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THE SOUTH INDIAN TEACHER

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EDITORIAL

How to improve the organisational efficiency of the Union

Disparity in knowledge, equipment and tastes among teachers of different cadres cannot be helped. Such a disparity is common in any country in the World. But, some how or other, Western countries have succeeded in building up financially strong professional organizations that dispel such dissimilarities and cement professional friendships, while we here are sadly lacking both professional solidarity and financial resources. We have shown abundant personal loyalty to our leaders, but we seem not to have given enough proof of institutional loyalty. The South India Teachers' Union has, by its age, service, organizational stability, and wise leadership, won the appreciation of sister organizations in India and abroad. Yet, it is sad to note that it has not quite succeeded in bringing to its fold Elementary School teachers and College teachers to an appreciable extent. Separatist tendencies have, for some years past, been rearing their heads. The South India Teachers' Union should go all out to secure and maintain professional solidarity.

The strength of any organization depends not only on its numbers but also on its financial resources. Financially, the Union, it must be admitted, is still weak. It is not able to pay travel allowance to the members of the Executive in a manner consistent with the dignity of their office. To its representatives on the Council of AIFEA, it is not able to pay T.A. and A. for attending important meetings.

Sometimes, the Union's finance is so low that it is not possible to give even delegation fee to its delegates to the AIFEA Conference. Surely, this is a depressing and annoying situation, which ought to be remedied immediately.

Prompted by this and several other considerations, the Executive of the South India Teachers' Union held a seminar (10th November 1961) at Coimbatore on 'SERVICE TO THE TEACHERS' UNION'. A summary of the recommendations of this seminar was published in the January 1962 issue of the *South Indian Teacher*. The recommendations in respect of securing a strong stable executive and ensuring adequate finance for the work of the Union deserve the most careful consideration of all those interested in the growth of the S.I.T.U. It is hoped that the State Educational Conference to be held in Madras early in May, will be made the occasion for giving serious thought to the problems of organizational efficiency and financial resources of the Union.

The teaching of current affairs

We are glad to note that the S.I.T.U. Council of Educational Research held recently in Madras 'A Seminar on the Teaching of Current Affairs'. We are informed that a Committee with Professor R. Bhaskaran as Chairman has been appointed to guide follow-up work. This Committee recommends the following points to be borne in mind in the teaching of Current Affairs :—

"1. It is necessary for the teacher to maintain a non-partisan outlook on the current affairs discussed.

2. A conscious effort should be made to help pupils distinguish propaganda from fact by training them (a) to consider critically propaganda, and (b) to gather information on diverse aspects which will give them adequate basis for weighing the different view points properly.

3. The teacher should have recourse to incidental teaching, i.e. referring to current or recent events as and when the related topic is dealt with in the normal course of class work. (Where necessary, a social studies period may be devoted exclusively to the discussion of current event or topic.)

4. Literary association meetings could be devoted to (a) discussing a current topic, (b) braintrust of teachers or quiz programme, (c) a symposium by pupils who would gather and present material on sections assigned to them under the guidance of a competent master, and (d) examining pros and cons of weekly or daily news bulletins and holding discussion classes relating to them."

We commend the suggestions to the careful attention of teachers of social studies.

Pension for college staff

We are very happy to know that Government has responded favourably to the long-standing representation of the South India Teachers' Union that the pension scheme should be extended to the teachers of all grades and kinds. The college teachers also have been brought into line and we have no doubt that this will be a source of great satisfaction, specially to all those who have been working in colleges and who have nothing but mere dignity to stand upon when they retire from the teaching profession.

We would request Government to frame suitable rules for the administration of the pension scheme in a liberal manner by fixing the amount of pension, consistent with the position and status of the Principal, Professors,

Heads of Departments, Tutors, Lecturers, Assistant Lecturers, Demonstrators, etc.

In view of the fact, that the pension scheme of 1958 of the High School Headmasters and L. T. Assistants was given a retrospective effect so as to extend the benefit of the scheme to all the headmasters and assistants who had retired since 1955, we request Government, similarly to extend the benefit of the pension scheme to all the teaching fraternity in the colleges who have retired since 1958, although the pension would be drawn by them only from 1962.

Pension for lower grades of the teaching profession

We are happy at the prospects of destitutes past the age of 65 who from the 1st of April 1962 will be getting a pension of Rs. 20/- per mensem. By this and many other social legislation, our Government has taken a leap forward towards the formation and development of a thoroughgoing Welfare State. However, in-as-much as, Government has accepted its responsibility for the destitutes — the authorities have admitted the basic minimum pension amount that should be paid even for a destitute to eke out an existence.

We understand that there are teachers who are getting a pension of Rs. 10/- and Rs. 12/- p.m. While destitutes are entitled to a pension of Rs. 20/- p.m., it behoves Government to see that no teacher, however humble, gets a pension less than Rs. 20/- p.m. A teacher, after many years of toil in the nation-building activity, should get nothing less than Rs. 20/- p.m. For that matter, few teachers survive the age of 60; and when they do they are like the man in the parable, "I have not strength to dig; to beg, I am ashamed" — a position as much pitiable as that of destitutes.

We do hope that Government will take into consideration all these and present a comprehensive scheme of the whole pension scheme and its beneficiaries and not deal with them piecemeal.

MAKE NO LITTLE PLANS*

LYLE W. ASHBY,

Deputy Executive Secretary, National Educational Association of the United States.

I

Since the first of November, it has been my privilege to see something of your land of India.

We have been treated so hospitably by Indian teachers in every city where we have stopped that our hearts have been warmed again. We shall never forget these acts of kindness.

We are especially thankful to the All India Federation of Education Associations for the invitation to come to India and to the United States Educational Foundation in India for making it possible. We wish to thank Prof. Sharma and all the officers of the AIFEA. We are indebted to Mr. Natarajan for his counsel in Delhi before we set out on our trip. Mr. Sahasrabudhe, the Secretary of the AIFEA, developed much of the schedule and we are grateful to him for the efficient manner in which he made arrangements. We also wish to thank Mr. Franklin of the WCOTP office in Delhi for his courtesies and, of course, Dr. Reddick of the Foundation office in Delhi. Finally, we thank all of you who had any part in making arrangements for the seminars and other activities. They showed the results of careful planning.

II

India is a great land—great because of its expanse, being two thirds the size of all Europe exclusive of Russia.

It is a great land because of its people. Even though population growth does need to be levelled off, the people are the nation's greatest resource.

It is a great land because of its solid promise for the future—the days to

come when hunger and poverty and disease may be banished, when no child shall be uneducated, when the purchasing power of its population may be raised to provide prodigious markets for the agricultural and industrial products of this country.

What India has accomplished under the inspiring leadership of Prime Minister Nehru is a thrilling story. You have taken over the full reins of Government at all levels. You have lengthened the span of life, reflecting attention to the health of the people and improved agricultural methods. You are expanding primary education at a rapid pace to make a reality the objective of compulsory primary education to age 14.

You have made vast strides in the development of an industrial system. Your first and second five year plans, and now the third plan, have pointed the way to progress. This has been a demonstration of planning through democratic processes.

We have been impressed since we came to India with some of the parallels that exist between the United States of America and your country. Both peoples sought and achieved their independence—the right to be free men, self-respecting men, self-governing men.

Once having achieved freedom, the early leaders of my country—Washington, Jefferson, and others—recognized that education was indispensable to a self-governing people. Jefferson said, for example: "If a nation expects to be ignorant and free in a state of civilization, it expects what never was and never will be."

* Jha Memorial Lecture delivered at the XXXVI All India Educational Conference, 1961, Trivandrum.

Similarly, in your country with independence came the imperative need for the extension and improvement of education because illiterate people cannot be informed and intelligent voters. This need is clearly recognized in India even though much remains to be done to provide education for all.

