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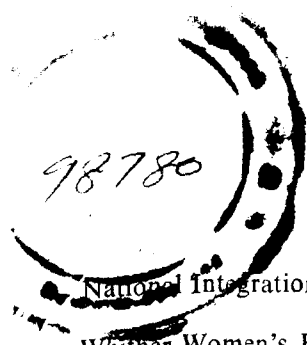
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THE SOUTH INDIAN TEACHER

Vol. XXXV

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No. 5

NATIONAL INTEGRATION *

C. M. FAZALUR RAHMON

India, One and Indivisible

Shri K. G. Sayidain, in his address on “Education and Understanding” at the Srinagar Session of the All India Educational Conference posed the question : What is the good of all our educational and political effort if we have not been able to establish the very condition of civilised existence i.e., the capacity to live together peacefully and amicably—may I add—and co-operatively ? The poser has not lost its relevance ; the conditions remain very much the same. After fourteen years of political independence and gigantic efforts in all fields of human endeavour, we see the same, sad spectacle of the country divided against itself. We want an India free, one and indivisible. We wish to build our Nation's integrity, oneness and indivisibility on the common interests and the common love. It is not my purpose now to critically analyse the present system of education in our country in relation to these ends in view leading to national integration but I wish to refer only to such aspects of our education as need greater emphasis, for I have to be brief.

The Wind of Bitterness

The problem of national language is a wind of bitterness that is blowing so

* A brief report of the speech of Sri C. M. Fazalur Rahmon, Headmaster, Islamiah High School, Pernambut and President, North Arcot District Secondary Schools Headmasters' Association at the Symposium held during the All India Educational Conference at Trivandram on 28-12-1961.

chill all over the land. But in the interest of National Unity and Integrity, no time should be lost in teaching the accepted national language in all the schools of the country with some seriousness. Related is the problem of providing for the teaching of a multiplicity of languages. This problem, complex and baffling, has been engaging the attention of all concerned at all levels and only recently a compromise three-language formula decided at the highest political level was announced. Even against this there is a strong protest, and quite justifiably too, that there is no provision for the teaching of any classical language. We have devoted many sessions of discussions for this problem and the Secondary Education Commission under the chairmanship of Dr. A. L. Mudaliar has also pointed out the need for providing for the teaching of the five languages : national language, mother tongue, regional language, if the mother tongue is other than the regional language, English and the classical language. My only point in mentioning this problem here is to emphasise the fact that the study of the languages has a tremendous influence in promoting unity by mutual sympathy and cultural understanding. Therefore the children should be encouraged to learn these languages as a minimum but then the burden involved, the capacity of the child, the stage when a new language should be introduced, the pressure on time and so on are problems that we have to keep in view while taking a decision.

The Common Script

I therefore suggest that as a necessary step we should decide, here and now, in favour of a common script for all the Indian languages. Much has been said recently about the need for such a script and about the suitability of the Roman script for such a purpose. I do not propose to deal with the merits of any script at the moment. But I have to point out that it will be a sound educational policy and practice if we adopt a common script and provide incentives and opportunities to the children to learn as many languages as they can. This will contribute to the development of the "folk spirit" that has always accompanied every great cultural renaissance.

Culture unites, politics divides

In the teaching of Indian History there should be greater representation to the cultural history than to political history though it may be very difficult to separate the two. The Cultural Oneness and our traditions of mutual sympathy and tolerance need emphasis more than the history of the country dotted with small political units, "self-blinded by too individualistic tendencies, fatally centrifugal, proving disastrous in effect." Fusion and synthesis of the streams of cultures is a unique heritage of our great country and no child should be denied the opportunity to realise this in full and Education in our country will fail of its major purpose if it doesn't help the child to drink deep into the composite culture of the land. The syllabus in the cultural history of India for Standard IX of Secondary Schools in the State of Madras sets a pattern well worth following. The things which unite the various groups and communities in India are far more numerous than the things which divide them and therefore we should stress what is significant rather than that which is less important. Love of our Culture, our Countrymen and of the glory and greatness of our country should conquer all prejudice.

Education of the Citizen

This apart, the education of the Citizen, more than that of the Individual, needs careful consideration. Our education should aim to prepare citizens to serve a United Nation. Unity, Service and Citizenship should be the essential aims of education. To these citizens Truth and Justice will be dearer than their lives. They will come together in a fellowship of co-operative effort. All this is possible only when there is adequate recognition of the spiritual foundations to our education and this is difficult, if not impossible, without Religious Education. "He who sees the One Spirit in all and all in the One Spirit, henceforth can look with contempt on no creature." "Thou shalt not do to others what is disagreeable to thyself." Or "All sects deserve reverence for one reason or another. By thus acting a man exalts his own sect and at the same time does service to the sects of other people." Such teachings of universal appeal will undoubtedly have most welcome influence on the thoughts and conduct of the children. This will help them, in no small measure, to realise the unity of man and their own higher nature. Man in his higher nature is self-sacrificing and creative and not prejudiced and narrow-minded.

National concept of education

Let me conclude that we have to develop a national concept of education based on spiritual foundations promoting love of the country and the countrymen. When I say love of the country, I certainly do not mean the "cultivation of the idolatry of geography" but love of the country for its heritage and traditions, for its potentialities for doing good, for its message of peace and harmony, of brotherhood and love and for the vitality of its civilisation. The task of our education is to inspire to unite, to be one and to be great; to make India a fit country for heroes to live in. Thank you.

WHITHER WOMEN'S EDUCATION?

N. S. PADMANABHAN, B.A., B.T.

At a time when we are engaged in the establishment of a social order in which men and women are to share equal fortunes, when the centuries-old barriers of customs and conventions prohibiting the latter's fuller participation in life are melting away and at long last, when women, as a race, have, by rising to the occasion, been acquitting themselves ably in various avocations and practices, it would do well for those concerned with education to probe into the aim, scope and content of their education which forms the bed-rock of human progress. Thanks to the genuine and giant efforts taken by its votaries through the recent decades, women have been taken out of the morass of ignorance and serfdom and their social status has been given its desired impetus and recognition. But at the same time, is it not pertinent to ask ourselves whether the type of education we offer them goes to contribute in fair measure to the commonweal?; as to whether it does not run counter to accepted fundamental values in life, true to the soil and tradition and thereby jeopardise national interests? These are, however, the questions that stalk us in our highway march to prosperity, as much depends on how we answer or counteract them. The desideratum has to be found out and a suitable remedy suggested long before it becomes a canker.

Ages past, during the pre-historic and remote historic days of the past, it was not as if that women were denied their proper place in society as also the benefits accruing therefrom. Of course, the kind of education they received was not of the denominational one of these days but one which was at once all-comprehensive and all-purposeful. Had it not been for their erudition and

mastery of subjects, could we have come across a Saraswathi to argue with the great Adi Sankaracharya on highly metaphysical doctrines and dogmas and an Avvaiyar to throw gems of wisdom and experience in words which have transcended Time and Space? Also it is noteworthy that such educated women of yesterday did not form a class by themselves, nor did they shun their mundane activities in life. The great Book of Nature with its gleaming pages was open before them; the holy scripture with its nascent glory served as a beacon-light for them; the unsophisticated and austere living was but a reflection of the contentment and culture they imbibed from out of the two. They, in short, were the nuclei of civilisation, the home being an institution by itself. But alas! that was not to be for ever.

Incursions and invasions from the West during the last century and before jeopardised the vested interests in learning and soon men succumbed to the idea that all education was a means to fashionable living. The Macaulayan system of education with a pronounced bias on bread-earning and against traditional thought and practice only actuated the downfall of its ethical value. Women, at any rate, were slow to respond to the chords of decline in spite of (or rather because of) their being consigned to the kitchen. Men-folk, with an easy access to English education by dint of their social status and vantage position offered by society during its periods of wane and stagnation, left the claims of women either unheded or over-powered. Learning was an anathema to the latter and hence they had to lean heavily on the slender resources of the past and face the brunt of the attack. It is to be said to the credit of them that they did do

the job squarely and neatly. While remaining as mere passive tools in the hands of men, they wove culture and tradition into the fabric of daily life and in their own limited sphere helped to stem the rot of pure materialist philosophy setting in. Their education shrunk to a blind observance of formalities and rituals, the reasoning side of them having sunk into oblivion. To cut this short, the vehicle of learning as far as they were concerned, was working in reverse gear.

