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SOME ISSUES
IN
INDIAN EDUCATION

●
V.S. MATHUR

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SOME ISSUES IN INDIAN EDUCATION

By

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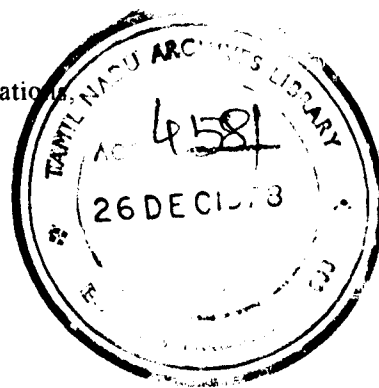
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*Respectfully
Dedicated to
the sacred memory of my father
from
whom I learnt my first lessons in
Education*

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A MESSAGE

Shri V.S. Mathur, Principal, Government Post-Graduate Basic Training College, Chandigarh is an eminent educationist. He takes deep interest in educational problems of India. From time to time he has been bringing to my notice some of these problems in his notes. I am glad that he has decided to publish some of his thoughtful papers on educational problems in the form of a book. This would ensure wider notice of his thoughts and ideas by teachers as well as policy makers. I hope this book would be read with interest by all Educationists and administrators who are concerned with education.

Chandigarh,
February 20, 1967.

M.S. Randhawa,
Chief Commissioner,
Union Territory.

FOREWORD

Since Independence, Indian education has received a great deal of attention. Apart from the pronouncements of official commissions and committees, men in the public life of the country have been quite vocal in giving expression to their views on educational problems. This is indeed a very healthy trend. It is, however, somewhat surprising that not many teachers, inspectors and educational administrators have come forward to say how the various reforms and innovations introduced in the educational system during recent years, have worked in actual class room conditions and how effective their impact has been on the quality of education imparted in schools. The absence of informed criticism on the part of those intimately associated with the educational work is, in my opinion, responsible for much of the confusion and misunderstandings which prevail in educational circles today.

It is very gratifying that Principal V.S. Mathur has brought together his writings on a variety of educational topics in the form of a book. I am sure his views on the various aspects of Indian education will be read with interest by teachers and parents alike.

Planning Commission,
New Delhi,
February 6, 1967.

A. C. Joshi,
Adviser (Education).

given me the benefit of their criticism regarding some of the points raised in the various papers at the time of their original publication. In many cases I have modified my views and incorporated the same in this volume. I hope well-wishers of Indian Education will favour me with their free and frank reactions. Indian education needs courageous thinking and really hard work for its survival, what to say of its development.

Chandigarh

V. S. MATHUR

January 1, 1967.

CONTENTS

Chapter		Page
1. Preface		5
2. Indian Education Whither		9
3. The Problem of Nursery Education		15
4. Thirty Years of Basic Education		21
5. Vitalising Teacher Education		34
6. Multiple-Class Teaching		43
7. Thoughts on Examination Reform		48
8. School Inspections		57
9. The Challenge of Adult Education		69
10. Education and the Community		77
11. Education, Patriotism and National Strength		86
12. A Plea for Better Teaching of Mathematics in Schools		105
13. Geography—Philosophy and Technique		110
14. Heredity, Environment and the Teacher		115

INDIAN EDUCATION WHITHER

Education for what ? is a question that is asked in every country at every stage of its national development. Different answers have been given in different countries, but there has been one common factor always that the schools and colleges have ever been charged with the task of producing 'patriotic citizens'. This becomes all the more important in a country like ours which is still passing through the 'birth pangs' of freedom.

When India was under the British rule, it was because of a few patriotic people who made sacrifices that today we find ourselves free. We often tend to forget that we also very much need the same qualities of 'patriotism' for the development and protection of freedom. Love for one's country should take even more vigorous a shape specially now when our neighbours have given ample evidence of their evil designs. Only a country that is strong in its human resources, can stand up against such a challenge !

It is an open fact that while we have been planning quite a systematic development of our material resources and should be proud of our dams, industries and agriculture, there has been rather a haphazard planning in human development. While I do not refute the importance of economic, agricultural and industrial development, I also believe that unless the development of human element goes on side by side, we cannot achieve real progress. Our country is a land of wide spaces, multiplicity of languages and cultures and communities, and unless a unifying movement is set afoot at once, national integration as a permanent feature may remain a dream. No doubt the way the Indian nation stood up against the Chinese and the Pakistani aggression as one man, is ample evidence of the existence of common bonds amongst our people. These bonds need to be further strengthened and nourished on a permanent basis. Experience has shown that education can be the most effective instrument to bring about this phenomenon. Every man, woman and child of India has to be brought within the folds of good education.

