main function of the commission is to look into the matters of constitutional and legal safeguard provided for women and to review the existing laws and suggest amendments, if necessary. The commission also have executive cum judicial function to look into the complaints and take motto notice of cases relating to women’s Rights.

### Child Welfare Schemes

**The integrated Child Development Scheme (ICDS)** is a Centrally Sponsored Scheme of Government of India for early childhood care and development. The prime objective of the programmed is to lay foundation for proper psychological, physical and social development of the child, improve health and nutritional status of children below six years of age, reduce infant mortality, morbidity, malnutrition and school dropouts, achieve effective policy implementation to promote child development and enhance capability of the mother to look after health and nutrition, education and other needs of her child. The international agencies like **UNICEF, USAID, DFID and CARE** India serve as development partners to provide technical and other supports to ICDS for its effective operation. There has been significant improvement in the implementation of ICDS Scheme in 10th and 11th Plans in terms of increasing numbers of projects, Anganwadi Centers and coverage of beneficiaries,

Infrastructure development and training programmes for field staffs like Anganwadi Workers

and helpers, Supervisors and CDPOs which are organized through district, state and regional centers. The selected indicators are devised under standardized Management Information System (MIS) and Central Monitoring Unit (CMU) which is established in NIPCCD in 2008 for strengthening the monitoring system. Many states have introduced state specific initiatives and good practices for effective implementation of ICDS scheme.

The strengthening and restructuring of ICDS system has been made in the 11th Plan to improve the system through multi sectoral approaches to address the maternal and child issues. The National Policy on Early Childhood Care and Education (ECCE) is under formative stage which provides operational guidelines for strategic Implementation. **The Kishori Shakti Yojana** is an adolescent girl's scheme implemented through Anganwadi Centres under ICDS Projects. The objective of the scheme is to increase self-confidence, boost morale and give dignity to the adolescent girls. The scheme includes two schemes such as Girl to Girl Approach and **Balika Mandal Scheme**.

### **Women & Child Welfare**

**The department of Women & Child Development** has been set up to assist the women in improving their socio-economic status by associating them with different developmental activities, particular rural women. The primary aim of this department is to provide necessary infrastructure for comprehensive development of women's potential and thus help them to play a significant role in the development process as participants and beneficiaries. The policy for women aims at making them economically independent and self reliant. Focus is on the following areas, as per the policy.

1. Steps to eliminate violence against women;
2. Ensuring equality in view of legal rights
3. Improving the economic status of women;
4. Appropriate use of media;
5. Increased participation of women in local self-Government
6. Enhancing community participation in Government activities (involvement of Non-Governmental Organisations)

**Table 1: Allocations by State for Implementation of PWDVA (in Rupees)**

State	2008-09		2010-11		
Tamil Nadu	Budget Estimate	Expenditure	Budget Estimate	Expenditure	Budget Estimate
2235-02-001- Non Plan- SW 762235- 02-001-1	97,54,653	97,54,653	84,90,000	25,96,000	78,12,000
Non Plan- 33-042235- 02-001-1 Non Plan-72					

The table presents the following information: –

- List of States that have allocated a separate budget for the implementation of PWDVA;
- List of States that do not have a separate budget;
- Extent of Allocations; and
- Expenditures incurred

The National Policy for Children, 1974 was adopted on 22<sup>nd</sup> August 1974 in order to address the emerging challenges relating to child rights. An advisory and Drafting Committee had been formed for the purpose. The regional consultations regarding drafting of working paper on Policy of Children had been held across the country with concerned Ministries and Departments from States and Union Territories, civil society organizations, government and non government organizations, **outlay for the Ninth Five Year Plan 1997-2002, Actual Expenditure for Annual Plan 1997-2001, outlay and anticipated expenditure for Annual Plan 2001-2002, outlay for Tenth Five Year Plan 2002-2007 and Annual Plan 2002-2003** are as shown below :- (Rs.in lakhs).

S.No	Programme 1997-2002 outlay	Ninth five year plan 1997-2001 Actual exp	Annual plan outlay	Annual plan 2001-02		Annual plan 2002-07 outlay	Tenth five year plan
				Actual Expendit ure	2002-03 outlay		
<b>Women &amp; Child Welfare</b>							
1.	<b>Direction and Administration</b>	349.60	60.70	45.14	30.00	29.56	205.24
2.	<b>Women Welfare</b>	738.10	924.61	516.27	484.74	526.78	2897.31
3.	<b>Child Welfare</b>	402.00	354.13	364.80	129.59	344.97	1897.27
4.	<b>Mahila Balkalyan Samittee</b>	2500.00	1575.98	498.70	498.70	577.11	2500.00
	<b>Total</b>	<b>3990.00</b>	<b>2915.42</b>	<b>1424.91</b>	<b>1141.03</b>	<b>1478.41</b>	<b>7500.00</b>

### **Some of the Programmes implemented for Development of Women**

**The Mahila Arthik Vikas Mahamandal (MAVIM)** has been set up in the year 1975 with an authorized share capital of Rs. 4.00 corers and total paid up share capital by the end of 31st March, 2001 is Rs.204.43 lakhs and its capital base adequately raised to enable it to discharge its responsibility effectively as per the policy for women. An outlay of Rs.137.50 lakhs is provided for Tenth Five Year Plan 2002-2007, out of which Rs. 25.00 lakhs is for Annual Plan 2002-2003 for providing share capital to MAVIM. The economic programmes are by and large administered by MAVIM. The policy for women envisages a greater role for MAVIM. Programmes for increased Participation of Women in Local Self-Government The 73rd Amendment to the Indian Constitution is a major step in the empowerment of women. The State has already set up Statutory Committees at the Zilla Parishad Level for women and children. These Committees have also been given funds to be used exclusively for the development of women and children in each district. The needed support would be provided to equip and train women to take on their role as decision makers in Local Self- Government.

### **Maher Yojana**

Under this Yojana, destitute women who come to the Government institutions are given shelter by Government. For one year they are paid an amount of Rs. 250.00 per month in cash. If a woman comes with her children, an amount of Rs.150.00 per month and Rs. 100.00 per month is

given for two children respectively. The shelter will give her boarding and lodging, and training in some vocation for a period of one year. It is expected that in future this scheme will be extended to shelter homes run by NGOs. The Government has also increased maintenance grants for both aided and non-aided institutions for women and children from Rs. 250.00 per person to Rs. 500.00 per person per month.