There is one other parallel. Since we have visited various parts of India, we have noted many different languages, customs, and faiths. We have heard the term "emotional integration." My country had such a problem too. You will recall that people from many lands came to settle in the new world of the Western hemisphere. Perhaps the people who came to these shores as transplants were not as "set" and deeply rooted in their ways as your peoples who are rooted in an ancient civilization. Nevertheless great diversity of language and culture was the early heritage of America. The schools were the primary means by which these diverse peoples were welded into the great nation that we have today. And, in the end, I suspect that the schools of India will be the prime means of achieving emotional integration here.

III

Now let me turn from these general observations to the subject of professional organizations for this is my major interest and assignment on this trip. Please bear in mind in what is to be said that India as a whole (as well as I know it) is under consideration. Your states, as in the U.S.A., are somewhat individualistic in their educational policies. If what is said does not fit the case in your particular state remember that all generalizations have exceptions.

Most of the concerns of teachers expressed in the seminars in which we have participated had to do with the welfare of the teachers: Salaries too low, meager old age pensions, inadequate recognition by governments on

other amenities, teachers in training not adequately assisted, superannuation too early, summary dismissals without explanation, class size that is unmanageable, and the like. These are the kinds of problems with which teacher organizations have been most concerned.

However, I also heard what may be an increasing number of voices among teachers who believe that educational organizations should also concern themselves with upgrading the standards of the teaching profession and improving the quality of instruction in the classroom. Many of you, for example, are concerned about private tuitions carried to excess because the practice seriously handicaps the regular daily work of many teachers. Whatever the cause and however justified the practice, from some points of view, it appears to have become a cancerous growth which both governments and the organized teaching profession should join forces to bring within reasonable bounds.

Here are some of the other things that I have learned about your professional organizations

1. You already have many organizations which have solid accomplishments to their credit. There are able and dedicated individuals scattered throughout the nation who have given effective leadership in the face of trying obstacles. There is room for congratulation in many places.

2. For the most part you have developed separate associations for different levels of education and different phases of the work. Exceptions which I have thus far visited include the South India Teachers Union and the State Teachers' Union of Andhra Pradesh although another section of this State has another association. This same problem, due to the redistricting of the states, also appears in Mysore and doubtless elsewhere.

3. Your state and national programmes are based on the concept of

organizational affiliation and not at all on individual membership in them. You affiliate local groups to the state bodies (primary and secondary being usually separated) and then affiliate the separate state groups and certain national and regional groups to the All India Federation of Educational Associations. In some states a small part of the fee charged to the local member is sent on to the state but it appears to amount, in any case, to an organizational affiliation fee rather than an individual membership. The only resource of the All India Federation is the affiliation fee. Resources from this set-up for the state and national programmes appear to this observer to be too limited to underwrite the strong professional organizations so desperately needed at these levels.

4. For the most part, membership fees paid by teachers are low — only a rupee or two in many areas.

5. A large but undetermined percent of the teachers of India are not members of any organization.

6. The programmes of a great many associations are spasmodic, somewhat like a highly irregular pulse — and it follows that membership is spasmodic.

7. Because so many teacher organizations have been spasmodic and weak there has been a high mortality among them. When one objective is achieved, often with funds specially donated, interest in the organization falls away. The death rate has often been about equal to the birth rate.

8. Much of the action of such associations has been of the demonstration or deputation type and most often on welfare problems. Strikes or threatened strikes are a weapon also used by some organizations.

9. There are no full time permanent professional staffs to serve the national organization, and in but a few state associations and then in limited capacity.

10. Business affairs in some associations are not managed with care. No

self respecting organization should operate without a careful budget based upon a realistic appraisal of possible income or without a searching annual audit to ascertain whether the funds have been used as budgeted.

11. The seminars have revealed a genuine interest in finding ways to build stronger professional organizations. This offers great hope for the future.

IV

From my limited observations both as to time span of a few weeks and only partial coverage of the nation, my perceptions may be inadequate and incorrect. The prescription that I am about to give may, therefore, be based upon a faulty diagnosis. Nevertheless, I wish to suggest a possible programme of action to be built upon what has already been accomplished. It is based on wrong premises and a misunderstanding of the facts of life for the teachers of India you can reject the prescription in whole or in part. Or you can suggest adaptations that would make the proposals feasible.

My suggestions will be based, however, on the belief that you who are the leaders of the professional organization movement in India will lay the soundest foundations for future growth and development if you set some great objectives to steer your course by, objectives that are worthy of a profession so important as teaching at the present stage in the development of this great free people.

Earnest Burnham once made a statement that is surely appropriate to our problem when he said: "Make no little plans. They have no magic in them to stir men's blood. Make big plans. Aim high in hope and work in the knowledge that a noble diagram once recorded will assert itself with ever growing insistency."

Let me suggest a three point programme.

The first imperative need is for unity. Building on the foundations you have already laid, the next great step should be the union of all educational workers into effective general associations at the local, state, and national levels. There will, of course, be objections: The problems of one group of teachers are different from another. Primary teachers must deal with Government everywhere and in some cases with private managements. In secondary education, there are strictly private schools, aided schools, and Government schools. Teachers at one level are paid more than at another. Requirements are not the same. There is more status at one level than another. There are different language groups to be served.

Perhaps so but let me counter with these observations based on some experience with the development of the teaching profession and professional organizations:

- (1) Teaching is "one" profession, regardless of the subject or school level.
- (2) Teaching at any level—primary, middle, or secondary school — is equally important in the development of an educated person.
- (3) Various phases of education and of the organized teaching profession will rise or fall somewhat together. One phase cannot get too much out of line with another. What is good for one phase will ultimately be good for the others. To use the strength of all teachers to win a gain for any group of teachers is to lay the groundwork for gains by the others.

It appears to this observer that the unification of professional organizations at the local, the state, and the national levels should be made an overall objective to be achieved as soon as conditions and human understandings will permit. In this approach

would be included all professional elementary and secondary school workers, teachers in training who should be learning about professional organizations while they are in training, and those who teach in the training colleges.

In the local scene (however defined), there would be one general organization to serve the common interests of all teachers. In the state scene, there would be one general organization serving the needs of all teachers at that level. Finally, in the national scene, the All-India organization would be more than a loose federation of state groups. It would become an active national leadership organization serving members directly as well as through the affiliated state groups. It could retain the affiliation of specialised national groups.

Only by unification can numbers and resources be large enough to undertake the programmes so urgently needed at all levels. By working together in single strong associations at each level tremendous economies of time, effort, and money can in the long run be achieved. Influence, finally, will be far greater if all the teachers in the state, local, or national scene speak with one voice.

Parenthetically, let me urge that associations be set up to cover larger units than an individual school faculty as is the practice in some areas. (Faculty groups can, of course, work together as they wish). The primary schools of a given city or taluk have common problems. Each building should have a building representative who would serve on the council of the city or taluk (or otherwise defined local) organization. Secondary schools, to be sure, have many different managements. This fact, however, adds to the weight of the argument for the teachers to hold membership in a city or taluk area. It lessens the problem posed when a particular headmaster or management does not want an association of teachers. Unfriendly

management may be able to ban such a group in the individual school but would not have control over an association covering a larger area. The right of teachers to belong to professional organisations should, if necessary, be assured by state legislation.

Such a proposal need not overlook the legitimate special interests of various natural clusters of persons within the teaching profession. These interests can be served by permitting and encouraging sections of the general associations—sections for teachers at different levels, for subject matter fields, for administrators, for special services, and the like. There is no time to deal with this in detail but our experience in the United States shows that such a system can work effectively.

In such a plan of unification the strike, as a weapon that some of your associations have used, would not be available since teachers in Government schools may not act against the Government. These teachers can, as I understand the situation, in most states—possibly not in every state—participate in an organisation which gathers facts, interprets them, moulds public opinion, uses persuasion, and all of the other activities that our associations in the U.S. depend upon. In the U.S.A., we have a no strike policy in the belief that the education of children should not suffer because two sets of grownups—the teachers and the Government—cannot agree. In the long run, would not strong unified organizations with all of the other means at their disposal for working at the problems facing the teachers be more effective than fragmented groups which resort to strikes? You will need to assess this question and make your own decision.