It is, however, unfortunate, although very true, that so far we have paid only 'lip sympathy' to education, and we have even not given priority where it was due. The appointment of the Education Commission is rather a belated step to compensate for the lapse. Contrary to all architectural procedures we started building from the top. University and other higher education have been treated generously. The number of universities has gone up tremendously in every state and we hear every day of new universities and colleges coming up with imposing buildings, staff and facilities. Secondary Education has also received substantial attention as a result of the recommendations of the Mudaliar Commission, although no one even now seems to be sure of the correct shape of things in this sector.

Elementary education, however, is still more or less a neglected chapter and an ordinary primary school presents a sorry picture in all respects. And I feel aghast at the situation when I realise that this is the only stage in education which will in due course cover the entire population of the country. The only serious measure taken in this field so far has been that many states have passed Compulsory Education Acts. The Central Government seems to be amply satisfied with its declared policy of having the Basic pattern at the elementary stage.

Our educational system today presents the picture of a beautiful building dangling in the air, having no foundations. There is no knowing when it may collapse! The elementary school, if I may say so, is the backbone of the nation. I therefore, make bold to suggest to our state departments of education to take the lead in this matter and start immediate measures to put elementary education on sounder footings and in healthier surroundings, even if it means diverting some resources from other areas of education.

The Basic system of education has been adopted at the elementary level. It is, however, strange as well as sad that opinion and experience have shown that things have not gone on well. Every one is blaming every one else for the sorry state of affairs. I am one of those who believe, and I am sure there

are many more in the country who will agree with me, that Basic Education has a sound philosophy based on very sound educational and psychological principles. Why has it not succeeded in practice, should be a matter of concern to all educationists and I would therefore suggest that some state may take the lead to appoint a strong committee to study the development of elementary education with special reference to Basic Education in the area, and suggest concrete measures for improvement in the school plant.

In this connection, I have always felt that it is a mistake to have schools having only classes from 1 to 5, and tag on classes 6, 7 and 8 with secondary schools. Education from class 1 to 8, in my opinion, represents one single unit and the secondary school may have only classes 9 to 11 or 12. By raising the stature of the present primary school we can divert better staff and facilities to this stage in education. And this stage should receive top priority in the field of planning!

It is also a patent fact that besides other factors that have brought down the level in education, the most potent one has been the low quality of teachers. If we analyse the causes for the same, low emoluments of teachers and lack of prestige and poor working conditions will come to the fore. While better scales of pay always help, I attach greater importance to the prestige aspect and I am sure that if the prestige of the lay teacher could be raised many more people who now go to other walks of life, would come to education. It is indeed sad that while every body realises the importance of education, no one wants his son to become teacher. I have yet to meet a family who would willingly send a son to the teaching profession. Even teachers in universities, colleges and in schools always advise their good students to join the Administrative and other services. Many people would rather have their sons join commercial firms and sell tea, soap and cigarettes than join the education department and help making a nation. I wish there were a rule which could empower the Services Commissions at the centre and in the states to divert talent to the education profession. It is very shocking to see that while our schools

and colleges suffer from a lack of good Science and Mathematics teachers, first class M.A.'s and M.Sc.'s in these subjects rot in the Police, Civil Supplies and the Excise Departments or join commercial firms where any one else could have carried on the job equally well. Unless we take the challenge of education as a national crisis and treat it on a national basis, I do not see much hope. Just as it is taken as an honour to join the fighting forces, it should be taken as a good way of service to the nation to join the army of teachers and educators. If my word could have any value, I would like to give a new slogan to the country, 'Give at least one son to the Army and one child to the teaching profession'. There should be a teacher in every family !

An other aspect that needs research and investigation is to analyse and fix criteria of requirements for the various professions. At the moment only high academic achievement seems to be the main requirement for all jobs alike. In the police for instance physical qualities should weigh more than achievement in academic subjects. There should be some sort of job analysis by bodies like the Union and the State Public Services Commissions. The system of combined examinations for the various All India Services at the Centre cannot be justified on any ground academic or otherwise. In fact to select people for these services on the basis of academic achievement on the pattern of university examinations has never appealed to me. Of course, it is a very convenient system !