### **Annapoorna Yojana**

To encourage women to get involved in economic activities, the Government has also launched the Annapoorna Yojana where mahila mandals who are involved in preparing nutritious food for anganwadis are paid for their work at 15 ps. per beneficiary per day. This will encourage women to group together for this work in a field where very little formal training is required.

### **Kamdhenu Yojana**

Under this scheme, Rs. 20 is provided as marginal subsidy to those voluntary organizations for providing work to one needy woman. The purpose of this scheme is to provide work at home to needy women and help them earn some money so as to enable them to become economically independent. Registered Mahila Organizations will provide school uniforms, bed sheets, pillow covers, clothes for patients, phinol, duster, brooms, soap as well as pickles, papad and seasoning ingredients for cooking food required in schools, hospitals and Institutes etc. run by Government, Semi Government and Local Bodies. An outlay of Rs.98.78 lakhs is provided for Tenth Five Year Plan 2002-2007, out of which Rs.17.96 lakhs is for Annual Plan 2002-2003.

### **(1) Scheme for Abolition of Dowry System**

32 District Vigilance Committees are to be set up in the Ninth Five Year Plan to arrest the cases of dowry and attend to the complaints of ill treatment. Vigilance Committee also arrange lectures, discussions through voluntary agencies to focus on the evils of the dowry system. An outlay of Rs.25.47 lakhs is provided for Tenth Five Year Plan 2002-2007, out of which Rs.4.63 lakhs is for Annual Plan 2002-2003.

### **(2) Opening of Reception Centres and State Homes for Women**

Objective of this scheme is to provide protection, care, training and rehabilitation to both women in distress and women rescued from brothels under the Suppression of Immoral Traffic (Women and Girls )Act. Under the statutory programme, protective homes are set up for the girls rescued from brothels, whereas under the non-statutory programme Reception Centre and State Homes are set up. These centre's are functioning as transit camps where these women and girls are given voluntary

admission. After giving adequate training, they are rehabilitated back in the society through marriage, employment, training, restoration and reconciliation. At present, 4 State Homes, 2 Protective Homes and 16 Reception Centre are functioning in the State. In Tenth Five Year Plan in 17 district, Reception Centre's are proposed to be opened. For this an outlay of Rs.12.65 lakhs is provided for Tenth Five Year Plan 2002-2007, out of which Rs.2.30 lakhs is for Annual Plan 2002-2003.

### **(3) Rehabilitation of Devdasis**

Government proposes to undertake concerted measures to alleviate the sufferings of Devdasis in the State as recommended by the Expert Committee headed by **Shri Prakash Awade**. The ill-practice of Devdasi is sought to be tackled through various measures, including introduction of fresh social legislations and schemes for training, rehabilitation and economic upliftment of the Devdasis and their dependent children. An outlay of Rs.171.72 lakhs is provided for Tenth Five Year Plan 2002-2007, out of which Rs.22.13 lakhs is for Annual Plan 2002-2003.

### **(4) Package Programme for Working Women "Sevaghar"**

With a view to relieving the working women from household duty and to provide them with other facilities and services under one roof, Government proposes to give financial assistance to voluntary organizations for opening of Sevaghars to provide all facilities and services necessary for the needy working women, in their neighborhood. Such a centre will have washing machine, crech for children, kitchen services etc. At present 3 such Centres are opened at Mumbai.

### **(5) Grant-in-aid to Mahila Mandal**

Under this scheme, Rs. 43,000 grant has been provided to each Mahila Mandal. The importance of Gram Panchayat dynamics in the development of women has been recognized and it is proposed to actively encourage the setting up of Mahila Mandals by offering to cover the cost of registration of these Mahila Mandals. These Mahila Mandals in the rural areas impart training to the rural women for self employment. An outlay of Rs.128.42 lakhs is provided for Tenth Five Year Plan 2002-2007, out of which Rs. 23.35 lakhs for Annual Plan 2002-2003.

### **(6) Grant-in-aid to Women for Self-employment**

Assistance of Rs.500 is given to women for self-employment. An outlay of Rs.377.63 lakhs is provided for Tenth Five Year Plan 2002-2007, out of which Rs.68.66 lakhs for Annual Plan 2002-2003.

### **(7) Establishment of Multi-purpose Mahila Centre**

These centres provide information about vocational training or service and guidance regarding

law. To establish these centres grant-in-aid is given to voluntary organisations at the limit of Rs. 1,37,600/- as a recurring and Rs. 2,79,500/- as non-recurring expenditure. Six such centres have already been set up. An outlay of Rs.6.55 lakhs is provided for Tenth Five Year Plan 2002-2007, out of which Rs.1.19 lakhs is for Annual Plan 2002-2003.

### **(8) State level Commission for Women**

The main function of this commission is to investigate & examine the matters relating to the safeguards for women under the constitution and other laws, participate advice on the plan process of socio-economic development of women, evaluate the progress of the development of women in the state etc. The grant-in-aid is provided to meet the office expenditure & honorarium to the staff etc. An outlay of Rs.82.50 lakhs is provided for Tenth Five Year Plan 2002-2007, out of which Rs.15.00 lakhs is for Annual Plan 2002-2003.

### **Policy Recommendations**

The Tamil Nadu state women's commissions has hardly any focus, power or resources to make meaningful interventions towards safeguarding any nurturing the rights of women in Tamil Nadu. The commission needs to be totally revamped, with sufficient executive power under financial strength. The clubbing of women with children, the disabled etc., in a single department of social welfare leads to certain minimizing of special focus to be given to women. The establishment of an independent department of women's welfare is an urgent need.