There is also the question of recognition by Governments. Some organizations apparently prefer to work without recognition rather than to be bound by the restrictions that go with such recognition. This observer does not feel competent to judge in this area. He does

feel strongly, however, that citizens in a free society should have the right to organize, to hold meetings, to invite speakers of their choice, to criticize, and to seek change in Government policies. Teachers are citizens and since it is their duty to instil in pupils the attitudes and the skills of democratic citizenship surely they should not be denied such fundamental rights in a democracy.

The need for greater unification of professional organizations is basic to substantial progress as I now see the problem. Unification is working in some states and it appears to this observer to be a means of strengthening the work in other states.

The second imperative need is for adequacy and consistency of financial support for the unified teacher organizations. Many teachers are not paying any professional membership fee year in and year out. Others pay as the mood strikes them. The average of those who do pay may be a rupee or two. There are, of course, the exceptions where more substantial fees are paid.

If we assume that the average professional educational worker in the nation is, or in the near future will be, paid Rs. 1400, the one rupee that many pay is 1/1400th of annual salary. If a teacher pays Rs. 2 that is 1/700th of annual salary. If he pays Rs. 3 that is 1/466th of annual salary. Now let me draw a contrast for what is worth. The typical teacher in the United States is paying at least 1/200th of annual salary or, to put it another way, one half of one per cent of salary to his general associations at the local, state, and national levels. If he belongs to any of the specialised groups he also pays an additional membership fee for them. If the typical teacher of India is, or soon will be receiving, Rs. 1400 he would pay Rs. 7 to his professional associations—local, state, and national, if he paid an equivalent per cent of his salary. It may be ne-

cessary to charge secondary teachers more than elementary teachers as long as salaries and training are differential or to base the fee on salary but let us assume an average of Rs. 7.

I have been told by some that the teachers of India cannot afford to pay any such amount, or, indeed, to pay anything. But at least two of the seminar groups that I worked with, felt that the fee should be 8 or 10 rupees a year. I must ask of the doubters, who are perhaps the first to complain that the professional associations are not what they ought to be, this question: "Can the teacher of India afford not to pay adequate professional association fees?"

Let us play a game of "Suppose" for a moment. There are about a million teachers in India. Suppose that even one half of them could be persuaded to pay a membership fee of Rs. 7 to cover local, state, and national needs. This would produce $3\frac{1}{2}$ crores of rupees. As we might say in American slang, this would not be chicken feed money.

Let us do a little more "supposing" as to the use of the seven rupees by dividing it in the following manner:

Three rupees to be retained for use in the all inclusive local (however defined, Panchayat, hobly, taluk, or district).

Two rupees to be sent to the all inclusive state organisation.

Two rupees to be sent to the All India Organisation.

What would be the result, again supposing that fifty per cent of the teachers could be enrolled?

Let us take Bombay City as our example of a local area. I estimate that there are at least 13,000 teachers in Bombay. At two rupees for fifty per cent of the teachers in that city a budget of Rs. 13,000 would be underwritten. This would be enough to do some substantial work. One of the

three rupees might then be used for taluk or district purposes.

Let us take Mysore as an example of a State. There are perhaps 60,000 teachers. If thirty thousand would pay the fee and two rupees were allocated to the state organization, there would be the sum of Rs. 60,000 annually for the budget of the state association. This would be enough for a reasonably strong programme.

Now let us see what happens at the national level. If 500,000 or one half of the teachers would join in such a plan and two rupees per member were allocated to the national organisation an annual budget of one crore of rupees would be available.

Now, what could be done with these amounts? Suffice it to say that a regular and continuing professional organization programme of this nature at the local level (however defined) would be vastly stronger than many of the present spasmodic and fragmented efforts.

What could the Mysore State organisation do with Rs. 60,000? It could employ a permanent full time professional executive secretary who would administer policies developed by the elected officers of the association. He would need to be a strong professional leader — the best man that could be found and he should be paid as soon as growth permits, a salary equivalent to top officers in the department of education. At least one another professional person could also be employed. A publication could be sent to members once a month. Statewide studies of teachers and teaching conditions could be made. All local groups could use these studies. Stronger and better organized state and district association meetings could be planned. A few strong committees on problems peculiar to Mysore State could be organized and serviced. The state staff with assistance from the national organisation would be responsible for the promotion of membership through the local organisations. Since educa-

tion is legally a function of the several State Governments in India, as is also true in the United States, the need for a powerful State organisation is obvious.

What could the All India organisation do with the sum of 1 crore of rupees? This would enable it to have a top flight continuing professional staff at a permanent headquarters which should be located in the nation's capital. It could conduct a research program on the problems of teachers which the Governments cannot or do not, for one reason or another, undertake. It could send its publication to all members. It might employ a travelling consultant or field worker to advise and work with state and local associations. It could develop machinery to assist state and local groups in protecting the rights of teachers. It could establish commissions on teacher education and professional standards, on teacher welfare and salaries, on educational policies, and selected other areas of need. It could support a programme to interpret the needs of education in India to public figures, Government leaders, and those who control the opinion forming channels of newspapers, magazines, and radio.

Your organizations in India are surely on the right track in the principle you have of collecting one general association fee and transmitting part of it to the state association. Whatever else you do I hope you hold on to the theory of one professional fee for all levels. We started the other way in the United States with separate fees for the local, the state, and the national. And it is taking us years of effort to overcome the weaknesses in the plan and we still suffer from the problem. Teachers in your country and mine are in one profession which has work to do at the local, the state and the national levels. One fee for all three levels is better psychology and more economical to administer, but remember that in the proposal here made a certain part of the individual's dues would go to the

state and the national and each member's name would appear on the membership role of the state and the national.

These proposals envision that professional organizations should stand on their own feet financially through regular annual fees. To depend on Government or on philanthropy or on spasmodic donations of the teachers puts any organization at the mercy of, and in the control of, the donors who can at any time discontinue their gifts.

The third imperative need is to direct the attention and the services of the all inclusive organizations here visualised to the improvement of education as well as to teacher welfare. It is my conviction and recommendation that effective and professional associations should conduct balanced programmes dividing in about equal portions their time, effort, and money between services that benefit the welfare of the teacher and those that are aimed to raise professional standards and improve the quality of instruction in the class-rooms. There is not time to go into this in detail but any other course, in my judgement, will be short-sighted. These two aspects of programme complement one another. To improve the welfare of the teacher is to lift moral and a teacher whose economic and working conditions are reasonably satisfactory will surely be a happier, more effective teacher. Under such conditions abler young people will be drawn to and retained in the profession. On the other hand, if teachers collectively demonstrate their sincere interest in lifting the standards for entrance into the profession and for performance in the class-room they have a much sounder foundation from which to launch reasoned arguments for welfare gains.

V

Are these the ideas of a starry eyed dreamer? Or are they realistic? It is for you who are the leaders of education in India to decide. But ask

yourselves : If some such plan could be put into effect within five years what would you be able to accomplish in ten years ? Or, if the present patch-work, spasmodic, and splintered approach is continued, what will be accomplished in the years ?

Would it be possible for the AIFEA and its leaders to take the responsibility for developing some such proposal and put it out to be discussed thoroughly by state and local groups during the next few years ? Probably the better part of a year would be needed to develop the general proposal. Then a year should be allowed for preliminary discussion and criticism by all interested parties. With these reactions in hand the plan could be revised and resubmitted for reactions during the third year. Then by four years from now it might be possible at the All India meeting to have the plan adopted by the national body to be submitted back to the state and local groups so that they could ratify the plan. Then by five years from now perhaps the plan could be adopted and put into effect.

Even after that, there would, of course, remain the continuing task of building professional consciousness among an ever growing body of teachers concerning their opportunities and responsibilities.