I have never understood how a person who secures high marks in Sanskrit, Mathematics or Persian or even Chemistry stands to be a better administrator or a police man without reference to his natural aptitude and to the requirements of the particular job. If subject competence is the main criteria than selection can easily be made on the basis of university results without wasting so much of resources, energy and time, with equally good results. Our present selection boards and commissions have just become another group of examination bodies like the universities. I am sure the best way would be to place people in the various services including education with reference to the job requirements and individual aptitude.

As such the Services Commissions will have to have research wings attached, to carry on job analysis and placement and only when this happens 'education' as a profession can get its due share of the national talent. This naturally implies that educational services will be at par with other services in the matter of salaries, facilities etc.

There is yet another aspect which may help us substantially in meeting the present challenge of education. We are facing a lack of suitable teachers for science and technical subjects specially in High and Higher Secondary Schools. I am sure there are lots of retired people qualified as teachers, engineers and technicians who could help by offering their services to such schools in their localities on a voluntary or part-time basis. I wish there were a system that all good teachers and technical persons were employed as teachers after retirement and paid their pension plus the minimum of the grade as honorarium. I believe this should be enough incentive.

Why only the retired people ? even people in service could help. For instance in our Higher Secondary Schools in Patiala, help should be available from the large army of engineers in the Electricity Board and the P.W.D. The University and college professors who have comparatively lighter duties, could teach for three, four periods per week in a nearby school and paid some conveyance allowance. I am reminded of a suggestion made by Vinoba Jee at the first National Seminar on Basic Education held in Mysore (I attended it on behalf of the Punjab Government) in 1957, that after a certain stage (say after 45 years of age) all professional people should become teachers. There is a lot of truth in this remark and I am sure we can think out ways and means of giving it some practical shape.

The newspapers usually give a lot of unnecessary publicity to punitive measures introduced by some states, to improve the effectiveness of teachers. Every day we read of some teachers being punished or charge-sheeted for poor results or for other faults like coming late etc. The general impression one gets is that the Indian teacher is the butt of all criticism and condemnation. In conferences and public meetings every one

indulges in severe criticism of schools and teachers. 'Criticism' seems to be the main contribution of the society towards educational development. Talent is naturally scared away from the profession and even those who come in, pass their days in mental distress and economic frustration. They are always trying to get out. Other reasons apart, how can we expect good work in such an atmosphere. It is every teacher's right to have a peaceful, healthy and comfortable environment for work. He has to be trusted and not treated as a 'suspect'. Teaching has to be made a *prestige profession* in all respects. And unless society can give this status to teachers, it is idle to talk of good education. There is nothing wrong with our syllabi, or text-books and the methods of teaching. Educational luxuries like guidance, evaluation and text-book reform alone cannot deliver the goods. The real edifice of good education can only be built on the fruitful endeavours of a happy, satisfied and contented teacher. The press can play a leading role by withholding all adverse criticism of teachers and their work and by giving publicity to the finer aspects of education and educational workers.

I have done some loud thinking during the last few minutes and I am quite sure that every one of us in this state and everywhere else, is very much concerned with the challenge of falling standards in education. Education is a co-operative effort and it is wrong to blame only the teachers for its failings.

To the teachers themselves, I can do no better than to repeat the beautiful words of Henry Von Dyke :

"And what is teaching ? Ah, there you have the worst paid and the best rewarded of all vocations ! Dare not to enter it unless you love it. For the vast majority of men and women it has no promise of wealth or fame, but they to whom it is dear for its own sake, are among the nobility of mankind. I sing the praise of the unknown teacher, king of himself and leader of mankind !"

THE PROBLEM OF NURSERY EDUCATION

The importance of pre-school education of the child can not possibly be exaggerated. Up to now, however, not much practical attention has ever been paid to this important aspect by any official or public body, with the result that there are very few good nursery schools in this country. To quote the Sargent Report, "Even if proper facilities were provided, it would be by no means an easy matter to persuade the Indian mother to subordinate her natural affections in the interest of a more healthy physical and mental environment for her children." I do not intend challenging the veracity of this statement, but I for one, have been feeling the dire necessity of a really good nursery school for my children. And I am quite sure that there are many more parents whose feelings might be similar. It may be true that many Indian parents do not yet realise the importance of pre-school years, but this may be more due to the fact that no steps have been taken to highlight the good points about nursery schools by any official or public agency.