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## GANDHIJI'S VISION ON CHANGING EDUCATIONAL PERSPECTIVES ITS RELEVANCE IN THE 21<sup>ST</sup> CENTURY

Dr.S.Prabu Shankar

### Abstract

*This descriptive study aims at exploring profoundly and critically looking at Gandhiji's vision and ideologies pertaining to education at various instances alongside of his concentration, responsibilities in the Indian freedom struggle movement. For a selfless national leader of his stature and commitments it is imperative to think of his contributions to every aspect of life; socio-economic, political, nature and environmental, individual (self), religious and most of all, his contributions to education. His vision especially with education has both specific and elaborate perspectives for a developing Indian society. Even after a century the relevance of his educational ideologies (on basic education, mass development through literacy, rural education, education for health and hygiene, vocationalisation, notion of personal swaraj, women education, education for the minority, deprived, spiritual education, moral, value and self aspects of education) stands elegant keeping intent the essence and significance of his purpose of sowing the seeds. Today with all the scientific, technological and communication developments the relevance of Gandhiji's ideas on education holds much more significance than ever. Implementing and practising his educational visions at the school and higher education levels will benefit the individual, society and the country at large developing the quintessence of value, peace, harmony, productivity and advancement.*

### Prelude

'Be the change you want to see in this world' as quoted by Gandhiji is intent and explanatory. His very fundamental idea of the education system is that it should lead to the development of the mind, body and soul with which an individual evolves with an adherent change. Further his belief is that a positive change in the individual is reflected in the society and at large it contributes the whole nation<sup>1</sup>.

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<sup>1</sup> D.G.Tendulkar, Mahatma, Vol.1, p.119.

<sup>2</sup> M.Abel, Glimpses Of Indian National Movement. p.82.

## Educational ideals of Gandhiji

The educational ideals of Gandhiji has approaches for the core development of the entire system; it aimed at the progress of material advancement, political sensitivity, moral, economic and above all social development through which he always believed that the nation can progress. According to his beliefs education doesn't mean moral literacy alone, not the development of part of a society but the overall development of all individuals of the society.<sup>2</sup>

He argued that education is for everyone and this education involves the development of mind, body, heart and spirit. He envisioned the advancement of science and it can be seen from his ideals that, there should be a plan to inculcate scientific spirit in individuals, help them earn and learn, enable them to meet their basic needs and ensure them the use of local resources. The relevance of his above ideals rightly stands true for the present times and for the future times to come.

### Notion of Gandhiji's educational views

Any educational ideology all be it adolescent education, health education, environmental education, spiritual (or) religious education, minority education, women education etc., all of which will have a primary root of Gandhian thought. His orientation towards Indian and indigenous system of education can be viewed with traditional, contemporary and modern sense. His educational ideology is broad. The system of education he visualized was broad. According to his own words, 'the reasons for calling the scheme of education he perceived as *'basic education'* are:

- it is based on the ancient Indian culture, yet contemporary and modern.
- it lays down the minimum education which every child is entitled to receive without the distinction of caste or creed.
- it intimately relates to the basic needs and interests of the child and makes use of his innate potentialities for creative and productive work.<sup>3</sup>

### Gandhiji's perception on Social Development

Gandhiji believed that the development of the society or social progress happens when there is development in an individual. To him social development is an all round development of the people of a particular region and at large it is the development of the society. He dreamt of a society in which 'all individuals have to contribute for the whole good of the society without losing their

<sup>3</sup> Qtd. From T.G.Tendulkar, Mahatma, Vol.8 (New Delhi: Min. of Information and broadcasting. Govt. of India, 1960) p.166.

<sup>4</sup> V.T.Patil, Studies on Gandhi (New Delhi: Sterling Publishers) p.185.

individual character', it can be referred from all his words and ideologies that, 'Education in the Gandhian sense ultimately aimed the development of the society'.

He strongly believed that the aim of education instils a great sense of responsibility in the individual who receives his education at the cost of an other individual. In this point of approach Gandhiji stresses on the sense of responsibility on the educated ones to contribute to the society and its development by reaching out the rural, downtrodden and disadvantaged masses. He also stresses that this sense of responsibility doesn't come in the individual as such and it requires great training for the individual as part of education right from the primary classes.<sup>4</sup>

He believed that this means of inculcating values in an individual through education at the young age will hold a great significance in his/her later life as an adult in the society and the inculcation of values will help the individual in serving the society (Anand, 1983).

All of Gandhiji's educational thoughts hold great importance to this goal of education. His ideals of education mainly focus on attitudinal change of masses. He also wants that the education should turn itself to the needs of the people at the grass-root level. The social development which Gandhiji believed to happen through education happens only when education attempts at creating in the individual a sincere love and concern for rural India.

### **Gandhiji's views on Training Teachers**

Gandhiji strongly believed that to provide education to the optimum beneficial needs of the rural masses, the deprived and the disadvantaged groups, our educational institutions have to be moved over to the villages where we have to convert these institutions into schools of training in order to provide teachers practical education according to the needs of the villagers, the local people, the minorities and the tribes. He staunchly believed that it is not possible to train teachers or to give training and practical education to teachers based on the needs of the deprived masses just by training teachers of schools and colleges in so called cities and developed areas<sup>5</sup>.

Gandhiji observed that, '*Education as imparted has become so sophisticated as to include no rural orientation*' (Mukherji, 1966). This content proves inimitably true and relevant in the present times, that 'education has become sophisticated without any rural orientation and this result in larger masses vacating their villages just to find themselves amidst the urban or the self-defining developed population'. Similarly his vision of training teachers and to give them practical education based on

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<sup>5</sup>V.T.Patil, op. cit., p.188.

the needs remains applicable and the vision that has not been carried by us to reach the real social development Gandhiji dreamt of.

### **Gandhiji's insights on Functional Literacy**

According to Gandhiji, 'Education for social development aims at creating a number of socially oriented values. To quote from his works, *'he stresses on the love and concern for society and to identify oneself with the poor and needy in the country'*, without this basic concern one cannot bring any development. He criticizes the system of education prevalent during his times that it concentrates on developing the individual alone and not willing to spare time and has very little or no concern in the social welfare of others; which we can even now infer for its relevancy of his thought and foresight on the education system (Tendulkar, 1960).

Gandhiji believed that if education is substantial and meaningful then it should by means utilize a portion of time in the service of people around. Gandhiji envisages that constant awareness of the community, the needs, welfare and upliftment of it alone can bring education into practice. He also advocates his ideas of adult education, hygiene and health, rural welfare that can be carried out by educated masses in the rural places.