Perhaps because of this ingrained conflict of values, temporal and spiritual, that were represented by the Western and Eastern facets of the educative process, women in India, when they took to English education in the early decades of this century could not assert themselves in any single field and so presented a confused picture. So it was that greatest emancipators of women in recent times, Swami Vivekananda, Dr. Besant, Tagore, Mahatma Gandhi and Poet Bharathi of Tamil Nad pleaded for the restoration of the mother to her former glory as a 'plus' to her present mental skill and ability. Reorientation of education thus became the panacea for our ills and the national governments in power owe unto themselves this onerous task of providing it. Education commissions were set up for scrutinising the types of education in vogue at various levels and evolve a formula by which we could gain our twin objectives of talent and poise. Quite in keeping with their recommendations, set after great thought, changes in the patterns of education have been in the offing and they are, no doubt, great steps forward and as such welcome. Nevertheless it is a truism that the subject of women's education did not acquire such active sympathy as it would demand.

Women, as said before, occupy a pivotal position in the Indian Commu-

nity life and as such the type of education they receive needs to be distinctive and deliberate in character. A common course of study for both sexes leads us nowhere and if at all, to maladjustment of values and interests and here it is that the present system suffers a setback. A few subjects like Home Science and Needle work have worked out to be more artificial than otherwise. It is patent that in such subjects even an average Indian girl having no chances of schooling is as good as, if not more well-versed than her counterpart in school. The Indian girl, besides her knowledge of the three R's should learn the science of common life, the value of food-stuffs, of medicinal herbs, laws of personal hygiene and health and at later stages mother-craft and sex education. Co-education in schools and colleges have caused enough damage to their discipline and work-potent and it is high time we gave it up and changed for the better.

Thus a separate national plan of Women's education based on exploiting their instincts and natural aptitudes with a due and deserved slant on science, drawn by a committee of experts in the field, is the one highly called for. I, in all my earnestness, and humility, plead with educationists and other well-wishers of the nation to see to it that, such a scheme is formulated as would form an enviable entity, as would shape women into effective limbs of society, and as would make them every one 'a modern girl' of poet Bharathi's dreams. That day would be a day of remarkable importance to our nation when women-folk, released from the fetters of feudalistic thoughts and notions, would take up the challenge of posterity with renewed and rejuvenated gusto, holding aloft the banner of culture with a scientific glee in their eyes.

THE BASIC CONCEPTS OF MATHEMATICS

J. B. FREEMAN

(Continued from last issue)

57. *Long Multiplication or Multiplication of Larger Numbers.* 7605×8023 . By the Law of Commutation we can choose either factor as the multiplier. We may therefore choose that one which would involve less work. In the example given there will be the same amount of work whichever number is chosen. Take 8023 as multiplier. Put down the multiplicand 7605, and below it the multiplier according to place-value, the units' number 3 under the units' number 5. This must be done *always*. Draw a line beneath. The working is as shown below :

(The Grid may be used, if only to keep place-values in mind.)

7605	We multiply by the
8023	highest digit 8 first.
—	This is done as in "simple"
60840	multiplication ; but
15210	since the multiplier is
22815	a thousands' number,
—	when we multiply 5 by
60014915	it the result 40 is a
	thousands' number ; 0

is put down under 8 and the 4 carried over to the higher place. Multiplication by zero need not be done. The second row is the result of multiplication by the tens' number 2. The result of multiplying 5 by 2 is 10 ; this being ten tens, we place 0 under the multiplier 2 and carry 1. The third row is a simple multiplication by the units' number 3. The three rows are called "partial products", which when added together give the "complete product". See n. 54 above.

It is evident that we can multiply by the digits of the multiplier in any order, provided we give due place value to the partial products, by the Law of Commutation for Addition.

Here also we are using the Law of Distribution of Multiplication over Addition in a more extended form. It is sufficient if the pupils see this by intuition and accept the algorithm as reasonable and elegant. All unnecessary zeros, intended merely to show place-value of the partial products, have been omitted.

58. Paragraphs 56 and 57 have been put in not as basic concepts but as illustrations of their use and importance. Many teachers in Elementary Schools are unable to show the meaning of the algorithm even for simple multiplication.

59. *Division* will first be defined as the operation of making equal sub-groups (or parts) out of a group (or whole bulk) and finding out how many units there would be in each sub-group (or part). It is evident that if we add together all the equal sub-groups (or parts) we shall get again the original group (or whole). (n. 18). Thus division is exactly the reverse operation of multiplication.

60. We shall re-define division, therefore, thus : *Division of one number by another is the process of finding out what number times the latter number will give the former number.* The number to be divided is called the *dividend*, the number which divides, or by which the dividend is to be divided, is called the *divisor*, and the result of the division is called the *quotient*.

61. $\div$, read : "divided by", is the sign of division. It is placed between two numbers, the number preceding it being the dividend and the number following it being the divisor. $35 \div 7$, read as : "35 divided by 7", indicates

35 as the dividend and 7 as the divisor, and is equivalent to the question: What number times 7 gives 35? The number required, found from the multiplication chart or tables, is 5, which is the quotient.

$a \div b$ is the process of finding out what number times b gives a . We mean the same when we say *how many times b goes into a* , or *how many times a contains b* . The answer is the quotient.

62. From the definition it follows that:

$$\text{dividend} = \text{quotient} \times \text{divisor}.$$

63. Any number divided by 1 gives the same number as quotient.

$a \div 1 = a$. This follows from the definition, because $a \times 1 = a$.

64. Zero divided by any number other than zero gives zero.

$0 \div a = 0$, because $0 \times a = 0$, and no other number times a gives 0.

65. *Division by zero is not permitted.* $a \div 0$ is never allowed in Arithmetic, because we can find no number which multiplying 0 gives a . In the special case where the dividend is also 0, the quotient would be indefinite, for any number *whatever* times 0 gives zero; so the operation $0 \div 0$ would be meaningless. This limitation of the operation of division cannot be removed. In very advanced mathematics a meaning is given to the operation $0 \div 0$ in special cases by the Method of Limits. It is of no concern to us here.

66. Whatever natural number (not 0, of course) the dividend and the divisor are both multiplied by, the quotient remains the same. $a \div b = (k \times a) \div (k \times b)$.

67. If we divide both the dividend and divisor by the same natural number (not 0), we get the same quotient as before, $a \div b = (a \div k) \div (b \div k)$, provided all the divisions are possible.

68. The division of one natural number by another is not always possible. When we divide a by b we get a natural number only if a is a multiple of b ; i.e. only if there is a natural number which multiplying b gives a . Thus 39 is not divisible by 5. This restriction on the operation of division will be overcome by the introduction into the number-system of fractional numbers.

69. A law may be stated for division, which may be called the *Law of Distribution of Division over Addition*, when we divide a sum by a number each of the addenda may be divided first before adding $(a+b) \div c = (a \div c) + (b \div c)$. Each quotient on the right may be called a *partial quotient*, and their sum the *complete quotient*. If we multiply the left hand side by c , we get $a+b$; and if we multiply the right hand side also by c , we get by the Law of Distribution of Multiplication over Addition $a+b$. Since both sides give the same result, the law is true. (An equation is a statement of equality in which the $=$ sign is used. If both sides of an equation are shown to give the same result, the equation is true.)

70. *Short or Simple Division.* When the divisor is a units' number the division is said to be "short" or "simple". The procedure is best explained by an example. $3726 \div 9$. We write down the dividend and divisor, separated by a line of the form $\overline{)}$ as follows:

$9 \overline{) 3726}$ Since 9 will not go into the thousands' number 3 we consider 3 as "remainder" and "carry" it down to the next lower denomination, getting 37 hundreds. 9 goes into 37 four times; we put down the 4 over the 7 because the 4 should be a hundreds' number; but 9×4 gives 36, which when subtracted from 37 leaves 1 as remainder. This 1 is a hundreds' number, and, carried down to the next lower denomination, gives 12, which is a tens' number. 9 goes into 12 once, and we place 1 in that place. 9×1 is 9, which subtracted from 12 leaves 3 as remainder.

Carrying this 3 to the next lower place we get 36 units. 9 goes into 36 four times put down the 4 next. There is no other remainder. The work is

shown thus $9 \overline{) 3726}$. The quotient required is 414. This is the *short method*. The process becomes clearer if the *long method* is used, shown here:

$$\begin{array}{r} 414 \\ 9 \overline{) 3726} \\ \underline{36} \\ 12 \\ \underline{9} \\ 36 \\ \underline{36} \\ 0 \end{array}$$

The importance of place-value is more in evidence, and the steps in the process more understandable. It would be advisable to introduce the long method first, and after its acceptance and some degree of skill with it is acquired, the short method, where the subtractions are done at once, may take its place. The slower pupils will certainly benefit. The placing of the first digit obtained of the quotient is very important, the more so when we go on to the division of decimals. It must always be placed over where the product of the units number of the divisor falls. In the example it is placed over the 7. This should become in course of time a mechanical procedure. The other digits of the quotient will fall successively in lower places.