As you strengthen your professional associations, let them always act in a professional manner in such tasks as these. Set legitimate objectives. Marshal the facts which support the achievement of these objectives. Build professional and public opinion around them. Deal straight forwardly with the authorities but nevertheless firmly in the knowledge that the position you support is just. Base many of your programmes on the improvement of the instruction of the children rather than on the improvement of the welfare of the teacher. What benefits the children will also benefit the teacher.

There are very few Government officials or private managements, I sus-

pect, who are not also anxious to improve the schools. If there be such, they are unworthy of the positions they hold. The truth of the matter is that strong professional associations can be the strongest ally of Government officials and others who are sincerely interested in school improvement. Professional associations should not seek to duplicate what Government can do. They should concentrate on those efforts which the governments are not in a position to undertake. To be sure there will be times of stress and strain between professional organizations and governments but a professional approach by strong professional organizations will not only be respected but more successful than a fragmented or lopsided approach.

None of us who have had any experience with organization work would be so naive as to assume that the implementation of such a scheme as here proposed, even though you were to agree with it in principle, would be easy. It took us many years to develop our associations in the United States to their present status and we are eternally dissatisfied. The way will be hard. The road will be strewn with stones, yea, boulders at times. Some will disagree with the concepts involved. Some will take all the benefits that might be gained through such a plan without contributing. They will be the ticketless riders on your professional organisation train.

But some teachers will have the vision and the faith to join in such an effort from the beginning. As their number increases, professional organisation enthusiasm will spread and multiply. It appears to this observer that the road of disunity, of inadequacy and inconsistency, of unbalanced programmes is fraught with many more perils and difficulties, not to mention failures, than is the road of unity, of adequacy and consistency, and of balanced programmes.

Whatever be the fate of the teaching profession of India at the present time,

you who now have the schools and the class-rooms of the nation in your charge are the teaching profession. One can readily agree that you have many problems, that some conditions are not only discouraging but almost intolerable, that the present status of the teachers and of the schools is not what either you or perhaps officials of Government at all levels would like them to be. But remember those lines of Shakespeare "The fault, dear Brutus, is not in our stars but in ourselves that we are underlings."

Let us not be content merely to criticise or to condemn our fellow teachers or the headmasters or the management or the Government even though they may sometimes deserve it. Criticism without constructive action is generally useless. President Kennedy, in his inaugural address to the people of America, said : "Ask not what America has done for you but what you have done for America." So it is proper, it seems to me, to suggest : "Ask not what your professional organisations have done for you but what you have done for your profession and the organisations which represent it."

From my observations todate, I am confident there is enough skilled and dedicated leadership in the profession to begin courageously and vigorously to assess anew what the teachers themselves can do for themselves, for their profession, and for the betterment of education in India through some such plan, with suitable modifications, as has been suggested here in broad outline.

Now, my friends, I feel I may have appeared to be a presumptuous guest. What I have said may have revealed inadequate understanding of the hard facts of life for the teacher in India. The suggestions made, even if based on an accurate understanding of the facts, may seem to you to reflect bad judgment. Perhaps all of these things are true. But I could be helpful only by stating what appeared to me to be major directions in which you might

consider moving. You will take my thoughts for what they are worth as coming from a friendly observer with a certain background which may have produced some biases in him. The proposals may seem far-fetched indeed at first. They may seem so after you have studied them with care. They may need adaptations which you will know how to make. I only hope that you will give them careful consideration and not reject them out of hand.

We hope we have made many friends on our journey. We have met many fine leaders. We hope we may have made some small contribution to the thinking of professional leaders about their problems. We feel that the seminar groups have done a great deal of good thinking and that all of us who participated have grown a bit professionally. One man, in the closing moments of one of the recent seminars seemed to express this idea when he said as a result of the discussions with his colleagues : "I feel that I stand a little taller than I did yesterday."

Your country has made great progress in the past few years even though confronted with many problems. As the history of the next decades is some day written, and any failures are to be found, let it not be the teachers who were found to have failed.

My hope is the teachers of this nation will, in fact as well as platitude, become one of the keystone groups in the future development of India. I hope that the teachers of India will be able to set an example of organizational effectiveness that is statesmanlike in concept and in action — an example in which workers in other fields will find inspiration.

The demands of the hour in your country and in today's world call to the teachers of India "Make no little plans." Let us have faith that great plans will inspire efforts to build a powerful but dedicated profession — worthy of the respect accorded to the Guru of the past but adapted to the challenges of the Twentieth Century.

ROLE OF TEACHERS' ORGANIZATIONS IN PROMOTING PROFESSIONAL EFFICIENCY AND PRESTIGE *

C. RANGANATHA AIYENGAR

I deem it a signal honour to be called upon to deliver this year's Khattry Memorial Lecture. From the year 1930 till 1946 the year of his passing, Mr. Khattry and I used to meet yearly at the annual educational Conferences and we got to know intimately each other during the Council meetings and Sectional and General sessions of the Conferences, lasting for five days. The first question he used to put to a Council member while greeting him at the entrance to the meeting hall was "Namaste, Mr....., when did you come? How many delegates have you brought with you?" If Khattry were alive and with us today here, he would be immensely pleased to see the fulfilment of his dream that is the large number of delegates — many times the number present at Conferences in those days.

At the first All Asia Educational Conference held at Banaras in December 1930 — it was an unprecedentedly large gathering — presided by Dr. S. Radhakrishnan, when the late P. Seshadri was President of the All India Federation of Educational Associations, a daily bulletin called 'Asia' was issued at the Conference by the organisers. I was surprised to see in the very first issue my article on "Teachers' Associations" published prominently in preference to many other papers submitted for consideration during the sessions of the Conference. That was the selection of Khattry and it shows in what direction his mind worked in the field of service to teachers. He foresaw that the teachers' welfare lay in their strong and big organizations and he spared no effort in labouring hard towards this goal. To the memory of that great

and sacred soul let me dedicate this Lecture: "The Role of Teachers' Organizations in promoting professional efficiency and prestige."

The title of the address limits the scope of talk on Teachers' Organizations and I am bound to respect this limit set by the Council within the period of 20 or 25 minutes as desired by the Secretary of the Federation.

In any country which claims to be democratic in its administration, a very healthy feature is the encouragement it gives to the formation of professional organizations and the readiness with which it listens to their advice on matters pertaining to them. In a well organized system of democratic government, a professional body is the competent authority on all questions relating to the profession and it considerably lightens the burden on the State by taking upon itself the responsibility of regulating the conduct of its members and taking upon itself the task of setting the standard of professional attainment. Even the so called meanest profession such as the scavengers' can be dignified and be of great service to the State if its members are inspired by the laudable spirit of service first and emoluments next. If the members of a profession while asking for higher emoluments and better service conditions would at the same time set up committees of themselves for the purpose of how best to serve the community by deliberations and research work, they would command the respect and support of the public. In these days of science there is scope for employment of advanced scientific methods in rendering service and it should be the duty of the members to study them and employ them

ROLE OF TEACHERS' ORGANISATIONS

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to the best advantage not only to themselves but also to the community. Let us take the medical profession. The members of this profession are fortunately better off and do not lay much stress on their emolument side. They organize conferences and discuss the latest methods in the diagnosis and treatment of diseases besides examining ways of preventing them. They are held in respect by the society. They have their Medical Council which controls the enrolment of members and the standard of attainment of knowledge and experience in the different branches of medicine.

The Chartered Accountants of India have an Institute recognised by Statute. The Council of the Institute is not only invested with the power of enrolment of members but it conducts the qualifying examinations and also exercises disciplinary control over its members. It has become an autonomous body considerably relieving the Government of this side of its administration.

Again take the Bar Council. This Council conducts the examination of the Apprentices at Law, investigates into the cases of professional misconduct and recently the High Court of Madras has entrusted that body with the responsible duty of enrolling advocates. The question of emoluments of the members of this profession rarely comes up prominently before the public eye.