### **Gandhiji's ideology of 'Education for all'**

'Gandhiji's foresight on providing free and universal primary education stands relevant for not only India but all developing countries that aim to implement it and that has shaped up in to Article 45 of the Indian constitution which is being invoked at many instances under schemes and systems through the course of times' (Soni, 1998). The Gandhian dream of free and universal primary education has been realised in an independent India only in the recent years. In general, education has been viewed as 'literacy' alone. It never attempts to harmonize the child's personality by achieving a proper integration of the training of the mind, body and spirit.

As dreamt by Gandhiji, education has to come down to the level of those live in backwardness and poverty and should redeem them from the bondages of labour and suffering. He critically viewed that the present day man emerging of the narrow system of education as the one who has absolutely no capacity for suffering and self-denial or even physical forbearance.

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<sup>6</sup> M.K.Gandhi. Basic Education (Navajivan Publishing House) p.79.

<sup>7</sup> Ibid., p.11.

<sup>8</sup> Ibid., p.182.

<sup>9</sup> Report of the Education Commission 1964-66 (Kothari). Min. of Education. Govt. of India. p.7.

### **Gandhiji's notion on craft education**

By insisting craft education Gandhiji held that highest development of the mind and soul was possible under such a system of education. According to his conception every handicraft has to be taught not merely mechanically, but in a *scientific manner providing the necessary intellectual stimulation*. To quote Gandhiji's words on craft education, he explains, 'the hand will handle tools before it draws or traces the writing; the eyes will read pictures of letters and words as they will know either thing in life; and the ears will catch the names and the meanings of things and sentences'. The whole training 'related to craft education'<sup>6</sup>, will be natural, responsive and therefore the quickest and the cheapest in the land.

Gandhiji bewailed the state of bookish education at the primary levels, as he thought that it was 'positively harmful'. He felt that the remedy in educating them is only through vocation and manual training. The whole education should be imparted through some handicrafts and industry. It can be observed that his scheme of craft education meant the teaching of the whole as art and science as a craft and imparting the whole education as a practical training with orientation for adequate intellectual stimulation (Abel, 2005).

### **Gandhiji's concern on the development of people in villages**

It can be referred from his writings that his dream system of Basic education is entwined with Indian villages; he quotes, 'that one can really feel the spirit of self-activity, self-service, self-knowledge and self-discipline by means of work pattern of education'<sup>7</sup>. Further, to quote Gandhiji's statement, 'India is not to be fained in her cities. India is in her innumerable villages'<sup>8</sup>. His thought and spirit of developing the Indian villages to derive a system of education that has Indian roots for the people of Indian villages seems fortunately relevant even at the present times.<sup>9</sup>

### **Gandhiji's experiments with education**

Gandhiji was inspired by Ruskin's work, '*Unto this Last*' which leads to his first experiment in South Africa called '*Phoenix Settlement*'. Gandhiji determined to change his life according to the ideas contained in the book. This book '*Unto this Last*' becomes the basis of Gandhiji's '*Hind Swaraj*' (Mukalel, 1977).

Gandhiji was greatly noted by the following ideas of great significance that he taught was fundamental to several of his own experiments with truth. His basic conception about education was that character formation and everything else could be achieved as a corollary of that by individuals, by themselves or with the help of others. He tried to drive home the concept of respect for all religions in theory and practice and taught them how to live together like blood brothers.

He wished to propagate the curriculum which included the general knowledge of history, arithmetic and geography. In education he gave the first place to the culture of the heart and cultivating the character. He believed that the whole pattern of life became education for adults and children alike; for everyone that as experiment with truth to discover, through the educative process, the finest sensibilities of the human personality in the spirit of service.

## Conclusion

‘Relevance of Gandhiji’s concept of education holds significance beyond the changing times, changing culture, life-styles, value systems, social structures and individual norms. The theory and practice of his educational ideals and thoughts of a society is based on individual reconstruction which he believed can have a greater impulse and will reflect in the society. Through education he dreamt of a society based on truth, non-violence, justice and equality’ (Easwaran, 2011).

His idea of education preaches the doctrine of ‘*simple living and high thinking*’, which when we reflect to point ourselves to this doctrine even after hundred years from now the vision stands far ahead than what we had achieved through these years. This significance and the vision of Gandhiji holds true over these times is the relevance of his ideals. To conclude his ideas of education is not a separate method of teaching and learning, nor a technique but way of life. He aimed at achieving balanced and harmonious social order with ethical values of truth, love and non-violence through education. Ultimately Gandhiji believed that the highest and noblest purpose of education should be an all-round development of an individual.

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## Tolkāppiyam and Music

Dr Amutha Pandian

The word Sangam is commonly used to the times when the earliest extant literary works were written and the works comprises the earliest extant Tamil grammar *Tolkāppiyam* and the poems of the anthologies *Pattuppaṭṭu* and *Eṭṭuttokai*. *Tolkāppiyam* presupposes a large number of creative literature and treatises through internal evidences. It has 240 conscious references to the tradition ('so says the erudite', 'so is set the norms by the literate') which he follows. The text is composed of 1602 verses or *nūrpā*-s in *akaval* metre and meant to be recited. It has three sections, the first on phonology, the second on morphology and syntax, and the third on semantics. Each section has nine chapters. It was written for a scholar, either a Sanskrit scholar who wanted to know the unique features of Tamil or a Tamil scholar who wanted to use the norms and conventions of Tamil poetics in his writing.