It may be verified in every exercise given that the product of divisor and quotient is equal to the dividend.

Sometimes it may happen that there is a final remainder, showing that the dividend is not exactly divisible by the divisor. In such a case the quotient and remainder should be shown separately. Thus: $3731 \div 9$ gives 414 as quotient and 5 as remainder.

The pupils should be able to discover that now the dividend is equal to the

product of the quotient and divisor plus the remainder; that is, the dividend is in excess of that product by the remainder. Dividend = quotient $\times$ divisor plus remainder.

$$3731 = (414 \times 9) + 5.$$

It should not be necessary to analyse the algorithm in the long form further to show that the laws of operation are used. It will be sufficient if the pupils grasp it intuitively and accept it. The advantage of knowing the Multiplication Tables by heart will be evident.

If multiplication and division are compared as in the following example the parallelism between the operations becomes obvious.

2200 $\div$ 8 gives 275 as quotient.	275	8
275 $\times$ 8 gives 2200 as product.	8) 2200	275
Choose 275 as multiplier.	16	16
	60	
	56	56
The same partial products appear in both.	40	
	40	40
		2200

71. *Long Division*, i.e. division when there are two or more digits in the divisor. The algorithm or rule or procedure in practice will be understood from a worked example. $13851 \div 243$

Since the divisor, consisting of three digits will not go into the first three digits of the dividend, being greater than it, we have to take the next digit 5 also. We have to make a good guess what the first digit of the quotient would be; if too

much, then the corresponding partial product will be greater than 1385; if too little, then the first remainder will be more than the divisor. With practice and experience the guess will be right. In the present instance 7 would obviously be too much, as $7 \times 2 = 14$, more than the first two digits of the divi-

dend; 6 by trial will be found to be also too much. 5 is the right choice. (It will be best to go downwards like this, instead of choosing too small a number and then increasing it.) The highest digit of the divisor should be a "trial" divisor, and the first two digits the "trial" dividend.

The first digit of the quotient should invariably be placed above where the product of it and the units' number of the divisor is brought, i.e. above the 5 of the first partial product. The procedure is similar to the long method of simple division. The first partial product is the result of multiplying the divisor by the first digit obtained, namely 5. To the first remainder we attach the next figure of the dividend, namely 1. The second digit of the quotient is 7. We get the second partial product by multiplying the divisor by 7. There is no remainder. The required quotient is 57. Place-value has been observed, as will be seen by comparing the working with the result of multiplying the divisor by the quotient. $243 \times 57 = 13851$.

243	
57	The comparison of the partial products and of the
1215	steps will lead to better
1701	understanding.
13851	

72. The algorithms for division (nn. 70-71) have been shown only to bring out the importance of place-value and of the fact that laws of operations are involved. If the procedure of placing the first digit correctly is followed, no difficulty will arise when dealing with decimals later.

73. The definitions of the operations will be adhered to, and the laws of operations (with the proviso that division by zero is not permitted) will be accepted as true whatever further numbers are added on to the number-system. If the laws are violated, then the addition to the number-system will be futile.

74. We shall extend the number-system nextly to allow us to subtract any number from a smaller number, so as to make that operation always possible. Nextly, we shall incorporate new numbers to make division also always possible, except in the solitary case where the divisor is zero.

75. The Six Laws of Operations we enunciated are:

- (i) The Law of Commutation for Addition: $a+b=b+a$.
- (ii) The Law of Association for Addition: $(a+b)+c=a+(b+c)$.
- (iii) The Law of Commutation for Multiplication: $a \times b = b \times a$.
- (iv) The Law of Association for Multiplication: $(a \times b) \times c = a \times (b \times c)$.
- (v) The Law of Distribution of Multiplication over Addition: $a \times (b+c) = (a \times b) + (a \times c)$.
- (vi) The Law of Distribution of Division over Addition: $(a+b) \div c = (a \div c) + (b \div c)$.

(The last law is generally regarded as a simple corollary of the previous one.)

CORRELATION AND MATHEMATICS TEACHING*

T. S. RAJAGOPALAN

1. *Introduction*: One of the fundamental aims of learning is to enable us to make the best use of the things in the world around us so that we may serve as a worthy member of society. We learn things partly through our own experiences and activities and partly by listening to the narration of such, and things which are abstract have no attraction for us. One may speak hours and hours about the abstract quality of honesty without any purpose; but a mere illustration through a very short story appeals more easily to us, creates a better and lasting impression in our mind and reveals better the purpose of the possession the virtue. Mathematics which is now dreaded as, being an abstract science, has been built up as a result of the experiences of man and it has been the ambition of the teacher of Mathematics, whether in the distant past or in the present ages, to make it easily palatable by sugar-coating it with pleasurable experiences and activities. This process of relating Mathematics to man's experiences and knowledge acquired in other fields, is known as correlation. A study of the history of Mathematics will show that man tried his very best to imbibe in the learner an interest for learning by associating parts thereof with life situations. To cite an example, Mahavira, the author of *Ganithasarasangraha*, suggests a problem comprised in seven beautiful verses describing a night in spring when in a grove adjacent to a mansion, trees bend down under the weight of the branches of flowers and the air is resonant with the hum of the bees, the cooing of the cuckoo and the scream of the parrot, and gladdened by the delightful surroundings, sat a hero with his lady-love and as a result of the

usual pranaya kalaha, the pearls of the necklace around her neck scattered down; $1/3$ reached the hands of the maid-servant, $1/6$ fell on the bed, $\frac{1}{2}$ of the rest, $\frac{1}{2}$ of the rest, again $\frac{1}{2}$ of the rest,....(six times) were found scattered here and there and the string still held 1161 pearls. As these authors wrote mainly for adults, they introduced situations attractive to them and even old men might wish they were young again to relish fully the situation.

In the modern age as education is mainly for children and the teen-aged, correlation has to be done with great care and I have no doubt that the modern teacher has succeeded, as a result of his ripe experience, to make the children take an abiding interest in learning Mathematics. While in olden days the teacher insisted on learning by rote, by parrot-like repetition and by meaningless memorisation usually called the சந்தை and was himself a terror on account of his cane and the inhuman punishment of *Annanthal* and *Kothandam*, the modern teacher teaches through the pleasurable experiences of children and is loved and looked upon as an angel. The aim of the modern teacher can readily be inferred from the new titles given to books on Mathematics such as *Mathematics without tears*, *Mathematics for citizenship*, *Mathematics for business*, etc. and a perusal of these books will show that the contents of Mathematics are illustrated with life situations and with things from history, geography, science, and the like, and enthusiasts carry on sugar-coating to its height by giving prominence to situations rather than the principles or processes which they help to illustrate. Thus instead of naming the unit "The Multiplication of Money", the heading will read "A Market Day", "At the Grocer's", "At the Drapers", etc.

* Read at the Study Circle meeting at the Hindu High School, Triplicane, on 2-4-1962.

2. Having understood what is correlation, we should now consider in what different ways correlation could be done. The work of correlating is not an easy one, as the right kind of correlation, which is adopted as a means to an end, depends on the age of the children, on the mental attainment, on the locality — even on the day and the hour and even worse the mood of the children. Correlation in the early standards is quite different from correlation in higher classes and correlation in the upper standards has to vary essentially as the mental content of the children grows gradually and their attainments and their circle of experience widen.

In the early standards 1 and 2, for example, we have to draw in from the experiences of children, the games and tales they indulge in, the toys they play with and their own company and as such we speak of number "stories", narrations of familiar experiences like "Antie gave me 2 cakes and mummy gave me three. How many had I in all?" As the experiences of children are varied, no book can give a list of such "number stories" and the teacher who realises his responsibilities, should, as a result of his experience with the children, frame his own number stories and vary them according to the mood of the children.

As the children advance in years, their knowledge widens and as such cannot fail to appreciate the utility of Mathematics when we mention memorable dates from history, positions of towns on the map and significant points from science. In all the standards learning through activities is the order of the day and enthusiasts speak of the Mathematics laboratory wherein children do practical work under the supervision of the teacher. Even for fundamental processes as addition, subtraction, multiplication and division there are appliances and lessons sometimes begin with an indication regarding the apparatuses for work in the mathematics laboratory.