First we should be sure as to the object behind these schools ! In most of the western countries nursery schools are meant for children aged between two and five years. In India the official policy lays down that such schools should provide 'special educational facilities' for children between 3 and 6. Here no formal schooling is to be done as it is yet too early for it. The chief points to be emphasised are ; child's health, provision of better and healthier environment for the average child than is available at home, and giving married women some time for social or paid work etc., which in the present circumstances, can only be done at the expense of the children's upbringing. Psychologically this is the period when an individual can be easily moulded and guided into 'desirable forms of behaviour'.

The Government of India intend spending good amounts on the development of nursery schools. The number of such institutions has been fixed at about 10,00,000 for the whole country. Such schools or classes are to be mostly staffed by adequately

trained women teachers. No fees are to be charged ; and no efforts are to be spared to persuade parents to send their children to school voluntarily, although no compulsion is intended. The plans have, however, been more on paper. Implementation has been half-hearted if at all.

Speaking about the method of teaching at this stage it may well be remarked, that the children of this age need experience more than instruction. Toys, games, healthy social activities are to be the main tools. There is hardly room for any formal schooling in the 3 R's.

The importance of play in the early education of the child should be duly recognised. Education at this stage is mostly informal and depends more on the 'experience' and 'enjoyment' gained by the tiny 'learners'. There should be nothing to distinguish between 'work and 'play'. In a good nursery school the children work when they think they are playing. Attempts should be made to combine what is good in the Froebelian method with what is best in the Montessori method. To get the best results from the 'activities' and 'play', however, the latest method is to leave it unguided as far as possible. The child is the best judge of what he wants and how he should proceed. The teacher may step in now and then solely to avoid 'catastrophies' and to give appreciation and help.

The question is what should a nursery school be like. The building, the furniture, the surroundings and the interior decorations are matters on which great attention is required, but unfortunately the Government agency seems to be quiet on this point and there is no mention at all of these details in the various reports.

The Nursery School Association of Great Britain has published a small pamphlet, entitled 'Planning the New Nursery School' wherein these important questions have been exhaustively dealt with by a number of experts. Our country first of all needs that an organisation like the Nursery Association of Britain be started. It should be financed by the public. Unfortunately in India today everything is left to the Government.

The Nursery School is a bridge between home and the bigger school. As such it must be home-like in character and should help children to learn how to live happily together in a group. Its atmosphere should be pleasant so that the young child may not feel out of sorts there. It is necessary that the number of inmates in a school be sufficiently small so that it may be easier for individual members to come into contact with one another and thus lead a healthy social life.

The report mentioned above suggests one school unit of 40 to serve a population of about 2,000 people but here in India a start can be made and the number brought down to 50 or even 40 in about ten years' time when the scheme may be expected to be in full operation.

ACCOMODATION.

A nursery school should be situated not far away from the area it is serving but at the same time, it is very desirable to have it away from the noise and smoke of the locality. It is necessary that open space for gardens and play-grounds be provided within the compound or if possible, on the roof if there is no other space available. Such provision is very common in London where owing to crowded atmosphere, roof gardens are very popular. A compound wall or at least a fence is very necessary for safety purposes. The best idea is to have a 'greef fence'.

A small swimming pool and a shower are also essential parts of a 'baby institution'. Arrangements for toilet and a change of clothes may also exist near at hand; and for this a couple of sweet tempered matrons may be employed in every school. Sand and other outdoor playthings may also be provided for.

The school building itself deserves adequate attention. The rooms have got to be airy and neatly polished so as to attract attention. The colour scheme of the walls, the doors and the windows has to be pleasing to the eye, and the floors should be made of polished, cool cement. Bright coloured curtains have to be provided on the doors and windows and their colour scheme will have to suit the changing seasons. Flowers will help in creating a homely and comfortable atmosphere.

Furniture deserves special attention. It need not be only artistic and brightly coloured. The design and size will have to be carefully selected so as to suit children of tender years who are to use it. Mats may suit Indian conditions better. The idea is that the interior of the school should be able to attract the tiny tots. They should look up to the school as a place of comfort and utility. The nursery school may better be a useful supplement to the family home.

A child will have to spend about six hours inside the school; and it is, therefore, imperative that attention be paid by school authorities to the normal requirements of a child. Special rooms will have to be fixed up as refreshment and bed rooms and dispensaries. Refreshments served should be cheap but nourishing. Other school equipment like photographs, toys, playthings and writing and reading material are matters of detail and individual taste, and it is better if it is left to the judgment of the teachers concerned.