Though *Tolkāppiyam* is not a text on music, it speaks of several musicological concepts prescribing the grammar of music in several places. *Poruḷatikāram*, the third section of *Tolkāppiyam* might be of a later addition but is unique in that the poetics based on the indigenous life finds its place in a treatise of grammar. The prosody is very helpful for the study of musicology because the basic metre in Tamil poetry, the *akaval*, which is based on syllabic instances (*acai*), is just the written version of the bardic melody. In categorizing all walks of life under two divisions (*tiṇai*) *akam* (interior, domestic) and *puram* (martial, social), *Poruḷatikāram* incorporates the Dionysian and Apollonian principles of life. Life as portrayed in it is rooted on the two fold human urges -the love drive and the power drive. Tamil poetics classifies *akam tiṇai* into seven divisions of which the two *kaikiḷai* (unrequited love) and *peruntiṇai* (mismatched love) are of deviant or improper love and the other five are treated basing them on the five land divisions. Comprising lands on both sides of the slopes of the Eastern and Western Ghats that slope towards the ocean, the terrain yielded to such divisions that offered perfect objective correlatives to the poetic treatment of life in its entire vicissitudes. *Tolkāppiyam* gives *mutal* (environmental), *karu* (distinctive attribute), and *uri* (aspects of love life) as the structural constituents of *akam* poetry. *Mutal* denotes the land and the time features. Each landform is associated with distinct season and time of the day. *Uripporul* is the love behaviour that is assigned to each of them. *Karu* is the tangible (physical) features of *akam* life and they are God, food, animal, tree, bird, drum, occupation, and yazh:

“God, food, animal, tree,  
Bird, drum, occupation, and lute  
And such of these

Constitute the distinctive physical features of the given tract of land”

(*Tolkāppiyam* Tr. Murugan 379)

Music is the best pointer to the cultural development of a people, and among the mentioned eight components, that are inevitable of life (as food, piety and the flora and fauna), two belong to music. *Tolkāppiyam* assigns the distinct music modes (*paṇ-* scales) pertaining to the five landforms (*tiṇai*) and each landform had a melodic instrument (*yazh*) and a percussion instrument (*drone-parai*). To go with the *uriporu!* which is the mode of love behaviour appropriate to each of the five tracts of land different *paṇs* that elicit definite emotions are attributed to them. *Akam* poetry divides the subjective emotive landscape into five *tiṇai-s* and each *tiṇai* expresses itself in different *paṇ-s* capable of expressing emotions intrinsic to it. The different *yazh*, *paṇ*, and *Parai* that belongs to the different landforms are all explained.

Each mode is assigned to particular seasons and time divisions. Thus, *kuriñci yazh* is the musical instrument and *kuriñci paṇ* sung at midnight is the *paṇ* of the mountain region. *Mullaippan* sung at the early hours along with *mullai yazh* belong to the littoral, *maruta yazh* sung at the bright morning hours belong to the pastoral land and *neytal paṇ* was sung at the sunset along with the *neytal yazh*. . *Pālaippan* in *pāllai yazh* was sung during noon in the desert tract. The main musical modes are also named after the landforms (*kuriñci yazh*, *mullai yazh* and so on). The ancient Greeks also named their modes after the names of the landforms - Dorian, Lydian, Eolian, The effect on the listeners by the different modes was also felt. Aristotle says people responded to Mixolydian with grief and anxiety, and to Dorian with ecstatic excitement. The Tamils too assigned different modes to different situations and moods.

Hearing is said to be the fifth sense (Mur 1518) in *Tolkāppiyam*: and what is essentially music? *Tolkāppiyam* cannot talk of music, language, or life separately. “*Iyaipu* means uniting” and “*icaippu* marks play of music” (Mur 792,793).

The many metaphors used in the text, drawn from music and the music tradition, point to the well developed musical system in Tamilnadu and the uncompromising place it occupied in the lives of the Tamils. For example, family life was pivotal to Tamil life and the whole gamut of the *akam* poetry deals with the love of man and woman, and this love affair is likened to the love that the musician, (the *gandarva*) bear for his music.

Examined rightly,

The union between the love between a man and a woman

Which embraces the fivefold love behaviour mutually realised

(Union, forbearance, separation, sulking and lamentation)

And which draws on the pleasures of love, life's plenty and righteousness

Shares the nature of the love of the Gandharvas adapt at realized (Mur 425)

The comparison here is between the mental state of the lover who enjoys love and the lyricist who plays the *yazh*. Both end up ecstatic and give intense pleasure. If music is an integral part of *akam* it plays a vital role in *puṛam* life also. There were different categories in *puṛam* life as in *akam* life. The stands of *akam* have their parallels structured into *pāṭān* the *puṛam* theme:

“And the unblemished *akam* theme  
Are seen to have their appropriate strands  
Structured into the theme of *pāṭan*” (Mur 1025)

And the subclasses are:

“As men of discernment show,  
It expands into eight subclasses  
(Praises to god, a bard praising a patron-chief,  
Celebrations of auspicious occasions,  
Instruction on the paths of righteousness’  
A beneficiary of a patron’s gifts guiding his fellow bards to him,  
Rewards to bards and minstrels,  
Aspects of unrequited passion and rebuke” (Mur 1025)

They are eulogizing the king’s flag, celebrating the destruction of the enemy fortress, dance of rivalry on the king’s victory, a poet happy of the bounty of a patron directing the fellow poets to him, extolling the king and offering worship. The *puram life* too has maximum constituents intertwined with music and the musicians. The six thematic modes of *pāṭan* are *koṭinilai*, *kantallī*, *vallī*, *pulavararūppaṭai*, *pukaḷtal*, and *paraaval*.

To sing of the hero’s land and his lineage, and calling those with their proper names (Mur 1029, 30) are common in Sangam poems. The invocatory is made in compositions of the three modes *koṭinilai* (eulogy of the king’s winning flag), *kantali* (celebrating the destruction of enemy’s fortress), *vallī* (the dance of revelry on the king’s victory) and *korra Valli* (1031):

*Kotinilai*(eulogy of the king’s winning flag  
*Kantali*(celebrating the destruction of the enem’ys fortress)  
And *vallī*(the dance of revelry on the king’s victory)  
Are the three modes of spotless composition  
Structured into the invocatory of the *pāṭāṇ* verse (Mur 419,420)

*Tolkāppiar* always is practical taking into consideration the fact that the performing tradition of the people always changes and hence never sets formidable rules. According to him, apart from those assigned to the above mentioned themes, any other composition on the themes used by the ancients can be set to music and sung:

When the sub strands of *puram* and *akam* above  
Are structured into the theme of *pāṭāṇ*  
The compositions of worship and praise thereof  
And the compositions of other kinds too marked by the ancients  
Are not forbidden to be adapted to forms set to music and singing,  
Where they go in accord with the conventions of usage set

Taken into consideration the fact that the *Pāṇā-s* sang for their livelihood and they were employed in almost all situations of life, the musical modes were categorized according to the time and the occasions on which they were sung. Following lines say that there were different kinds of songs for different occasions as the category meant to wake the king from his bed, and another to guide the *pāṇā* brethren towards well meaning patrons. We see these enumerated as the ten sub strands of the theme:

‘*Tuyilentainilai*, the king being woken up from sleep by panegyrist  
 As they sing his praises of unsullied note;  
*Aruppatai*, the dancing minstrels and bards  
 Singers and dancers and dancing minstrel women  
 Who are the recipients of rich gifts from a patron  
 Meeting fellow artists on their way back  
 And directing them to the very same patron (Mur 1033)

Drum is one of the symbols of royalty and the different themes of singing and dancing for the martial life are associated with different kinds of drums. *Tolkāppiyam* tells of extolling the war drum where *tuti* helps to sustain the spirits in war and the singing and dancing that accompanies victory in war:

The *valli* dance by folk  
 Decorating a youthful victor with anklets  
 And singing his praises (Mur 400-401)

The meaning of the ancient Tamil term, *ceyyuḷ* is to make inside or to stich inside and thus the word bears the same meaning as the Greek word for poetry *poiesis* and is inclusive of both music and poetry. It stresses the musicality of literariness. Poetry comprises verse and songs. Verse is set in metre and song is set to *pann* and controlled by rhythm or *tālam*. Metre in Tamil is born of the natural rhythm of the *pāṇā* song. Sangam versification was born out of the *paṇ-s* used by the *pāṇā-s*.

The constituents of prosody like foot, metrical line, metrical stringing, and patterns of rhythm form the basics of music too. The rule of vocalic duration applicable to music is true of poetry also. Music was an organic component of the bard’s song which otherwise shows an intimate knowledge of life and nature that the *pāṇā* acquired during his life in motion. *Tolkāppiyam* says that the metre that is based on duration controls not the form alone but also of its meaning and beauty. Naccinārkinīar says that even if the words employed are incomprehensible the meaning can be inferred from the rhythm which is built by the number of lines, the number of letters and words and the distinct ways in which they combine.

“A metrical foot is

What comprises two metrical syllables or three  
With the harmony of metrical rhythm fused” (Mur 547)

“The metrical line as such  
Lies at the root of a verse’s excellence” (Mur 1290)

“It is the way of the literate  
To see the metrical syllable and foot  
Harmonize with the metrical rhythm” (Mur 547)

It is the way of the literate  
To see the metrical syllable and foot  
Harmonize with the metrical rhythm (Mur 1266)

There were songs called *pulaṅ* that were understood and cherished by even the unlettered. They must have been the folk:

Compositions in the popular tongue  
That lend to easy comprehension  
With no discernment of the mind needed  
Are of the *pulaṅ* kind,  
Thus do the learned rule (Mur 1489)

Tolkāpiar enumerates nine constituents of poetry. The first one the *māthirai* is the smallest constituent and the word is Sanskrit. Though he talks extensively of *māthirai* in his chapter on word or *Eluttathikāram* (as the length given to letters) he makes just a mention of it in the first verse in *Poruḷatikāram* and explains *acai* as the basic unit of prosody. <sup>1</sup>

Of the limbs enumerated above  
The phonic measures and the classes of phonemes (letters)  
Are of the manner  
As treated earlier (Conventions of Phonology and Orthography) (Mur 1258)

In the next stanza, he explains *acai*:

A single vowel nucleus short or long  
With or without a consonant after it  
Constitutes the *nēracai* syllable;  
A nucleus of two short vowels  
Or a nucleus of one short vowel followed by a long vowel  
With or without a consonant after it  
Constituted at the *niraiacai* metrical syllable (Mur 1259)

The concept of *acai* is very different from the concept of *mātirai* and is unique in Tamil <sup>1</sup>. Of the two *acais*, *nēracai* is a single syllable, long or short, with or without consonant after it. In the *nīrai acai* there are two syllables of which the first is a short syllable. So the most common foot is made of two *acai-s* of which can be four variations: *nēr nēr cvc cvc*, *nirai nēr cvcv cvc*, *nēr nirai cvc cvcv*, *nirai nirai cvcv cvcv* and called *akavar cīr* with the following flow  $\_ \_ ; \sim \_ ; \_ \sim ; \sim \sim$ .

The point here is that metrical length does not always coincide with the actual *mātirai* (vowel, consonant length). A vowel is considered metrically “long ‘if (a) it is a long vowel, or (b) it is in a closed syllable. A short syllable is considered” long” if it occurs alone, or if it is the last syllable of a foot. If the first syllable of a foot is short, the next one is considered “short”, whatever its actual length. The *acai* patterns are so elastic in a line that any kind of rhythm is made very easily. When there is a shortage of time unit the syllable *u* occurs, it is called *nērpū* and *niraipū*, and using this would make them *urīacai* instead of *iyalacai*. This helps to avoid splitting the large number of three syllabic words in Tamil and, instead they can be completed with *u*. This makes the word entity and *acai* primarily different and so Tamil metre is based on syllabic instances and not on the number of syllables in a line <sup>2</sup>.

*Acai* is from the root word *acaittal*, and in poetry, it is setting to time. The *cīr* or the combination of *acai-s* is not foot but beats and cannot be said as combinations of letters or *māttirais* but can be studied only as combinations of *acai-s*. The first and the primary metre is *akaval* (the cry of the peacock) and the verb root *akavu* is to call or address in a high tone. The *akaval cīr* was the metre of the oral poetry and born before the act of writing unit. *Akavuvanār* are callers or summoners. So in *akaval cīr*, the ictus mostly falls on the first syllable and so it may be concluded that *cīr* as the primary foot is *lagu* (the basic unit or beat in Carnatic music) and Marr says “As a substantive, *acai* means *lagu* as a unit of musical time” (411). *Acai* was called *lagu* in Sanskrit and later applied to music.