Correlation can be taken also as relating one to another the various bran-

ches of mathematics as can be seen from the fact that in Arithmetic we give geometrical diagrams as illustrations, numerical riders in geometry, algebraical proofs in geometry and geometry for illustrating factorisation and solving quadratic equations. Because of this correlation, the parts of Algebra dreaded so long by pupils — positive and negative quantities and the rule of signs in addition and multiplication, H.C.F., L.C.M. and fractions — have now become easy and the average pupil who is made to realise the connection between Arithmetic and Algebra is able to work out easily the most difficult parts of Algebra.

We can talk of correlation also when we combine oral and written work and this indeed, when properly done, is a great boon to the teacher and the taught. It can readily be inferred and teachers of experience can subscribe to the view that oral and written work cannot be restricted or segregated and that one cannot exist without the other. In the hands of an able teacher, oral work will help him to build the edifice of knowledge on strong foundations and in the intellectual void there will be a huge palace as with the lamp of Aladdin.

What can the teacher do who aims at correlating Mathematics as detailed above?

(1) The teacher should at first have a thorough knowledge of the topics he has to teach, the various units comprising the topic and their inter-relation, the previously acquired units or skills which lead to the topic and how the topic now to be taught leads to the acquisition of new topics to be taught. He must have a list of such units which he can subdivide into minor units for purposes of teaching.

(2) He can then note down against the topic what matter he can associate with it — whether it is from history or geography or science or from children's activities such as games and hobbies. It is also essential to note down which units are to be done through pupil activities and which

through demonstration and also the appliances required therefor. As has been said, oral work does find a place always and cannot be done away with; it is to be used while introducing a new topic, while working out problems, or while explaining problems or while guiding the children in their work.

(3) Mathematics is said to be the queen of all subjects, as it is all pervading and indispensable in every other branch of learning such as science, agriculture, engineering, geography and statistics. As such the teacher of Mathematics should himself have a fundamental knowledge of the subjects in the curriculum and also a knowledge of what is expected of pupils in these subjects. As correlation is only to arouse the interest of children, the experiences or ideas we give must essentially be well-known to them, things they have already learnt — not things they are now struggling with and experiences or ideas which are sure to interest them. The beginner can refer to standard text-books and note down for his guidance, not for following slavishly, how correlation is done. In a school like ours with many members on the staff, teachers may sit together and through mutual consultation, decide on the matter to be drawn from the pupils' experience for correlation. Lively and friendly discussions go deeper into our mind than a lonely attempt at studying and the results of co-operative are far-reaching and indeed very wonderful.

Let me take for example, a unit taught in Standard VI — Ratio and proportion. The various skills under this head are:

- (1) Notation using the colon.
- (2) Terms of the ratio should be in the simplest form.
- (3) Ratio is an abstract number.
- (4) The value of a ratio does not alter when the terms are multiplied or divided by the same number.
- (5) Getting new ratios from the given ratio.
- (6) Equality of two ratios — Proportion.
- (7) Testing a proportion.
- (8) Direct proportion.
- (9) Inverse proportion.

Under items 1, 2 and 3 we can think of the following for correlation;

- (i) Prices of commodities
(Note: To be integers)
- (ii) Time taken for travelling in carts, trains, ships and aeroplane.
- (iii) Areas of continents (zeros at the end are to be cancelled by dividing).
- (iv) The relation between the units.

foot and inch	12:1
yard and foot	3:1
furlong and mile	1:8
cm. and dm.	1:10
dm. and m.	1:10
- (v) Balanced diet.
- (vi) Contents of the food we take.
- (vii) Fluctuation in prices.

In this way we can note down the material for correlation, provide for practical work, and arrange for oral work which helps us to teach efficiently.

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DAILY RECORD OF A CASE HISTORY

S. JAGANNATHAN, Saidapet.

(Continued from January 1962 issue)

Y. M. D.

1 3 16

Removes mosquito curtain himself — comes out searching for mother into the kitchen. Not finding anyone started crying. After caressed by mother, felt normal. Removes fountain pen, its cover and again neatly fits in the same after 2 or 3 trials and errors. Also noted 3 or 4 days back. When pricked himself with nib point says ~~ear~~ but does not mind it. Fills and empties chalk and pencils from box to lid and vice versa. (plywood soap box). Occupies himself alone in this task. Feels shy at the presence of visitors. (K. S. K.'s family). Though says ~~lidi~~ at others eating rice — does not show any inclination to eat it himself.

1 3 17

Hides face in bed and repeats joke. Makes known of himself by noises. Enjoys fun while others find him at. Runs after sitting flies with glee. Points to stomach, forehead, eye, head, ear, nose, mouth, hand when mentioned one after another. When held by hand, goes up the ~~சாம்பனை~~ in the pial with his legs. Goes up the ~~பிளா~~. Up goes legs at the wall above. Goes up thus as if climbing a tree. Says ~~வாண்ணும்~~ sometimes at approximate times. Fountain pen—Removing and fixing cover. Unfastens loose unbuttoned button from shirt.

Y. M. D.

1 3 18

Walking not much in evidence. Would not swallow horlicks except by persuasion. More delay.

The new teeth on the upper row on either side fully visible. Hearing the train whistling, approaches brother to take him. When taken up in arms, looks to the back yard as if wanting to be taken there. Screwing and hitting. Does not want sister to come near him while fondled by brothers. No desire to take cocoa along with father. Has not yet regained usual appetite. Would not allow elder sister to sit on cradle. When he just got up would not relish horlicks. Slept a second time. Very chill and breezy day. More responsive and active in the evening. Sat on pial in the middle of brothers and sisters. Hides face close to the floor. Keeps silent, makes little noises and then gets up and laughs. Answers satisfactorily :

How does motor run — dog cry — cock cry — smear oil. Train run — lion cry — cow cry — clean teeth. aeroplane fly — crow cry — Duck cry — Wear sac ash. Pushes his cart himself with long strides, also rapid, with pleasure and says ~~தித்தித்~~.

1 3 19

Bites a piece of rusk. Eats a little. Not much. Hits with pencils in both hands at the

Y. M. D.

same time. Places a basin on father's thigh and says திக் திக். Gets near the back, stands and holds shoulders at meal time and looks at face. Laughs at light being reflected on his face by a lens. Does it himself in imitation of brothers. No inclination for food.

1 3 20 Wants to get up cot — raises one leg and places on cot. Stops with that effort. Says இந்தா giving his rusk. Withdraws his hand from sister. But gives to brother also to father. Likes to open and shut insect box. Hits floor with an inverted lota லோட்டா and pleased with the noise. Moves and comes back from place of urination. Beats cheeks while passing through temple and also at the beating of drums at a procession. Glances at things in hospital. Was more jovial in the evening than on two previous days. Wakes up at 3-15 a.m. Rays light and திக்திக் by listening to the ticks of the clock.

1 3 21 Whistles. Looks at mother churning curds. Gives send off to brother going to school in his baby language. Rolls a wooden pestle அப்பளக்குழவி in imitation of mother. Keeps a tin in standing position. Gets up and kicks it with right foot. As he lies in the cradle, pulls the pocket of his father and when things inside make noise says நின் நின் Points with first finger to the steam coming from hot rice, served in brother's plate and says ஊ Points with first finger to light in street and things above (but not specific). Stood up along with sister after being

Y. M. D.

rocked in the cradle — says திக்திக் to let us know of his awaking. Comes to brothers and sisters and plays. Says இந்தா with closed fingers. Sucks thumb while going out, but for short time only.

1 3 22 Puts rusk in father's palm. Closes fingers and opens them. Holds a jasmine with its stalk. Rotates it with 2 fingers. Pulls out the petals one by one. Says அச்சு after. Also uses அச்சு and இல்லை referring to a tumbler without water. [Cannot be yet confined as to the correct use of the word.] A lizard on the wall draws his attention. Takes flower to head or nose when asked. Knocking his toes against stand and feeling pain says ஊ. Calls flies ஏ. of his own accord. On father's return from school, and while he takes him pulls out the pen and pencil from pocket. (Also noticed previously). Enjoys while being pushed in his push cart himself standing in the middle shafting and holding the top. Shakes up and down a string with a piece of chalk tied at one end given by sister. The spider on the wall is also ஈஈ.