The Teaching Profession should organize itself on the pattern of these bodies and follow the traditions left by the Gurus of the past. If India is great it is on account of this message of the past and this greatness should be maintained by the inheritors of that culture. Service should be the primary motive and emoluments only to the extent of helping the fulfilment of that motive. The teaching profession is no doubt the noblest. From very ancient times this profession in our country at any rate has always been respected and teachers have been held in high esteem. The reason for this high regard is the recognition of

the fact that a teacher is the moulder of the human personality. He takes the shaping of young person entrusted to his care by creating the necessary atmosphere and affording all available opportunities for his healthy all round growth. He thus takes upon himself the responsibility of the parents and fits his pupil into the society in which he is living. A member of no other profession can boast of doing this excellent service. His active life is thus fully dedicated to the care, nurture and education of the youth entrusted to him. It is therefore the duty of the community to see that teachers are adequately remunerated and provided with facilities for carrying on their work without the anxiety of their future on retirement and of their families. They should be enabled to perform their work efficiently under conditions favourable to effective teaching — suitable environments and equipment.

They should be paid decently to enable them to live a respectable life and to provide for themselves and their families. The society should tackle this problem even without the teachers agitating for its solution.

It is beneath the dignity of the teaching profession to resort to methods of threat and violence often adopted by some other organizations for increase in the emoluments and better service conditions.

A teacher knows very well what salary he will get when he chooses to enter the profession and there is no justification for him to be discontented with his lot. Wiser people who are really efficient and capable and whose ambition is to rise and earn more either do not enter the teaching profession or after entering it and serving for sometime get into other walks of life at the earliest opportunity. To them a teacher's job is only a stepping stone to other jobs.

Why there is dearth of teachers nowadays is that young men and women of ability avoid becoming teachers and seek for jobs fetching comfortable salaries.

* Khattry Memorial Lecture delivered at the 36th session of the All India Educational Conference, Trivandrum, Dec. 1961.

Perhaps in the socialistic pattern of government, this question will get solved to some extent with the equalisation of income and socialisation of enterprises and services.

Members of the teaching profession may be divided into three categories :—

1. Those that have entered the profession inspired by a sense of vocation,

2. Those that are forced into it being unable to find employment elsewhere, but who, having entered it, work with zeal and earnestness devoting themselves wholeheartedly to the service of children, and

3. Those that have taken up the job of teaching out of sheer necessity of earning a living and who have neither the heart for nor the spirit of service but who feel always frustrated.

I would advise the members of the third category to quit the profession immediately lest considerable harm should be done to the sound education of the future citizens of the country who have happened to fall into their hands.

Having spoken so far on the emolument side of the profession, I should like to dwell on the professional and academic aspect. A teachers' organization could have a strong basis and firm foundation only if it works for the improvement of professional standards.

1. By setting up study groups in different subjects and by organizing periodical refresher courses in these ;

2. By arranging for research in the methods of teaching and psychological approach to the understanding of the subjects by the pupils ;

3. By conducting research in the system of tests and examinations ; and

4. By imposing on the members of the profession a standard of ethics and a code of behaviour in their mutual relationship and in relation to pupils.

An organization functioning in the above manner requires men and money. Every teacher must join his professional organization and must pay the fee prescribed for membership. He should not put the question 'What has the Association done for my benefit? Why

should the fee be so much?' It is the representatives of the teachers' associations that frame the rules and fix the membership fees taking into consideration the circumstances and the conditions in which the teachers are placed.

Every teacher, whatever the management, has the right to join professional organizations and this right is conceded by the Constitution. It is rather regrettable that State departments of Education call upon teachers' organizations to get themselves recognized for carrying on their activities. If persons come together for discussion of their professional problems and after mature deliberations place their decisions for consideration by the authorities, such a procedure is just to help the State in the work of that department. Why should they be asked to seek recognition for their organizations?

After all, in a free society, freedom of thought and speech and freedom to associate are assured to each individual and there is no meaning in containing it unless it is found that the freedom is abused to the detriment of the State or community.

A strong well-knit organization should in the usual course be entrusted with many of the powers which the State Department of Education exercises. It should have a standing conferred by the Statute and a Council which should be invested with the functions, viz. :—

(1) Recruitment of teachers of different grades ;

(2) Conducting profession examinations ; and

(3) Disciplinary control over the members of the profession

and should exercise such other functions as the State can easily divest itself of.

I hope that the day will not be far off when the All India Federation of Educational Associations will be in a position to command the confidence of the Government and will statutorily be recognized for the exercise of the powers and functions referred to above.

REPORT ON THE SEMINAR OF PRESIDENTS AND SECRETARIES

A seminar of the Presidents and Secretaries of the Teachers' Associations in the Coimbatore District was conducted on 28-1-'62 under the auspices of the District Teachers' Guild in the P.S.G. College of Technology, Peelamedu. Sri G. R. Damodaran, President of the guild said that the purpose of the seminar was to find out ways to vitalise the guild and enlarge the activities of the guild. Sri N. Chinna-swami Naidu who acted as the resource-person to the seminar said that the guild should bestow greater attention on the improvement of professional standards instead of merely passing resolutions pertaining to pecuniary conditions. He also suggested a permanent secretariat for the guild to which any member could look for guidance and help. Sri T. Muniappan, Principal of the Government Arts College, Coimbatore said that only by improving their professional standards could the teachers hope to attract public attention on themselves. He opined that the summer vacation was being wasted in the country when the laboratories etc., were kept locked. The vacation was for the pupil and not for the teachers who should then attend vacation lectures. Sri B. R. Krishnamurthi Naidu, Principal, P.S.G. Arts College, Peelamedu said that such seminars should be conducted within every school and suggested that the Guild embark upon the publishing work. The members of the seminar broke into four groups and the recommendations of the groups are given below.

Group I — "Membership, enrolment and amendments to by-laws of Guild"

Chairman : Sri S. Venkataraman, Headmaster, S.J.H.S., Peelamedu.

Reporter : Sri A. Rajagopalan, M.H.S., Coimbatore.

1. A member of the working committee should visit the schools where

there are no Teachers' Associations and start them.

2. A drive for enrolment of all associations should be started.

3. The guild should take in members of such associations as the craft Teachers' Union, Tamil Pandits' Association, Physical Education Teachers' Association etc.

4. To interest college teachers, a sectional conference on university education may be conducted at the time of the annual conferences.

5. A contributory Health Insurance and Welfare fund for teachers may be started.

6. The group also recommended the scales of affiliation fees and proposed certain amendments to rules pertaining to the election of office bearers.

Group II — "Organisation of future conferences"

Chairman : Sri S. Ramaswami Naidu, Headmaster, S.B.K.V. High School, Coimbatore.

Reporter : Sri S. S. Rajagopalan, Headmaster, B.H.S., Avanashi.

RECOMMENDATIONS

1. The duration of the annual conferences should be not less than two days.

2. The Chief objective of the annual conference should be to discuss ways of improving professional standards rather than mere passing of resolutions and electing office-bearers.

3. One session of the conference should be plenary, one session should be devoted to the organisation of the curricula and methods of teaching of languages and one session should be divided into sections to discuss about the other subjects. The problems met at the various levels should be discussed and demonstration lessons by the

best teachers in the state may be arranged. The reports of the study groups should be issued as publications of the guild.

4. A question-hour may be set to serve as a clearance-house of ideas.

5. Every guild may be permitted to appoint one co-ordinator who may give guidance and help to the members of the profession in the discharge of their duties and maintain liaison with the training institutions.

6. The subjects committee should meet only in the nights and not infringe on other sessions.

7. Excursions to neighbouring places may be arranged.

8. The expenses on the deputation of teachers to the Annual conferences should be met for 20% of the members of the Teachers' Association concerned, subject to a minimum of four teachers on the following basis:

By Government	..	50%
Management	..	25%
Teachers' Association	..	20%
The Individual Teacher.		5%

It was pointed out that government subsidise the farmers and others on tours to improve their professional knowledge.