While discussing line it must be noted that *Tolkāppiyam* subscribes to what he calls *kaṭṭalai vakai aṭi* or singing with counting the letters. According to him:

*kuṛaḷaṭi* - 4,5,6 words

*cintaṭi* - 7,8,9 words

*alavadi* - 10,11,12,13,14 words

*neṭilaṭi* - 15,16,17 words

*kaṭineṭilaṭi* - 18,19,20 words

Due to this the concept of *talai* becomes ineffective for *Tolkāppiar*. But it is comforting that his contemporary *Kākkaiappāṇiyār* in *Yāpperṅkalam* (which is extant only in parts) considers the length of the line according to the number of *cīrs*:<sup>2</sup>

*kuralaṭi* - 2 cīrs

*cintaṭi* - 3 cīrs

*aḷavaṭi* - 4 cīrs

*neṭilaṭi* - 5 cīrs

*kaṭineṭilaṭi* – 6 cīrs

The early poetry used the simplest and the most natural of the metres, the *āciriappa* which contain only four *cīrs* which are of *akaval cīr* (rarely *vencīr*). When we examine an early poetry piece:

ivaṅ ivaḷ / aimpāl / paravum/ ivan ivaḷ/  
 nirai nirai / nēr nēr / nēr nirai / nirai nirai/  
 puṅḷalai / yō ri / vāṅku naṅ/ pari yavum/  
 nēr nirai / nēr nēr/ nēr nirai/ nirai nirai/  
 kā tar / cevi viyar/ tavr̥p pavum/ tavi rā/  
 nēr nēr / nirai nirai/ nirai nirai/ nirai nēr/  
 tā til / ciṟu ceru / uṟu pa / maṅ ṓ/  
 nēr nēr/nirai nirai/ nirai nēr/nēr nēr/  
 nal aimaṅ/ ram ma/ pā lā /mel liyal/  
 nēr nirai / nēr nēr/ nēr nēr/ nēr nirai /  
 tuṅai malarp/piṅai yel/ aṅ navi var/  
 nirai nirai / nirai nēr/ nēr nirai / nēr /  
 maṅa makil/ yiyar kai/ kāṭṭi yō yē/  
 nirai nirai / nirai nēr/ nēr nēr/ nēr nēr/

In the above example if the *mātrās* or eluttu are counted per line they vary but if they counted for *acai-s*, each line has 8 *acais* but for the penultimate which has seven *cīrs*. And so in Tamil poetry the length of the line is determined by the number of time units or syllabic instances and not by the number of syllables or letters in them. And this made the poetry naturally musical. Musically the structure of these metrical line contains four (sometimes six) beats, the simplest of time signatures which in rhythm makes the *ātitaḷam* in Carnatic music. It is still the most used, the oldest as the name suggests, and the simplest.

Tolkāppiar says that when the metrical length did not coincide with the actual vowel length it was compensated by lengthening or shortening of syllables to make it musical and rhythmic. To fill gaps in time in the syllables shortening and lengthening by sound *u* was used. This poetry was the written developed songs of the *pāṅās* who composed them and sang in many repetitions and improvisations. The metrical system breaks the lines of the poem in *cīrs* for which uniform time measures must be assigned. This elasticity is further stretched to improvise in vocal and in stringed instruments and then to singing beautiful *gamaka* in Carnatic music

As shown by the ones  
 Deft in music  
 The stringed instruments issue,  
 Lengthening of vowels beyond the phonic measures set  
 And extended phonic measures for consonants  
 Are witnessed too,  
 So say the learned men (Mur 13)

Also it is to be inferred from the above lines that music was learnt through stringed instruments. In the course of long recitations, feet with three *cīrs* in an *acai* were produced and they were called *vañcippa*. When the Primary ictus falls on the first syllable of each *cīr*, and the secondary about halfway through each feet and the rhythmic time being  $\frac{3}{4}$  it is *rupaka tāḷa*. When later *cīr* with four *acais* were also added the varieties of *tāḷa* grew by various permutations. Those with four *acais* in a *cīr* are called *veṇba*.

The demand to make different rhythms suitable for occasions necessitated different *tāḷās*. The bards to address the patrons and to sing their praises employed *asiriappa* in the earliest poetry. For variety *vanñcippa* with *tūṅgal* (balanced sleeping rhythm) was used. When the bards went to the patrons, the *viṭaliyer* (dancers) accompanied them and engaged in a kind of dance with gesturing according to the meaning of the songs. Thereby the present day Indian dance is fundamentally based on gestures (present *adavus*). It was a kind of dramatic performance in the court and when it necessitated different movements of the body *Kalippā* in *tullal ocai* (jumping) developed:

The authority holds that  
*Kalippa* and *paripāṭal* metrical forms  
 Are appropriate to (*akam*) literary compositions  
 Which are informed by  
 Dramatic and worldly conventions (Mur 1002)

The basic parts of a *kalippā* are *taravu*, *tāḷisai*, and *curikatam*. The different kinds of *kalippa* are *ottāḷsaikalippa*, *kaliveṇpāṭtu*, *koccakam*, and *uraikali*. Of *othāḷisaikalippa* one kind is for *akam* poetry and another to extol gods. Tolkāpiar explains the four parts of the former *ottāḷisai* (one of the four kinds of *kalippa*) as having four parts- *taravu*, *tāḷicai*, *taṇiccol*, and *curitakam*:

One of these two (*kalippa*)  
 Has *iṭainilaippaṭtu* (*tāḷicai*)  
*Taravu*, *pōkku* (*curitakam*)  
 And *aṭai* (*taṇiccol*)  
 For its constituents (Mur 1384)

These four are defined thus:

*Tarau* above has  
 Four lines for the minimum  
 And twelve lines as the upper limit (Mur 1385)

*Iṭainilaippaṭṭu (tālicai)* comprises lines  
 That are fewer in number  
 Than the four –line minimum of *taravu*  
 So has it been said” (Mur 1386)

*Aṭainilaikkiḷavi (taṇiccol)*  
 That occurs after *tālicai*  
 As *ottālicaikkali*’s constituent (Mur 1387)

*Pōkku (curitakam)*  
 Is called *vaippu* too:  
 The lines it comprises  
 Are of the same number as in *taravu*  
 Or are fewer in number too  
 And it constitutes a perfect ending of the verse (Mur 1388)

With the development of *kalippā* the different parts of the present *kirtaṇai-s* were almost set. *Taravu* introduces the theme of the poem. Now it is called *pallavi*. The word *pallavam* (the tender shoots at the top of the *asoka* tree which is sacred to Aruga) means first and the word *pallavi* with the meaning ‘first to sing’(influence of Jainism) replaced *taravu*. The jumping rhythm of the *taravu* is further improvised in lines less than four in the *tālicai* which later became *aṇupallavi*. *Curitakam* became the *caraṇams* in the same way of the Jains.