1 3 23 Rides on rolled up bed of brother. Looks at morning sun on being asked to see the sun. On being asked to ring the bell while sitting in the cycle seat, stretches hand towards the bell and rings it. Stands at the foot step of the doorway holding on to a side frame with 2 hands. Goes through a calendar of coloured flowers — names them all "flowers"

Y. M. D.

அப்பா — kisses the flowers when asked so. Handles churning rope when mother churns curds. Keeping a leather ring in his mouth, pushes a cart. Also keeps it on the cart in front and a pencil in the long middle shaft and then pushes the cart. Shows signs of renewing his walking, while walking towards his cart showed annoyance, as the cart was pushed by brother a little away from reach, by a short cry. Showed inclination to eat pan cake while at father's lunch time. Keenly engaged in writing on paper, putting pencil down, and examining paper without minding what others do, ask or interfere with. However in the middle, gives response as to cry of a duck or cock when pressed about the same. While not able to lift a heavy yam, kicks it with foot standing.

1 3 24 Looks intently at a cow standing in house front in morning — Holds chain and stands in cradle. Sits on the side frame and again holds chair on the right with his right hand. Lies down in cradle of his own accord and gets up. Though heavy, lifts a book, takes it to head, hits, knocks it on head, number of times saying அப்பா Takes a lid of a card board box with both hands, takes it to the back and brings it forward hitting the floor with this lid with both hands as if washing. Points flowers, light with first finger. Calls on yellow flower in cloth as flower அப்பா — Puts it on his head, when asked to smell, takes it to nose. Also smells yellow

Y. M. D.

flower in Puja — Pulls petals one by one and drops them one by one. Wants to hold noozle himself and drink from it. Does this by himself quickly.

Gets on bed saying திக்திக் Says வாண்ணாம்பு to (1) put him in the cradle and (2) Do you like to sleep? When there is no drink in the tumbler or nothing in hand, says அச்சு (We ask அச்சு when anything is finished, over, done, exhausted.) While sitting on verandah with legs stretched in front yard, makes effort to stand by himself, holding also a plate in hand. As he comes walking holding his father's hands, kicks something lying on the way with his foot. (a lid of a wooden toy). Understands the Commands like 'give it to brother, mother' — While going to them, is detracted by anything on way (as above). When things fall from plate in hand, wants to take them and put them in plate and continue his walk. Looks at book this side and that and acts as if reading. Thrusts his whole hand in warm drinking water — gets away and does not try it again.

1 3 25 Brings cocoa tin from shelf for the asking of his mother. Repeats it again. Stands on the first step of the door, holding the ring above. Says பீர்பீர், as if a motor is running when the door is moved to and fro on its hinges. Laughs heartily at sister jumping down from சாய்மணை crying 'ga, ga ga.' Stands, shakes hands up and down as if flying and repeats 'ga, ga, ga.' Understands

Y. M. D.

rain by looking at it when spoken to about it. Makes sounds while drinking from noozle. Looks at crows being fed while he was eating in pial. Reproduces some sounds instantaneously.

அதப்பலே, தப்பலே, கம்ளே, நம்ளே, வித்தே, வித்தே, லொள, லொள, என்ன, ப்ர் —

These sounds repeated a number of times. Looks into mirror, sees brother in it and calls அண்ணா — Shrill cries. Says கோ கோ, Cocoa to-day. Recognises and calls servant's daughter in street. How does servant maid polish rice? Ans.: நம் நம். Some new sounds. Says இல்லை after urinating indicating that he did not touch it. Calls baby in street பாபா Says இன்னுண்ணா by looking at stones behind meat-shelf similar to those in front — Sitting in a cradle and with a gunny tied all round, calls sister outside யய்யாயா. Opens and closes a tube with screw lid. (A needle tube). As brother gives a lens, takes it to the light closeby. Takes it to the face — Takes it to the picture and looks at the picture through the lens but lens too close to the picture and eyes too close to the lens. (What his brother did 3 or 4 days ago).

1 3 26 Throws away a clip and says வாண்ணாம் Expresses displeasure at seeing a string. As sister removed it, says வாண்ணாம் Sees ducks in friend's house. Says:

காக் காக் (குவாக், குவாக்.)? Can say ஆச்சா by looking at an empty tumbler. The brass lamp is also ஐட். The wall lamp is ஐட். Keeps toys in the cart and pushes it

Y. M. D.

Calls children in the street பாபா and others மாமா. A sound of motor horn recalls the name of ப்ர், ப்ர் motor automatically. Built of 4 toys a tower. Delight in walking noticed late in the evening. A long time at a stretch. Even when it was suggested not to walk expressed unwillingness by saying வாண்ணாம். While he fell down, stood, rubbed his knees saying ஊ also continued walking. Looks at spectacles and calls them ஐட். The sparrow's cry is to-day கீக்.

1 3 27 Repeated sparrow's cry as கீக் himself. Looks at insect box. Coughing, sneezing. Ate tiny balls of rice himself taking and putting in his mouth. Says ஆச்சா when the plate was empty. Ate some greens too. Practises his walking on bed. Gives a turning to the left as he walks. When falling and rising says ஊ for pain, says வாண்ணாம் at appropriate occasions. Puts a pencil in his pocket of his own accord.

1 3 28 Had fingers hurt by falling down while holding his push cart. Was softened by showing him a running train at that time. However looked at his hand, blows with mouth saying (uf) Says ஊ to brother. Uses தே, an expression to denote displeasure at a string near cart. Stands well balanced. Also bends down. Calls a constant visitor as மாமா and plays hide and seek with him. Calls loudly for the crows and when they come says இல்லை. Walks a lot on the pial. Calls another relative visitor மாமா Pushes the cart up the door step.

Y. M. D.

1 3 29 Gets up early morning. Plays தித்திக் with mosquito curtain by standing close to it and tossing it. Handles a string with no thought of a string and fear attached to it. Gets his cart as far as the end of the backyard, himself pushing it. Traverses a lot of distance by walking on the pial, verandah, hall, etc. Fell asleep at 9-15 a.m. and woke up at 11 a.m. Showed eagerness to eat iddli, but difficulty and delay in horlicks. While standing, bends down to pick-up a thing from the floor. Stands on a board improvised in the push and enjoys when being dragged it that position. Very considerate towards a baby visitor. (Rukmini's baby). Gives rusk, kisses it, looks at it with affection. Says தரக்கா even during sleep, while walking, looks at others and laughs with pleasure and pride at his performance. Turns right and left while walking. While the gipsy was at the street door, showed signs of fear by running to father. Puts on father's sandals. Only an attempt.

3 30 Names pictures. Elephant picture does not evoke the right name. (Has not seen one in the near past). Walks alone outside the street door

Y. M. D.

and goes to next house front. Enjoys running to and fro in the door, standing on the first step and holding the hook—says தித்திக் —Looks through lens, looks at light on his thigh, through the lens, with his eyes close to the lens. Calls sunlight as ஐட். Calls sparrow as கீகி and runs after it. Drives flies. Using an iron hammer after seeing brother breaking jaggery with it. When asked, 'where do you wear these?' showing picture of boots, points to legs. Gets up the window and stands on it. Moves right and left, holding on and changing his hold from and to iron bars. Shows signs of fear at Babu by running to mother, though he would imitate his shaking hands and moving lips. Inserts a quarter anna coin in a hole on the wall. When it does not rest there and falls down repeats effort number of times in placing it there to allow it to rest. Calls the moon number of times. Sits on the sieve, pushes and shakes one corner, says தித்திக் as if train is running. Goes to cradle on seeing brother near it saying லொளலொள and slept as he sang. Names one sister by her cry, but only brother to another brother.

Y=Year, M=Month, D=Date.

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This book of English Grammar and Composition is based on the well-known works on Grammar and Composition, written by P. C. Wren and Henry Martin, which have been used as text-books in Schools all over the country for a large number of years. It has been prepared primarily to satisfy the requirements of the revised course in English for Standards X and XI in the State of Bombay; but it will also meet the needs of High School pupils in other States where English in the Secondary School is taught with new aims and objectives and for a shorter duration than before.

The keynote of the book is simplicity—simplicity of language and simplicity of treatment. With the English course now shortened and the pupils' command over the language limited, some portions of the text-books by Wren and Martin, hitherto in common use, excellent as they are, required to be thoroughly revised and sometimes radically modified. The process of simplification undertaken in the present work has not been confined to the explanatory matter and the illustrative examples, but has been extended to the exercises, some of which have been entirely recast to bring them within the vocabulary range of the pupils. The inductive method has been used throughout, and every attempt has been made to avoid difficult technical details of grammar which make the subject so dry and uninviting to pupils learning English.