PLAY EQUIPMENT.

It must, however, be remembered that much of the utility of a nursery school depends on the right selection of the play equipment. Attention has to be paid to the growth (both mental and physical) of the young child. Besides being cheap, simple, durable and beautiful, the play material must be able to :

- (a) Furnish right muscular and sensory motor development.
- (b) Meet genuine play interests.
- (c) Provide sufficient variety to meet different needs and changes in activity, thus avoiding fatigue and over-strain.
- (d) Furnish opportunities for creative activity.
- (e) Fit the stage development of the children.

Amongst the materials suitable throughout the nursery stage the following are worth noting :—

- (a) Sand, (b) clay, (c) materials for home-play, building, modelling, cutting and pasting, drawing and painting; (d) quiet games including picture books, jig-saws, toys etc. etc.

During the third and fourth years of a child's growth, however, only these toys should be selected which exercise muscles and 'increase control of bodily co-ordination'. Later on, besides these, materials must be provided that 'supply' the needs of the children's creative capacities and give them scope for invention and experiment.

In one or two schools that I visited in England, much attention was being paid to the question of 'storage and display' of equipment. According to a headmistress there is "a real need for satisfactory display". Nothing should be so kept as may hide it. Everything should be seen without any effort. Seeing suggests possibilities, problems and adventures. There should be a suitable place for everything but one need not impose adult standards of orderliness and methodicity.

THE STAFF.

A few words about the staff of a nursery school are very necessary because it is they who give 'life' to the 'body'. Just as a motherless home remains just a dwelling place, likewise a nursery school without suitable teachers remains only a jumble of bricks and timber. It goes without saying that most of the teaching as well as ministerial staff will have to be women because only a woman knows the intricacies of a 'child mind'; only a woman has patience enough to deal with children in whom obstinacy and mischief are the foremost qualities. These women, before they become teachers, will have to undergo a specialised sort of training as distinct from the dull and routine training given in our present-day training colleges. A good teacher should combine in herself the qualities of a mother, of a nurse, of a doctor and of a house-keeper, all moulded into one. I personally think that only married women below the age of 45 years are best suited. Both very young, unmarried girls and aged spinisters are unsuited for the job because in both of them the 'human element' is lacking.

The role of a teacher in a nursery school must be understood clearly. She is neither to 'teach' as in a high or a middle school nor to lecture as in a college. She provides for and arranges the 'stage' and then disappears while the 'actors'

get busy. But she is always there as a 'prompter' behind the curtain, to see that the show does not 'explode'. But she only gives 'cues'. And then when the 'show' is finished, she gets busy again organizing the 'cleaning-up'. At times she may have to climb down to the level of a child and play with him. 'Self-effacement' and 'flexibility' are her chief qualities.

This, then is the outline picture of a nursery school where, I as a parent, would like to send my children. But, as I have already remarked, I have failed in my quest for such a school. There certainly are a few infant schools here and there that are advertised as 'nursery schools' but I fear they are much below my standard. Most of them have been opened by private individuals with somewhat commercial orientation.

The problem of nursery education is so important that unless it is taken up as a national problem, there is not much hope. The Education Commission have during their deliberations given evidence of their interest in the problem. I hope their recommendations will provide a break-through!

THIRTY YEARS OF BASIC EDUCATION

It seems rather strange that in the year 1966 when Basic Education is 30 years old, we should be worried about its *future*. As far as the official policy is concerned the stand is very clear. As soon as possible all elementary education should be given on the basic pattern. As a matter of fact the Central and the State Governments are already doing their best in this direction as will be clear from the targets set for the various Five Year Plans. However, when I look at things as they are going on, some doubts arise in my mind. In a message sent to the All India Basic Education Conference (1961) Dr. Zakir Hussain whose association with Basic Education has been deep and long, painfully remarked that Basic Education as it is going on now-a-days, is by and large a fraud and the earlier it is scrapped the better. These are perhaps very bitter words but we cannot doubt the sincerity of the person who has uttered them. All of us who are working in the field of Basic Education and those who have made a study of its details, very well know the role Dr. Zakir Hussain has played in formulating and nourishing the scheme. Dr. K. L. Shrimali former Union Education Minister, also expressed similar sentiments recently.