The kind of *kalippa* called *kocchakam* is divided into fewer parts than *ottālicai*. *Urai* is in the form of dialogue. The commentary explains that *kocchakam* is a part wherein short lines recur like pleats in a garment. One of the varieties of *kocchakam* is *tēvapāṇi kalippa*. *Tolkāppiar* says it is used to praise gods. Therefore, in *Tolkāppiar*’s period panegyrics on gods were also prevalent. *Aarakam* is characterised by a rapid succession of short syllables. These various parts in *kalippā* and *paripāṭal* embrace each other (*Taḷuvuṭhal*) and convey the same or related meanings in tiers. These formed the *pallavi*, *aṇupallavi* and *saraṇam* in a *kērthaṇai* later days.

*Paripāṭal* grew from *veṇba* and *kalippa* and has no metrical structure of its own. Verses of mixed metre make *paripāṭal* and it includes a *curitakam* as its closing portion in common with *kalippa* and treats of *akam* theme.

*Paripāṭal* in general  
 Will have no metrical kind of its own,  
 And stands composed in all metres, so has it been ruled (Mur 1372)  
 The theme of *akam* love for its subject matter’  
*Paripāṭal* has for its four constituents  
*Kocchakam*, *āarakam*, *curitakam* and *eruttu* (Mur1373)

With the growth of *paripāṭal* from *veṇba* and *kalippa* there is enormous elasticity and variety in composition and so setting them in music must have been a pleasurable and involved activity. The vocation became so sophisticated that poems were written by scholar musicians and were set to music by artist musicians.

Didactic poetry developed *venba* with *ceppal ocai* since it is for giving instructions. *Venba* metre is of four kinds- *neṭuvenpāṭṭu*, *kuruvēnpāṭṭu*, *kaikilai*, *paripāṭṭu*, and *aṅkathaceyyul*.

Sanskrit prosody is not based on syllabic instances and analogies cannot be made between *acai* and *cīr* and the *bhagana* or *ragana* of Sanskrit poetry. The present day Sanskrit names of the different *tāḷa* were later applied to the Tamil *cīr* units. Tolkāppiar uses the number of syllables per line to determine its length as in Sanskrit poetry where *pada* is determined by the number of syllables it contains. Actually, in Tamil poetry the line is not determined by the number of syllables it contains but by the number of syllabic instances. Marr has made an extensive study of the prosody in this light with regard to *Eṭṭuttokai*.

*Aaciriappāṭṭu*, *neṭuvenpāṭṭu* and *kuruvēnpāṭṭu* are commended for their structure. The poetry that was made with a sense of the musicality of the vocabulary used and set to sing in performances was known as *paṇṇatty*, so called because they could be sung in distinct *paṇs*.

‘*Paṇṇatti* are rhythmic songs

Where sense stands

With music inherent’

and there is no restriction as for as the number of lines are concerned (Mur 1429)

Tolkāppiar differentiates *paṇṇatti* from *pici* which are riddles where meaning is very important. *Paṇṇatti* may exceed its limit of twelve lines and thereby can be useful in extempore improvisation (called *paṇ sumanta pāṭal*). Still later, the way they were extemporized was called *ālatti* and now *ālābanai*.

*Vaṇṇam* is of rhythmic consequence of a particular metre. It is the rhythmic effect of the poetry. *Tolkāpīam* lists 20 types of *vaṇṇam pāvaṇṇam*, *tāvaṇṇam*, *vallicai vaṇṇam*, *mellicai vaṇṇam*, *iyaiṭṭu vaṇṇam*, *alapētai vaṇṇam*, *neṭuncēr vaṇṇam*, *kurūñchēr vaṇṇam*, *citira vaṇṇam*, *nalippu vaṇṇam*, *akappaṭṭu vaṇṇam*, *purappaṭṭu vaṇṇam*, *olukuvaṇṇam*, *orru vaṇṇam*, *eṇṇu vaṇṇam*, *akaippu vaṇṇam*, *tūṅgal vaṇṇam*, *ēantal vaṇṇam*, *urṭṭu vaṇṇam*, and *mutṭukku vaṇṇam*. The various kinds of effects may be understood from the names of them for example *olukuvaṇṇam* flows evenly as given in the colophon of *Pattuppāṭṭu* 11, and *mellicsaivaṇṇam* is produced when there are plenty of nasal sounds.

Of the nine elements *Tūṅku* and *toṭai* are concerned with the sounds of the composition. *Tūṅku* is the pause that occurs between lines or verses. It denotes the end of one unit and the beginning of another. We now call it *edduppu*. *Thodai* denotes that the meaning and the verse ending at the same time. *eṭṭuppu* is the last unit of music and with the next unit it starts to be verse or *ceyyul*.

**Notes**

1. There is only one explanation for Tolkāpiar's deviation in *Poruḷatikāram*. Speech is prior to writing and, bardic poetry exists before writing. Tamil speech and music (metre) was based on *acai* before brahmi syllabry was adopted for writing and so Tolkāpiar bases his *eluttu* (letter) on the concept of *mātirai* and music on *acai*. This also proves that Sangam poems were the written versions of the oral *pāṇā* song, and their natural origin is before the present writing system was adopted. K.Murukaiyyan says that before Tamil brahmi there should have been a writing system in Tamilnadu. Once the religions introduced brami writing, the original writing based on *acai* became obsolete. Also Karthikesu Sivathambi says that Tolkāpiar when talking about letter does not speak of the written letter but the spoken word and when in poetry it gives movement it becomes *acai*.
2. However it must be noted that there was another tradition used by those who did not know Sanskrit or did not care for it , the *Yappernkala* tradition which produced *Yāpernkala Kārikai* where the author does not mention *mātirai* at all.
2. *Eluttu* and *māttirai*, the units what describe Sanskrit metre cannot be applied to Tamil prosody. Malayalam, Telugu, and Kanada also share this feature. The grammar for these languages is uncomfortably modeled on Sanskrit grammar whereas these languages in their speech form were Dravidian and shares the elements of prosody with Tamil.

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