The book is divided into four parts dealing with (1) The Parts of Speech, (2) The Sentence, (3) Correct Usage, and (4) Written Composition. The aim of the Grammar portion, however, has throughout been practical, namely, to help the pupils to speak and write correct sentences in English within the limits of their controlled vocabulary. In the Composition section, the chapter on Comprehension is an entirely new one. Suitable passages have been selected from the writings of standard authors, and have, in many cases, been simplified and adapted to serve as a series of graded exercises in comprehension. A chapter on Translation has taken the place of the usual one on Paraphrasing; and the Essays now have a new look, as pupils are expected to write only about 200 words of continuous composition containing a description of scenes or people or a narration of incidents.

It is confidently hoped that this book will be found in every way suitable as a text-book of English Grammar and Composition, particularly in the last two years of the Secondary School.

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FROM OUR ASSOCIATIONS

THE ASSOCIATION OF THE HEADMASTERS AND HEAD- MISTRESSES OF THE SECONDARY SCHOOLS OF MADURAI DIST.

The General Body meeting of the above association was held on 10-3-'62 at 5-30 p.m. with Sri M. Arunachalam, M.A., L.T., President of the Association, in the chair in the premises of the Municipal Girls' High School, East Avani, Madurai. Sri R. Ramasubbu, B.A., B.T., Secretary and Treasurer of the Association read the Report of activities of the Association. The following resolutions were then passed:—

RESOLUTIONS

(1) In view of the fact that Secondary Education, as generally recognised, should cover the age group of about 11 to 17 years and that Secondary Education should be viewed not only as a preparatory stage for Higher Education but as a complete unit by itself, and in view of the fact that the shortening of the duration of Higher Elementary stage from 8 to 7 years in this State has involved the pupils in serious hardships much to their detriment, the Association of the Headmasters and Headmistresses of the Secondary Schools of Madurai District recommends to the Director of Public Instruction, Madras, and the Government of Madras that the pattern of 11-year schooling may be immediately introduced with effect from 1962-63, beginning with the pupils now in the Sixth Standard and that if and when the Higher Secondary Course is introduced in this state the whole pattern may cover 5 years of Primary stage, 3 years of Lower Secondary or Higher Primary stage and 4 years of Higher Secondary stage.

(2) Resolved that the Government be requested to raise the income limit for eligibility for receiving concessions under G.O. 926, G.O. 1373 etc. from Rs. 1,200 to Rs. 2,400.

(3) This association feels that the English Reader for the 6th Standard is not upto the mark and is far from adequate in meeting the requirements of the Syllabus as several lessons have been written without any direct bearing on structures and as even in the lessons where the structures have been introduced it has not been done in a natural way, and that it will only add to the difficulties felt by teachers; and so it fervently appeals to the Director of Public Instruction, Madras, to have this Reader suitably revised if it could not be replaced.

The discussion about the necessity of revising the English Text Book for the 6th Standard was initiated by Rev. Fr. T. M. Mathai, S.J., Headmaster, St. Mary's High School, Madurai. The President of the Association cited some defects in the book.

TIRUCHIRAPALLI DISTRICT TEACHERS' GUILD

The XXXI South Indian Education Week was inaugurated by G. M. Badsha, I.A.S., District Collector, Thiruchirappalli, on 27-10-1961. The District Educational Officer Sri Kandaswamy, B.A., L.T., presided. Sri Badsha pointed out in his speech that the teachers have to play an important part in bringing in harmony among the various divisions and work for the National Integration of the society. The D.E.O. stressed that the real responsibility of throwing of the differences must be and has to be done by the teachers. Sri R. Bhuvarahan, M.A., L.T., President of the Guild welcomed the guests. The function took

place at the Saraswathi Hall, National College High School, Thiruchy. Many headmasters were present. C. Srinivasaraghavan proposed a vote of thanks.

Various schools observed the Education Week in this District on the 28th of October.

The High School for Boys, Srirangam, celebrated the Education Week on 28th of October. Sri K. N. Rangasamy Iyer, B.A., L.T., Ex-Headmaster of the school was the President. Sri V. Rangaswamy Iyengar, B.A., B.L., delivered a lecture on Emotional Integration.

Short synopsis of Mr. Chittibabu's address at Tiruchi District Teachers' Guild on October 29, as desired by Mr. R. Bhuvarahan, President of the Guild.

Mr. Chittibabu recalled 1956 seminar on Social Studies led by him and conducted in the same hall and spoke on the importance of social studies or social sciences as they are now called. He referred to the recent Aligarh incidents, indicating brutality and barbarism—while national leaders were working for national integration—education on one side and emotional integration on the other side—hydra-headed serpent of linguism, communalism, casteism and provincialism—has crept up after Freedom—danger from television, radio, cinema and the Press if they do not work for integration. Cruelty of South African White's Government deriding Luthil, Nobel Prize Winner all because he was a native of S. Africa—India reputed for tolerance and love from time immemorial—love and tolerance had been dominating themes of work-a-day life for ages in India. Present need is moral fibre—greatest task facing teachers is for unification of the country—teacher could go down to the basic root of the problem and solve it on long range plan teachers must set example to others—their responsibility to society—they must face it with sincerity—excursions in real sense

help to broaden one's vision—history must be taught in right angle of national integration—teachers status in Madras State considerably improved in recent years—they must work hard and contribute their best for emotional integration.

EDUCATION WEEK

Under the auspices of the Tiruchirappalli District Teachers' Guild, the XXXI South India Education Week was celebrated on the 28th instant in the morning at 9 o'clock in St. Philomena's Girls High School under the Presidentship of Mr. Arokiaswami, lecturer, St. Joseph's College, Trichy. The speaker was introduced by Mrs. David, Asst. St. Philomena's Girls High School.

The theme for his year "Education and Emotional Integration", was clearly defined in the address. Teachers have to play an important role in the bringing up of a child as the rational nature of a child begins to blossom only at seven. Though strictly speaking, it begins even when the child is in the mother's womb, the realisation of one's personality can be done only later. Economists talk of specialisation and division of labour, but the process of integrating all together must be done by the teacher. Though neither the high school teacher nor the college lecturer can complete this within one's life time as the consequences can be reaped only in the next world. He referred to the inspiring books of Sts. Augustine and Thomas Aquinas and the literary pieces of Adam Smith and stressed the need to develop a love for a proper ideal.

THE MADRAS ARTS AND CRAFTS TEACHERS' ASSOCIATION

Report of the symposium on 'Teaching of Arts and Crafts in Schools' held on 9th March 1962 at the Examination Hall, Marina.

Under the joint auspices of the Madras Arts and Crafts Teachers'

Association and the Book Industry Council of South India and in connection with the 'Books and Arts Festival' held, a Symposium on 'Teaching Arts and Crafts in Schools' organised by the Madras Arts and Crafts Association was held on Friday the 9th March 1962 at 5-30 P.M. at the Examination Hall, Marina. Sri S. Natarajan, M.L.C. acted as the Observer.

Sri M. P. Rajagopal, President of the Madras Arts and Crafts Teachers' Association, welcomed the Observer and the guests present. Miss B. M. Brock, Correspondent of the Seton School of Embroidery and Needlework, Kilpauk, initiated the symposium. She said that a serious problem in teaching Arts and Crafts in schools was lack of suitable and adequate raw materials. She also referred to the difficulty in giving personal supervision in a large class. The speaker pointed out that as fashions changed it was often a problem for the teacher to keep abreast of the times. Sri S. Kuppuswamy Iyer, Principal of Jaya Arts School, who followed explained the methods of teaching various kinds of drawings. Sri P. B. Divyanathan of Wesley High School, Mr. John A. Ponniah of St. Pauls High School, Sri R. Venkatesan of Corporation High School, Sri Y. Devasigamani of P. S. High School, and Sri Pandya Durai of Sankaralinga Nadar High School also participated in the symposium. Sri V. Natarajan, Retired Dy. Director of Public Instruction, in a short talk advised the Arts and Crafts Teachers to make the teaching of Arts and Crafts in schools interesting and useful. Sri S. Natarajan, M.L.C. concluded by observing that the Arts and Crafts teachers should use their Association to improve their standards of teachings and they should publish a Bulletin periodically

to popularise the various aspects of Arts and Crafts instruction in schools.

Mr. C. K. Mani, President of the Book Industry Council of South India proposed a vote of thanks.

Earlier the participants in the symposium stood for a minute in silence as a mark of respect over the demise of Sri Ravi Varma, Registrar of the University of Madras.

Report of the Arts, Crafts and Hobbies exhibition held from 3rd to 6th March '62 at the Centenary Hall, Government Museum, Egmore, Madras-8.