That after about 30 years of work, the two learned doctors should be compelled to call it a failure is an occasion for heart-searching for all persons working for Basic Education. I only wish to share my heart-searching with my colleagues. I must, however, declare at the very out-set that I am an admirer of Basic Education and sincerely believe in it. I consider Basic Education good education especially at the elementary stage. That some people have failed in developing the system properly, is no reflection on the system itself. It may be due to defective handling or faulty implementation. In this connection I am also led to believe that no system of education can rise above the level of its teachers.

One of the main observations made by the Assessment Committee on Basic Education appointed by the Government

of India, a few years back, was that the concept of Basic Education is not generally clear, with the result that different interpretations are available in different places. Faulty concepts have resulted in faulty attitudes towards Basic Education and also in faulty implementation. If we want to ensure a bright and smooth future for Basic Education in the country, the correct concepts should not only be understood but preached and this will naturally result in the promotion of correct attitudes towards Basic Education and also in correct interpretation.

CONCEPTS.

Basic Education as first conceived by Gandhiji in 1937, is mainly based on a philosophy of life. It is, therefore, largely for this reason that we insist that Basic Education is not only a new technique. It is a way of living and thinking. It will, therefore, be very wrong to put it in line with the Dalton Plan, the Montessori Method or the Project Method. Gandhiji defined 'Nai Talim' or Basic Education as 'Education for Life' and 'Through Life'. The objective before us is not merely 'a better individual' but a 'better individual in society'.

Broadly speaking the main points involved in the scheme are the following :—

1. That free and compulsory education be provided for eight years on a nation-wide basis.
2. That the medium of instruction be the mother-tongue.
3. That the process of education throughout this period should centre round some form of manual labour and productive work, and all the other abilities to be developed or training to be given should, as far as possible, be integrally related to a central craft chosen with due regard to the environment of the child.
4. That this system of education would gradually be able to contribute to the economic life of the institutions.

As far as the provision of eight years of compulsory universal schooling and the use of the mother-tongue as the medium of instruction are concerned, there can be no possible

difference of opinion except that it may be necessary to stress the intrinsic wholeness of Basic Education covering the Junior as well as the Senior Basic grades.

The main educational feature in the Basic pattern is that some productive craft should be made the vehicle of education. The idea of introducing a productive craft does not necessarily mean producing craftsmen, but aims at providing useful activities for correlating essential knowledge and to create healthy attitudes and habits which may help put the learner in a better position in a professional college or school or even in a vocation and most certainly in life.

The introduction of a productive craft could also have some economic advantage to the school and to the child. The idea of self-sufficiency as advocated earlier and as it is being erroneously followed somewhere even today, does not appeal very much in our changed circumstances. It was all right to make a school pay its way through when a foreign government was not prepared to spend much on universal education, but today when our Central and State governments are ready to spend any reasonable amount on education, the interpretation, of self-sufficiency must change. If the school can meet some of its everyday needs with the efforts of its students, one should consider the things very satisfactory. The latest view in this connection is that if a student can get a mid-day meal and a uniform out of his labours, it should be considered sufficient. Surely no educationist would like to transform schools into factories or commercial firms and as such economic self-sufficiency should not be over-stressed. The stress is mainly psychological.

Besides the main craft, two more centres of correlation have been suggested and must be made use of increasingly by the teachers. These are (1) Social environment and (2) Physical environment. To this I would like to add a fourth centre of correlation i.e., social and cultural activities in schools.

Another notable feature in Basic Education is that it lays good emphasis on habit and character formation. This is sought

to be achieved through community activities like pupil self-govt., community living and through manual labour. Such activities seek to produce a balanced personality with good habits and healthy attitudes towards life. A properly educated student may be self-sufficient in the sense that he will not look helpless in the absence of outside help. There is, however, a danger of exaggerating these activities in a school to the extent that Basic Education may look nothing but cooking, sweeping and 'safai' work.

Vinobaji has rightly remarked that economic self-sufficiency is not the only type of self-sufficiency that the Mahatma envisaged. He emphasised intellectual and spiritual self-sufficiency also and I think that in our present circumstances these should be more useful and should be worked for.

Basic Education also seeks to bring about a close relationship between the school and the community. The former system of education had the great evil of taking children away from their environment and thus making them aliens in their own homes. It has now been widely recognised that education of a child is a 24-hour process and mainly aims at producing useful citizens. A basic school should be largely linked up with the local community, and the community should also look at it as one of their own possessions and responsibilities. This may be done by means of social and cultural activities arranged in a school and also by means of a close contact between teachers and parents. A good basic school should also organise various types of social activities and service for the local community.