9. The saving on any conference may be spent on providing social amenities to teachers.

Group III — Social Problems as Housing, Medical Facilities, etc.

Chairman: Sri K. Marudachalam, Headmaster, M.H.S., North Coimbatore.

Reporter: Sri S. Krishnaraj, S.B.K.V. High School, Coimbatore.

RECOMMENDATIONS

1. Security of tenure is necessary for aided school teachers before they join any housing scheme.

2. Housing facilities for teachers may be prescribed as one of the conditions for recognition.

3. Where houses are now provided on a rental basis, the houses may be assigned to the teachers on retirement after a service of twenty-five years.

4. A Housing scheme on the lines of the Industrial Housing Scheme may be sanctioned for the benefit of teachers.

5. A certain percentage of houses built by the Housing Boards may be assigned to the teachers.

6. The medical facilities enjoyed by the Non-Gazetted Officers may be extended to teachers.

7. Facilities such as a well furnished staff-room with cupboards may be provided in all schools.

8. The maximum strength of a class should be 30.

9. The income limit for enjoyment of concessions in colleges may be raised to Rs. 3,000 per annum.

10. Wherever houses are not provided, house-rent allowance may be given.

Group IV — "Professional Improvement"

Chairman: Sri E. V. Singaravelu, Headmaster, T.A.R. High School, Coimbatore.

Reporter: Sri K. Radhakrishnan, T.A.R. High School, Coimbatore.

1. The personal bearing of the teacher assistant contributes a lot in enhancing the prestige of the teacher.

2. A smiling face, impartiality, not resorting to corporal punishment etc., are some of the requisites of a good teacher.

3. The problems of the present day teachers are different from those of the old and hence no comparison between them is useful.

4. Teachers should consider teaching as a profession and a vocation and not as a trade.

5. Well-equipped schools with good buildings and congenial working conditions will attract suitable persons to the profession.

6. Liberal and fair treatment with foreign governments. Headmasters' Association, staff meetings in every school should play a vital part in improving the equipment of the teacher.

7. A code of conduct stressing dignity of thought and expression correct and cordial behaviour, helpful attitude should be laid down.

8. A school should not be judged by the results in the final examinations alone, but due consideration should be given to the various activities such as scouting, N.C.C., A.C.C., Red Cross, Literary activities, social service, school magazines etc.

9. The activities of the various agencies viz., Extension Service attached to training colleges, All India Council for Secondary Education, M.E.L.T. Campaign, S.I.T.U. Research Bureau, Information Services of

10. The various associations for the teachers may help disseminate usual information relating to experiments conducted by individual institutions and their achievements.

After adoption of reports, Sri G. R. Damodaran thanked the members for their useful contribution and requested them to carry the results of the seminar to their schools. Sri P. Ramachandran, the Secretary to the Guild, in proposing a vote of thanks referred to the help rendered by Sri N. Chinna-swami Naidu who prepared the worksheets for the various groups and Sri S. Venkataraman, Treasurer of the Guild who made arrangements for the seminar.

THE S.I.T.U. COUNCIL OF EDUCATIONAL RESEARCH Robertsonpet, Raja Annamalaipuram, Madras-28

SRI S. NATARAJAN'S SHASHTIABDAPURTHI ENDOWMENT PRIZE

The Executive Board of the S.I.T.U. Council of Educational Research has instituted an Endowment Fund called "Sri S. Natarajan's Shashti-abdapurthi Endowment Fund" for the purpose of promoting professional consciousness and increasing the efficiency of teaching and learning.

Two prizes will be awarded for monographs on any one of the following topics chosen for this year:—

- (1) The Role of Teachers' Organisation.
- (2) Teacher Education.
- (3) Learning experience with reference to any school subject.

The competition is open to all grades of teachers in secondary schools, training institutions and colleges in the State of Madras.

The script should be between 5,000 and 6,000 words in English, written on one side of the paper, and should be sent by registered post on or before the 1st of July 1962 to the Secretary, S.I.T.U. Council of Educational Research, Raja Annamalaipuram, Madras-28.

G. SRINIVASACHARI,
Coordinator.

THE BASIC CONCEPTS OF MATHEMATICS

J. B. FREEMAN

It is our intention to help the Elementary School teacher in her work, and it is hoped that the following articles will be useful for this purpose. If the teacher understands the basic concepts of a subject and knows what they lead to and their power, she will be able to teach it well and help her pupils to grasp them in an intelligent manner. What is grasped intelligently is the best retained and the most applicable in practice. Further, it is by the understanding of the 'structure' of a subject, that is of its basic concepts and generalizations and principles, that progress in it becomes possible as well as the ability to use the knowledge in the best possible way. It is through the structure that correlation can be made with other subjects of study. Learning the structure enables one to learn how to learn; this is so for both teacher and pupils. It is the structure that makes 'transfer' possible, so that the proficiency gained in one subject would serve for acquiring proficiency in any other subject.

All basic ideas should be learnt by the Method of Discovery and accepted as personal achievements by the pupils. In the first three years of school the child will be provided with a wide variety of experiences which would keep him fully involved, that is, through all his senses and activities and motivations. No formalization should be attempted. The solving of problems and the acquisition of skill should be an enjoyable exercise of their mental powers. Tests and observation will show how much and how well each one has learnt. Pupils should not be expected to state mathematical truths in academic clear-cut language. Formal operations will be more appropriate to the next three years of learning, during which formal modes of thinking, less and less dependent on sense-images, will come in. By the end

of the sixth school year, when the child is about 13 years of age, his development should put him on a par with the most advanced thinker in the kind of thinking he does with the knowledge at his disposal.

The teacher should proceed "spirally"; that is, revert over and over again to the basic ideas already covered in the course, removing misconceptions, remedying weaknesses, helping the slower ones, making the foundations secure and ensuring retention.

Grades I-III cover the concepts of the natural numbers, of zero, of the four operations and their laws implicitly grasped, simple fractions and easy work with decimals, easy, interesting problems. The teacher must be sure of the readiness to learn at all stages.

More difficult work with decimals and fractions and the introduction of negative numbers and of fractions as numbers will be done in the Sixth Grade.

BASIC CONCEPTS OF THE NUMBER SYSTEM

1. The Natural Numbers

1. The Number-names consist of a series of different words in a definite order of succession: one, two, three, etc.

2. Number-names are first used for numbering; they are associated with distinct individual objects of the same kind and constitute an easy way of differentiating between them. Thus the houses in a street or the pages in a book have distinctive numbers for recognition and do not need to be described individually. Each object is considered a *unit* and all units as equivalent to each other. This process of numbering is a putting into a *one-to-one correspondence* of the objects and

the names, each name denoting one and only one of the objects, and *vice-versa*. This provides an easy means of reference, provided the objects are themselves located side by side in a stretch: if not, it would lead to confusion.

3. Number-names are, however, generally used for *counting*. The name is associated not with each object numbered but with the whole collection or group of objects, to which is attributed the name arrived at when the last object in the group has been numbered. Thus the number-name stands for the group, and indicates its *frequency*, that is, it shows *how many* units there are in the group, all the members of the group being considered as equivalent to each other. This process is called "*counting*". It is independent of the spatial positions of the objects relatively to each other. If the objects are put into a container and shaken up and then counted again, the same number-name will be arrived at, invariably attached to the group. The order in which the objects are counted is immaterial. They are held to be equivalent to each other; individual differences are ignored.

4. We now have a *System of Natural Numbers*. It is a well-ordered series, such that each number has a single definite *successor* and there is no limit to succession. So far each number is adjectival; it is an attribute of a group. Such numbers are called the *Cardinal Numbers*, to distinguish them from the *Ordinal Numbers*, which are used only to indicate order.