An Arts, Crafts and Hobbies Exhibition was organised by the above Association and held in the Centenary Hall, Government Museum, Madras on the 4th, 5th and 6th March 1962. The Exhibition was declared open by Sri J. Isaac Albert, District Educational Officer, (Madras North) and Sri D. Srinivasan, Joint Director of Industries and Commerce (Handicrafts) presided on the 3rd March at 5-30 P.M. Sri M. P. Rajagopal, President of the Association, welcomed the guests present. Sri John A. Ponniah, Joint Secretary, read a report of the Exhibition. Sri C. M. Balakrishnan, the Joint Secretary, proposed a vote of thanks.

The Exhibition was visited by over 2,000 pupils from various schools in the city and it was very interesting and educative. 25 schools (Secondary, Private and Industrial) participated in the Exhibition. The Exhibition consisted of Models, Paintings, Embroidery Work, Handicrafts, Wood Work, Rattan Work, Glass Beads Work etc.

A few selected Exhibits were also exhibited in the Books and Arts Festival organised by the Book Industry Council at Examination Hall from 4th to 11th March 1962.

NEWS AND NOTES

RAO BAHADUR CALAVALA
CUNNAN CHETTY'S HINDU
HIGH SCHOOL,
TRIVELLORE

The Donor's Day was celebrated in our school premises at 4-30 p.m. on 3-3-1962. After prayer by the girl pupils Sri C. Ethiraj, B.Com., Hon. Correspondent of the School welcomed the president and the guests. Sri N. Appalaraju, B.A., B.Ed., Headmaster of the school read the Annual Report for the year 1960-61. Sri J. Govindaswamy, B.Com., a member of the Trust Board delivered the Commemoration Address. The Commemoration verses in Honour of our Donor late Sri Calavala Cunnan Chetty were read in Tamil and Telugu by the teachers.

The president Sri D. Sridharan, I.A.S., Sub-Collector, Trivellore, in his presidential speech paid a glowing tribute to the Donor for his munificent endowment left for various charitable Institutions.

The Annual Athletic Meet of the Rao Bahadur Calavala Cunnan Chetty's Hindu High School, Trivellore was held on Wednesday, the 28th February 1962 under the presidency of Sri K. V. Natarajan, B.A., Municipal Commissioner, Trivellore.

The Meet commenced with a March Past of the competitors and Sri N. Appalaraju, B.A. B.Ed., Headmaster of the School took the salute. The Headmaster welcomed the President and the guests. Sri R. J. Dharmaraj, B.A., D.P.Ed., Senior Physical Training Instructor read the Annual Report for the year 1961-62.

Sri K. V. Natarajan, B.A., Municipal Commissioner, Trivellore distributed the prizes and trophies to the winners in the various events. After proposing a vote of thanks the function came to a close with the singing of the National Anthem.

OUR BOOKSHELF

THE TEACHING OF MATHEMATICS: By S.I.T.U. Council of Educational Research. Publishers: S.I.T.U. Publications Limited. Madras-28. Price Rs. 3/-. Pages 140 plus vii.

This is bulletin No. 6 of the S.I.T.U. Council of Educational Research brought out as the result of Study of the subject by experienced teachers of Mathematics to serve as a guide book for teachers of Standards I to VII as per new syllabus. The contents indicate lesson units, aims of teaching every one of the units, and suggest teaching points and activities that can be pressed into service to make teaching effective.

Emphasis is laid on the various possibilities of making metric system of Weights and Measures and decimal coinage an extremely useful aid to the teaching of decimals in the several standards of the schools. The get-up of the book is good.

EUROPE: By Roger Cole, B.A., Price 12s. 6d. (Nelson & Sons).

This volume in Nelson's Geography Texts deals comprehensively with the continent which has played a part in the history of the world out of all proportion to its small size. Europe as a whole, in all the richness of its past and present variety, is built up before

the eyes of inquiring older pupils by a succession of brisk and suggestive outlines of its parts. Those preparing for examinations will find here the factual details which they require; those with a disposition to conceive the subject imaginatively will find countless indications to kindle this imagination.

An introductory section of six chapters treats the continent under the aspects of its general character, physical features, climate, vegetation, economic activities, and population. The rest of the book covers the individual countries numbering 22 from the British Isles to Switzerland.

WALL CHART: C. 786. Physics-Mechanics—The Gas Turbine. Price 10/-.

A diagrammatic section drawing of the axial flow engine is related to the internal combustion engine for induction, compression, power and exhaust. Three examples of typical applications are given with brief technical details.

THE TEACHING OF SECONDARY MATHEMATICS: By Prof. Charles H. Butler and F. Lynwood Wren — Third Edition — McGraw Hill Book Company — 624 pages.

The book under review consists of two parts. Part I dealing with the programme and the improvement of instruction in Secondary Mathematics and Part II dealing with the Teaching of the special subject matter of Secondary Mathematics. Justification for bringing out the third edition of the book is sought by reference to the significant changes and developments with respect to the subject during the last decade since the second edition of the book in 1950. Education should be dynamic in the sense that it should take into account the changing needs and trends of the times and hence the publication of this edition is quite welcome.

Curriculum makers and text-book writers in our country may profitably

take a leaf from the educationists of the States in their zealous attempts to enrich the content of Education in general and of Mathematics and Science Education in particular to meet the growing needs of the times, from decade to decade.

Significant changes and developments with respect to the subject naturally have a bearing on the instructional programme. New courses to suit contemporary and future needs, a functional mathematical programme adapted to the education of the masses and also a mathematical programme to satisfy the demands of colleges and of the professions, trades and industries, methods of teaching making effective use of demonstration, laboratory, audio-visual aids, library material, community resources and field experiences are some of the points mentioned in the first part of the book making it thought-provoking to those who may be connected with framing courses of studies and syllabus in mathematics in institutions of the secondary and the next higher level in our country.

Of late, traces of a growing feeling of discontent as regards mathematical instruction can be seen in remarks that students pass out of even our tenth standard with inadequate grasp of the fundamentals of mathematics. The three basic problems of instruction in mathematics are (a) "helping the student to develop understanding and mastery of new concepts, principles, relationships and skills, (b) helping him to maintain the understandings and skills already acquired, and (c) helping him to secure maximum transfer of learning to the physical and social environment." The book gives practical suggestions as to how to meet the above-mentioned problems and make instruction so effective as to avoid waste and stimulate interest.

The part of the book on the Teaching of Mathematics does not so much actually deal with detailed notes of lessons as it does with aims and objectives of the teaching of the topics or

units, concepts, abilities and skills to be developed, points of difficulties and ways of solving them. The chapters on the teaching of graphs, Trigonometry, Analytical Geometry and Calculus come to us with a refreshing novelty.

An exhaustive bibliography at the end of each chapter and exercises to stimulate interest and further work make the book useful and well worth a study.

V. ARUNAJATAI.

MODERN ARITHMETIC. Book IV. (English medium). By R. Narasimhachari. Price Rs. 2.50. (Oxford University Press, Mount Road, Madras-2)

This is intended for Anglo Indian schools. VIII Standard pupils of the Secondary Schools taking English medium will find this very useful to them also.

CO-OPERATION. By W. R. S. Satyanathan and J. C. Ryan. (Oxford University Press, Mount Road, Madras-2). Price 80 nP.

This is a new edition of a book, that was first written by the same authors in 1946 and published as Oxford Pamphlet No. 359 of Indian affairs having in view the Socialist pattern of society which implies the creation of large numbers of decentralised units in agriculture, industry and the services. Very useful to the layman wanting to know of co-operation.

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(Oxford University Press, Mount Road, Madras-2).

These lower grade supplementary readers provide attractive books with large type and plenty of illustrations for young children.

TEACHING ENGLISH. By Bhandari, Hinkley and Ram. Price Rs. 2.50. (Orient Longmans Ltd., 36-A, Mount Road, Madras-2.)

This is a hand book intended mainly for teachers of English in the junior classes of a High School. Teachers in the higher classes will also find it useful. It is essentially a book of suggestions, illustrating how some of the difficult items on the syllabus for the first three years are to be taught, how oral work, reading, writing and composition are to be handled and how tests and examination papers are to be constructed.

Receipt of the following publication is thankfully acknowledged.

1. Commonwealth — Today No. 88.

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Mysore State Educational Federation,
Bangalore.

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SOUTH INDIA.

THE SOUTH INDIA TEACHERS' UNION

RAJA ANNAMALAI PURAM, MADRAS-28

AMENDMENTS TO THE RULES OF THE UNION

In the Memorandum of Association of the South India Teachers' Union.

Name and Jurisdiction:

- (1) Wherever the word 'Presidency' or 'Provincial' occurs put the word STATE.