Some of the present Basic institutions erroneously give the impression that Basic Education means a negation of material progress. As such the cry for basic education in a machine age, seems rather strange. Fortunately for us, however, there are many people in India who do not subscribe to this dismal view. Basic Education does not forbid the use of modern amenities of life but at the same time it does seek to train a human being not to feel helpless and isolated under any circumstances. Manual work in schools, I feel, helps a

child in two directions. First, he becomes self-sufficient and confident of his powers and secondly the wrong impression that all manual workers belong to a lower category tends to give way, and by and by what we call a *classless society* may emerge. There can be no possible dispute between heavy industries and cottage industries like the handloom. They can go not only hand in hand but even substantially assist each other.

THE EMERGENCY.

In an emergency like the one India is facing today on account of the dual threat to our frontiers, the various underlying principles of Basic Education come repeatedly to my mind as an effective measure towards national strength. In a country like ours, which although vast in size, resources and population, has yet to come up to the fore ranks of strong nations, this system of education should go a long way in building up our national stature.

Emergency or no emergency, if a nation has to become strong and formidable, it must draw its strength from the intellectual and physical potential of its youth as also from its physical and natural resources. It will, therefore, be all the more useful if the two processes could be inter-linked. It is in this context that I plead that more and more attention should be paid to the fundamental principles of Basic Education, especially now when we are faced with an emergency, as well as for our future strength. All our efforts will have to be directed to develop knowledge, discipline and skills, which will not only maintain but ever strengthen our national life. I am, therefore, writing to plead that manual labour leading to production should be made an important item in our educational programme, besides of course all the other measures that the state departments of education in the country might be taking to face the situation.

I am, therefore, making bold to suggest that every student whether in school or college, must engage himself in some manual productive work for at least one hour every day. It may take the shape of work in a farm or in a workshop. If nothing else, one may start with the cleaning and maintaining

of the school and college premises, hostel buildings and playgrounds. Such work will also naturally lead to some production either directly or indirectly, besides providing a physical and psychological impetus to the participants.

I would even go further and say that schools and colleges be given direct responsibility for carrying out minor repairs to the school/college buildings and furniture. The authorities may only provide the material while labour may be provided by the school community. Some technical advice could easily be had locally.

Schools and colleges could also be encouraged to compulsorily run a farm (even a kitchen garden) or a workshop (e.g. for cycle repairs) whose size and magnitude may differ from school to school. Items like vegetables and dairy products can easily be had even in the smallest of institutions, if this work is taken seriously. At least the school community can get some of its requirements at much lower rates and have the added happy feeling of self-production.

The fact, however, remains that if such a scheme is implemented, our school and college students will develop muscular habits, love for hard work, and character, and will also develop good qualities of teamwork, co-operation and missionary zeal. On the economic side also the picture should slowly become brighter. Such schemes should be of added value in professional institutions. And if we believe in the theory of Transfer of Training, candidates accustomed to labour and hard work should prove better soldiers as well as better industrial and technical workers later in life.

PUBLIC OPINION

It should be interesting to study and find out what a layman feels about Basic Education. Basic Training Colleges in the country should first try to examine the attitudes of people through systematic studies and then preach the correct interpretation and the correct concepts. One unfortunate thing that has crept in is that Basic Education has been linked up with a

particular political party. This is most unfortunate because a thing like education is every body's property and good education is every body's birth right. I would, therefore, suggest that the Basic Training Colleges may take up the following attitude studies in their areas :—

1. Attitude of legislators at the Centre and in the States.
2. Attitude of the various political parties towards Basic Education.
3. Attitude of the different professional groups.
4. Attitude of the educational administrators.
5. Attitude of the teaching profession.
6. Attitude of the student community.

I am quite sure that these attitude studies if done in a co-ordinated manner, will greatly help in formulating correct future policies.

My own feeling in the matter is that there is a wide ignorance about Basic Education and this ignorance has resulted in faulty behaviour and attitudes. This ignorance becomes very dangerous when it is found in educational and administrative circles and the poor Basic teacher finds himself at a loss, and wears a feeling of frustration and inferiority complex. Basic Education and basic teachers deserve a benevolent attitude from one and all if at all we wish to see it flourishing. Mere lip sympathy can be of no advantage. Sincerity is the most needed commodity.