5. We can recognize the process of counting as adding one by one into a group. This we shall call "*counting in*", in contrast to "*counting out*", which is removing one by one from a group and assigning the last number-name arrived at, at the end of the operation to the original group. We may also count in at the same time while we counted out, and re-form a group, to which the number-name will be attached. Counting in is exactly reversed by counting out and *vice-versa*.

6. The number-names are given distinctive written symbols: 1, 2, 3, 4, ... for each of them. These symbols, as also the number-names, are called "*Numbers*". The numbers from one to nine are called "*digits*". Ten is written down as 10.

7. Numbers can also be assigned to homogeneous things existing not as individual or discrete objects that can be counted, but in bulk, e.g. liquids, grain, lengths, areas. This is done by *measuring*. An arbitrary but appropriate *unit* of length or area or volume or weight, as the case may require, is chosen. The bulk is measured in or measured out with the *unit of measurement*, and the number which shows how many such units there are in the given bulk (the "*frequency*") is assigned to it. All the units counted while being measured off, are held to be equivalent to each other. The bulk should therefore be homogeneous or uniform. The unit of measurement should be appropriate to the nature of the bulk measured; it should be *invariable*, *specific*, not ambiguous, and easily recognized.

8. The result of measurement is called the *quantity* or *size* or *value* of the bulk measured. It is, of course, relative to the unit of measurement chosen. The term "*quantity*" is sometimes taken to denote a measurable bulk or group.

9. Two groups or bulks are said to be *equal* if the same number applies to both in the same way. The symbol $=$, read: "*equals*" or "*is equal to*", is used to show the result of an operation or to indicate that the result will be the same as that of a modified operation.

10. Frequency in a group, i.e. the answer to *how many?*, corresponds to quantity or size or value in a bulk, i.e. the answer to *how much?* Since bulk has now been associated with the natural numbers the terms may all be considered as interchangeable. The unit of measurement of a group of discrete objects is any single one of the

objects, so that counting and measuring mean more or less the same; in counting the unit is a ready-made one, whereas in measuring it is left to our choice, and, having been fixed, is used to mark off equivalent units, which are counted. The bulk measured is made up of the unit bulks.

11. In what follows we shall use the word "group"; but it may be replaced by "bulk". Also, by a "given" group (or bulk) one means one which has had a number-name assigned to it already.

12. Addition is the operation or process of assigning the number-name to the single group formed out of two given groups. This is done by starting with one of the given groups taken as counted (or measured) and counting (or measuring) in the other group into it. This may be considered as adding the second quantity to the first. We may speak of adding numbers, whether these refer to groups or bulks.

13. + is the sign of the operation of addition. It is read: "plus", and indicates that the number that follows it should be added to the number preceding it. The result of the operation is called the "sum". Thus $4+5$, read: "four plus five", indicates that it is required of us to find the sum which results by adding five to four. By actual manipulation we show that the sum is nine.

14. Continued Addition is the process when one number is to be added to a given number, and then another added to the sum obtained. Further numbers may have to be added one by one. Thus $a+b+c$ is a continued addition, where the letters stand for certain natural numbers.

15. The Law of Commutation for Addition. It will be seen operationally that when two numbers are to be added together it will not matter which we add to which; in either case the result is the same. This is called the Law of Commutation for Addition, and is expressed thus: $a+b = b+a$, where a and b are any two natural numbers.

16. The Law of Association for Addition. In the case of continued addition also it will not matter in which order the three or more numbers are added together. The result is invariably the same. Thus, if we use a pair of brackets to indicate that the operation within them is to be done first, the Law of Association for addition can be expressed symbolically in this way: $(a+b)+c$, $a+(b+c)$, $(a+c)+b$, $c+(a+b)$, $b+c+a$, $b+(c+a)$ where a , b and c are any three natural numbers. Any number which has to be added is called an "addendum"; plural "addenda". The result is the sum of the addenda.

17. Conversely, any given number can be split up into two or more numbers whose sum is equal to that number. This can be done in several ways. But when added together the sum is the same.

18. The number so split up may be considered as the whole, and each of those whose sum gives that number as a part of the whole. The whole is equal to the sum of its parts.

19. One number is said to be "less or smaller than" another number if you have to add to the former some number to get the latter; in this case the latter is said to be "greater or more than" the former.

20. Every natural number has a successor, as noted in $n+1$, which is one more than itself. The successor of a is $a+1$.

21. The whole is greater than any of its parts.

22. If equals be added to equals the sums are equal.

23. The result of addition of natural numbers is also a natural number. Any two natural numbers can be added together.

24. The Addition Chart is a checker-board with numbers on it that give at a glance the result of addition of two small natural numbers. It serves as an aid in the early stages to do without actual counting when adding, and later on as a rule for addition.

+	1	2	3	4	5	6	7	8	9	10
1	2	3	4	5	6	7	8	9	10	11
2	3	4	5	6	7	8	9	10	11	12
3	4	5	6	7	8	9	10	11	12	13
4	5	6	7	8	9	10	11	12	13	14
5	6	7	8	9	10	11	12	13	14	15
6	7	8	9	10	11	12	13	14	15	16
7	8	9	10	11	12	13	14	15	16	17
8	9	10	11	12	13	14	15	16	17	18
9	10	11	12	13	14	15	16	17	18	19
10	11	12	13	14	15	16	17	18	19	20

25. Subtraction is the operation of counting out from one given group as many units as would make up another given group and finding out how many units are left of the original group. This is the same as taking away one group from another. It will be seen that if we add the group taken away to what was left of the original group we get again the original group as it was at first. Hence subtraction and addition are exactly opposite or reverse operations. We can get the required result, therefore, also by adding to the second given group just enough units to get a group equal to the first one. Subtraction of one given number from another may consequently be defined as the operation of finding out what number added to the former will give the latter. To subtract b from a we must find what number added to b will give a .

26. The number to be subtracted is called the subtrahend; the number from which this is to be subtracted is called the minuend; the result of the operation is called the difference. We have:

Subtrahend + difference = minuend.

27. —, read: "minus", is the sign of the operation of subtraction; the number preceding it is the minuend, and the number following it is the subtrahend. $a-b$ is read: "a minus b", or "from a subtract, or take away, b". The operation may be done either

by counting backwards from a to b or forwards from b to a . The difference may also be found by referring to the Addition Chart, and posing the question: What number added to b will give a ?

28. While an operation requires of us to do something and find out the result, it may also be considered as asking a question. $a+b$ asks the question: What is the sum of a and b ? $a-b$ asks the question: What number added to b gives a ? From what has been said we have:

also

minuend — subtrahend = difference;
subtrahend + difference = minuend.

29. A difference shows by how much one number is greater than or less than another.

30. The difference between two numbers is the same whatever number is previously added to each of them. $(a+k) - (b+k) = a-b$, where a and b are given natural numbers and k any other natural number. The same is true if we had subtracted the same number from each. These results can be demonstrated operationally.

31. Every natural number has a predecessor except 1. The predecessor of a is $a-1$, where a is any natural number other than 1.

32. Given two natural numbers the operation of subtraction is not always possible. When we operate on a number (the operand) with a number (the operator) the result should be a number (the operatum). From now onwards numbers become entities by themselves, not merely attributes of groups or bulks. When the subtrahend is equal to or greater than the minuend there is no natural number to express the difference. This limitation we shall remove by the introduction firstly of zero and later on of negative numbers to get a more workable system of numbers.

(To be continued)

THE DR. RANGANATHAN COMMEMORATION FUND

It is a matter for genuine rejoicing that Dr. S. R. Ranganathan, the great authority on Library Science and the well-known author of many treatises on the subject will be shortly completing his Seventy years. His Birthday will prove an occasion for many of his friends and admirers, in various parts of India and outside, to evince in some enduring form their appreciation of and esteem for his invaluable services to the cause of Library Education in this country. In view of the forthcoming auspicious celebration in August, 1962, an influential and representative committee has been formed with powers to co-opt further members as and when names occur for being associated with it.