- (2) *In the Memorandum of Association of the S.I.T.U.* In rule 3 of the Objects:—in the sub-clause No. (i).

Existing

- (i) instituting a Protection Fund;

Amendment Proposed

- (i) instituting Funds for Benevolence, Defence and Protection of Teachers;
(Executive Board of the S.I.T.U.)

- (3) *In the Memorandum of Association of the S.I.T.U.*

CONTROL

Existing

"The Union shall be under the general control of an Executive Board consisting of a President, Two Vice-Presidents, a Secretary, a Joint-Secretary, a Treasurer, a Journal Secretary, and the S.I.T.U. Protection Fund Secretary and one representative for each of the districts in the Madras Presidency elected by the respective District Guilds or co-opted by the Board. The President, the Secretary and the Treasurer shall be residents of Madras."

CONTROL

Amendment Proposed

"The Union shall be under the general control of an Executive Board consisting of a President, four Vice-Presidents, two Joint-Secretaries, one of whom shall be in charge of Elementary Education, a Treasurer, and a Journal Secretary and one representative for each of the districts in the Madras State elected by the respective District Guilds or co-opted by the Board.

The President, the Secretary, the Joint-Secretary in charge of Elementary Education, the Treasurer and the Convener, Vigilance Committee shall be residents of Madras."

(Executive Board of the S.I.T.U.)

- (4) *In page 4 of the rules of the Union.*

In 1 Membership. in Sub-Clause (b)

Existing

"(b) Teachers' Association in a District shall ordinarily be affiliated to the District Teachers' Guild in that

Amendment Proposed

"(b) Teachers' Associations in a District shall ordinarily be affiliated to the District Teachers' Guild in that

Existing

district, which, in its turn, shall be affiliated to the South India Teachers' Union. A member of any Guild or Association affiliated directly or indirectly to the Union shall enjoy the privileges of 'individual teacher members' in regard to the Protection Fund."

Amendment Proposed

district, which in its turn, shall be affiliated to the South India Teachers' Union, Associations of Employees of Educational Institutions other than teachers may be admitted as associate members."

(Executive Board of the S.I.T.U.)

(5) *Page 5. Rules of the South India Teachers' Union.*

Clause 1. Affiliation Fee.

(a) District Teachers' Guilds:—
in sub-clause (a) Para No. iii.

Existing

"A sum calculated at annas four per individual member on its rolls in the previous year."

Amendment Proposed

"A sum calculated at Rupee One per individual member on its rolls in the previous year."

(6) *Page 5. Rules of the South India Teachers' Union.*

Clause 1. Affiliation Fee. In sub-clause No. (a) Para No. ii.

Existing

"(ii) A sum calculated at the rate of Rupee One per 50 members on its rolls of Elementary School Teachers' Union (whether centre, Range or Taluk)."

Amendment Proposed

"A sum calculated at 25 nP. for Elementary Grade Teachers, 50 nP. for Secondary Grade Teachers, on its rolls in the previous year should be paid. (There is no minimum or maximum)".

(7) *Page 5. Clause 1. Affiliation Fee.*

in sub-clause (b) Association not attached to any school and considered as a provincial association.

Existing

"The affiliation fee of an association considered as a Provincial Association shall, subject to a minimum of Rs. 50/- and a maximum of Rs. 100/-, be an amount calculated at annas four per member on its rolls as on the 30th June of the year preceding."

Amendment Proposed

"The affiliation fee of an association considered as a State Association shall, subject to a minimum of Rs. 50/- an amount calculated at Re. 1/- per member on its rolls as on the 30th June of the year preceding."

(Executive Board of the S.I.T.U.)

(8) *Page 5. Clause 1. Affiliation Fee.*

in sub-clause (c) Teachers' Associations attached to schools or colleges in areas where there are no District Guilds:—

Existing

"The affiliation fee for an association attached to any school or college in areas where there are no District Tea-

Amendment Proposed

"The affiliation fee for an association attached to any school or college in areas where there are no District

Existing

chers' Guilds shall be an amount calculated at the rate of four annas per member on the maximum strength in the preceding year subject to a minimum of Rs. 5."

Amendment Proposed

Teachers' Guilds shall be an amount calculated at the rate of Rupee One per member on the maximum strength in the preceding year subject to a minimum of Rs. 10/-."

(9) *Page 5. Clause II. Subscription.*

The annual subscription for individual members of the S.I.T.U. shall be as under:

Existing

"(a) Teachers in Elementary Schools—annas Eight per member."

Amendment Proposed
DIRECT MEMBERSHIP

"(a) Teachers in Elementary Schools—Rupee One per member."

(10) *Page 6. Rules of the South Indian Teachers' Union.*

Rule 5. Office-Bearers, etc.:—
Line 11.

Existing

". . . The President, the Secretary, and the Treasurer shall be persons resident at the head-quarters."

Amendment Proposed

". . . The Secretary and the Treasurer shall be persons resident at the head-quarters."

(11) *Page 7. Rules of the South India Teachers' Union.*

Rule No. 5. Office-Bearers, etc.:—
Para No. III.

Existing

". . . two other members of the Executive Board nominated by the President."

Amendment Proposed

". . . two individuals nominated by the President to the Working Committee need not be members of the Executive Board."

(12) *Page 6. Rules of the South India Teachers' Union.*

Rule No. 50. Office-Bearers etc.,

Amend thus para No. 1 of the Rule 5 Office-bearers etc.,

"The Office-bearers of the Union shall be a President, four Vice-Presidents, a Secretary, a Joint-Secretary, a Treasurer, and a Journal Secretary. There shall be an Executive Board, a Working Committee and a Vigilance Committee. The President, the four Vice-Presidents, the Convenor of the Vigilance Committee and the Treasurer, shall be elected annually, preferably on the occasion of the State Educational Conference at a General Body meeting of the Union, presided over by the President of the Union, or in his absence a Vice-President, and if no Vice-President is present by one elected by the General Body. The

President, the Secretary and the Treasurer shall be persons resident at the head-quarters and they shall, along with the Joint-Secretary, the Journal Secretary, the Secretary of the Vigilance Committee and the Administrator of the Benevolent Fund of the South India Teachers' Union and the Ex-Presidents of the South India Teachers' Union, be ex-officio members of the Executive Board as well as the Working Committee. The Office-bearers of the Union, the members of the Executive Board, and the members of the Working Committee shall hold Office for one year or until their successors are elected."

(13) Page 7. Rules of the South India Teachers' Union.

Rule 5. Office-Bearers etc.,

Para No. 8 Duties and Powers of the President :—

add last of the paragraph thus :

"and shall be deemed the Chief Executive authority of the Union."
(Executive Board of the S.I.T.U.)

(14) Page 15. Rules of the South India Teachers' Union.

Rule 10. General Body Meeting :—

Existing

Amendment Proposed

"The General Body shall consist of Teachers' Associations affiliated to the S.I.T.U. directly or indirectly and only delegates authorised by the Associations shall be entitled to take part in the proceedings of the General Body Meeting. The General Body shall meet ordinarily on the occasion of the Provincial Educational Conference to elect the Office-bearers."

"The delegates to the General Body shall be the delegate or delegates designated as representatives. The Representative assembly shall be the General Body. Every association affiliated to the Union either directly or indirectly be entitled to one delegate, with an addition of a delegate for every 50 members in excess of the first 50."

THE SOUTH INDIAN TEACHERS' UNION

ANNUAL GENERAL BODY MEETING

NOTICE

A meeting of the General Body of the South India Teachers' Union will be held at 2-30 p.m. on Friday the 18th May 1962 in the Conference Hall, P.S. High School, Madras. Members are cordially invited to attend the Meeting.

AGENDA

1. Consideration and adoption of the Annual Report of the Union for the year 1961-62.
 2. Election of Office-bearers for the year 1962-63.
 - * 3. Amendments proposed for the Constitution of the Union.
 4. Any other business brought forward by the Executive Board.
- * NOTE :—The amendments proposed for the constitution of the Union, are given in the preceding pages.

REV. D. THAMBUSAMI,
President.

S. D. KRISHNAMURTHI RAO,
Secretary.

N. K. VENUGOPAL,
Joint-Secretary.

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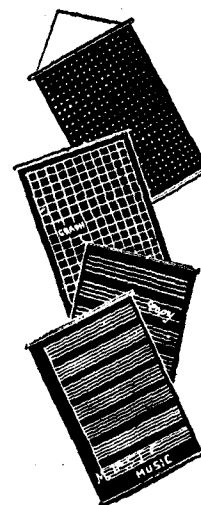
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