Considering the singular devotion with which Dr. Ranganathan has all these years advanced the cause of Library Science and the innumerable methods and practical suggestions through which he has enriched the volume and scope of Library Service, opinion has been very much in favour of commemorating his unique record and winning personality by the founding of a Permanent Endowment. It will be administered for objects such as Research Fellowship, Lectureship, Scholarship, Prizes and Medals etc., conducive to the propagation of Library Science studies and the furtherance of Library Service, based on still more researches in the field. Even at a modest estimate of the necessary

finance for such a project a sum of Rs. 100,000 at least may be required.

It is the earnest desire and hope of this Committee that ere long Dr. Ranganathan's friends and admirers, the world over, will contribute generously to the raising of this Fund which can be utilised for the chosen objects.

This Committee adds its strength and influence to any special appeal that may be made by experts of Library Science for cherishing Dr. Ranganathan's imperishable name and achievements.

It is requested that contributions may be sent to **Sri C. Seshachalam, Treasurer, the Dr. Ranganathan Commemoration Fund, Curzon & Co., Wallajah Road, Madras-2.**

BASHEER AHMED SAYEED
Chairman.

The Dr. Ranganathan Commemoration Fund

LIST OF DONORS

	Rs.	nP.
Dr. D. B. Krishna Rao ..	101	00
Shri Basheer Ahmed Sayeed ..	101	00
Shri S. S. Vasan ..	1,000	00
Shri C. Seshachalam ..	1,116	00
Total ..	2,318	00

AN INVITATION BY BERLIN TEACHERS

WCOTP urges each member organization, if possible, to take advantage of the invitation extended by the German teachers of the Federal Republic of Germany to send a representative to Berlin to see for themselves how the Berlin wall, with its stones, guns,

and barbed wire has affected teachers and education in this city.

The Secretary-General will welcome statements from members on this crucial matter and information on any action planned on behalf of our colleagues in Germany.

OUR BOOKSHELF

DEMOGRAPHIC YEAR BOOK 1960 : Published by the United Nations Publication. Pages 621. Price : Cloth-bound \$ U.S. 10.00 or 71 shillings. Paperbound \$ U.S. 8.00 or 57 shillings.

Demographic year book 1960 published by the Statistical office of the United Nations is twelfth in the series.

There are some outstanding features included this year. For the first time, historical trends of population, area and characteristics for over 200 countries and territories, are enumerated. The fundamental tables of the year book publish every year a detailed yet geographic characteristics of the population for 40 years, namely from 1920 to 1961 have been computed. Here also urban and rural areas are denoted and also estimates of population in capital cities which had exceeded 100,000 from 1940 to 1961 are stated. Greater details like age, sex, literacy, marital status, and economic status of the population also find a significant place. Another unique feature is population-census result for males and females separately. The details of computation include rate growth of population for both sexes from 1900 to 1961. This year book is an excellent ready-reckoner not only to the demographers but to economists, sociologists and educationists at all level, public-health workers but even to the layman.

The vital statistics collected in this year book offers a broad range and includes in the first chapter evaluation of the realibility of the world date, and the second chapter, geographical coverage of tables and technical information on comparability of the data. The real merit in this book is that anyone on perusal can themselves learn a great deal from statistical tables alone. The tables give clear, concise and latest statistics on area and density, trends of fatality, general

mortality, infant mortality, nuptiality, and divorce. The entire series and especially this year book of 1960 must find a place in all public and private libraries upto at the secondary level.
V.S.B.

READINGS IN EDUCATION FOR ALL : By S. C. Sarkar. Price Rs. 7. (Modern Book Agency Limited, Calcutta-12.)

In this book of about 230 pages printed on glazed paper, the author presents the basic principles and current problems of Education in their different aspects in correct and clean terms, without being technical, so that even one who is not a teacher may easily understand them.

NELSON'S DESK DICTIONARY By F. R. Witty. Price 7s 6d. (Thomas Nelson and Sons, Edinburgh.)

In 394 pages of glazed paper and with illustrations here and there, the author of this dictionary deals with 21,000 words and phrases which will meet the needs of young people. It is a good reference book for the student who can carry it easily to school along with other books.

THE McKEE PLATFORM READERS : By Dora Castley, Kathleen Fowler and Sheila Carstairs. B₆—Who will play with Benjamin? D₅—The Pirates. D₆—The Little Blue Lorry. Price 1sh. 6d. each. (Thomas Nelson and Sons, Edinburgh.)

These are childrens' books got up excellently with colour pictures—intended for reading in primary classes.

JUNIOR HANDBOOK : By Isabel Arnell. Price 5sh. (Thomas Nelson and Sons, Edinburgh.)

Produced as a volume in the Teaching Aids Series, the main innovation in the book is the introduction of

actual craft, leather craft, puppetry, and basketing. A little weaving is done. The work in this book is spread over two years, each divided into three terms. A wide variety of new material is used, but wherever possible scrap material is made use of to keep down costs.

THE ART AND CRAFTS TEACHER :

By A. J. Udo-Ema. Price 3sh. 6d. (Orient Longmans Ltd., 36-A, Mount Road, Madras-2.)

'To teach Art as a creative activity and as a functional contribution to better living and enhanced craftsmanship' besides being a contributory factor to the greater enjoyment and more satisfying employment of Science — with this in view the author is presenting this book. The book is interesting and is illustrated by diagrams.

PROGRESS IN SCIENCE. RESEARCH IN DISCOVERY : By Modern World Series. (British Information Services, Madras-1.)

Prepared by the Central Office of Information, England.

The contributors are all prominent in their own fields of work and they cover a wide range of subjects.

EDUCATIONAL PRODUCTIONS LIMITED.

The Story of Kuwait', 'Paint Brushes', 'Graphs', 'Vectors', 'Diamonds', 'Swimming —

- (1) Breast Stroke, (2) Front Crawl, (3) Back Crawl', 'Athletics', 'Agarics', 'Geography'—The Story of Africa in Stamps', 'Mathematics—Areas'.

AFRICA CALLS : By Richard Greenough. (UNESCO).

This illustrated booklet, has just been written by Unesco staff writer Richard Greenough, following a visit to Africa, to give a broad picture of the problems of education in that part of the world and the efforts being made to solve them.

This should be interesting reading for all who are concerned with the problems of education in the recently independent and developing countries in new Africa.

Receipt of the following publications is thankfully acknowledged :—

1. Commonwealth Education — Britain's Contribution. (B.I.S.)
2. Landmarks in Democracy — Developments in British Political History. (B.I.S.)
3. Universities in Britain. (B.I.S.)
4. Educational Co-operation within the Commonwealth. (B.I.S.)
5. Education in Britain. (B.I.S.)
6. Educational Forum. (Central Institute of Education, Delhi-8.)
7. Africa Calls. (UNESCO)

—C. R.

Statement about ownership and other particulars about newspaper, (South Indian Teacher), to be published in the first issue every year after last day of February.

FORM IV

(See Rule 8)

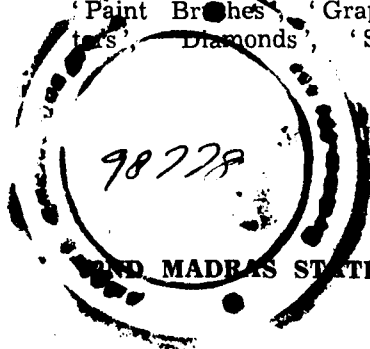
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Address : President, The South Indian Teachers' Union, Madras-18.
6. Names and addresses of individuals who own the newspaper and partners or shareholders holding more than one percent of the total capital. The South Indian Teachers' Union, Raja Annamalaipuram, Madras-28.

I. S. D. Krishnamurthi Rao, hereby declare that the particulars given above are true to the best of my knowledge and belief.

(Sd.) S. D. KRISHNAMURTHI RAO.

(Signature of Publisher.)

Date : 28-2-1962.



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