However, I am an optimist and I already see signs of awakening and right thinking on both sides of the fence. While on one side the general public is slowly learning to appreciate the many good points in Basic Education, the rigid attitude of the conservative is also relaxing. I was very impressed by the trend of speeches delivered at a recent session of the All India Basic Education Conference. During my recent visits to the various centres of Basic Education in the country, I met a few enlightened and progressive thinkers who would like to see basic education as a refreshing and healthy system rather than a monopoly of the dogmatic and the conservative.

While we do need some *places of pilgrimage* like Sevagram, Gandhigram, Kalupatti and Sansora to give inspiration and guidance and preserve the sacred ideal and act as lighthouses, we also need a more liberal and functional approach and interpretation. If this trend is kept up on both the sides, the future of Basic Education cannot but be bright.

THE TEACHER.

I have already talked of a benevolent attitude towards Basic Education. This benevolence should result in a realisation of the difficulties of the Basic Institutions. But before we come to other difficulties, I would like to mention that no scheme of education can ever develop without good teachers. If Basic Education has suffered it has suffered mainly because of an acute lack of teachers having faith in the system; teachers having enthusiasm and initiative; teachers having the correct attitude towards their work and teachers full of missionary spirit. Although much damage to education and to Basic Education in particular, has been done by the low quality of recruits who come to the teaching profession, teacher training institutions have also to share some blame in this regard. It is, however, encouraging to see that the authorities are conversant with the great need of good teachers, and steps are already being taken in this direction. Some time back principals of Post-Graduate Basic Training Colleges in the country assembled in a workshop on 'Improvement of Teacher Education in Post-Graduate Basic Training Colleges' and they have made some very relevant recommendations. Training institutions of the Basic type will do well to study and work these recommendations. A training course in Basic Education must be so geared as to achieve the following objectives:

1. To enable the trainees to understand and practice the philosophy of Basic Education.
2. To develop in the trainees an insight into the various elements and processes involved in bringing about a harmonious development of children.
3. To enable the trainees to acquire knowledge and skill in craft work.

4. To develop in the trainees a scientific and experimental attitude towards educational problems.
5. To promote among the trainees habits of systematic self-study.

In view of the above objectives the main characteristics of any basic training college should be :—

1. Democratic community life of staff and students and the establishment of contacts with life in the neighbourhood.
2. The practice of productive, creative and socially useful work including crafts.
3. Practice in the use of the technique of correlation.
4. The development of certain significant social, intellectual and moral attitude in addition to imparting necessary knowledge.

The Training Colleges should also provide facilities for in-service training and refresher courses.

The Punjab Government sometime back appointed a small Committee to make a study of the Junior Basic Teachers Training in the State. I had the privilege of acting as the Secretary of this Committee and I feel that the recommendations made by the Committee should go a long way in putting teacher education at the elementary level on sounder footings. The main recommendations of the Committee were :—

1. That all teacher education at the elementary level should be nationalised.
2. That all J. B. T. Institutions should be residential.
3. Better craft instruction should be provided.
4. Opportunities should be provided to the trainees for understanding actual village conditions vis-a-vis the school.
5. That the Post Graduate Basic Training Colleges should look after the J. B. T. Institutions situated nearby.
6. That in view of the Higher Secondary Course the duration may be reduced to one year for these candidates.

7. Elements of national integration should be emphasised through out.

SUPERVISION.

Another bottle-neck experienced is the absence of appropriate supervision. The Government of India have already launched a scheme of orienting the members of the inspectorate to the Basic pattern. During summer vacations three such courses are regularly held by the Government of Punjab for the benefit of Assistant District Inspectors and Inspectresses of Schools. The idea is that the inspecting officers should be able to guide Basic teachers properly and should be able to provide professional assistance. The newly started State Institutes and Education can be really effective in this direction.

Shri Ramchandran, Chairman of the Assessment Committee, has emphasised time and again that the greatest limitation in the field of Basic Education is the lack of effective administration. He says, "Give me good administration and I will give you good Basic Education". I think there is a lot of truth in this statement. Thinking on these lines I venture to suggest that as far as possible all Assistant District Inspectors and Inspectresses of Schools should be basic trained and if it becomes necessary to appoint others, they should be given a three months training course in Basic Education. With the Cooperation of an other officer of the Department (Panjab) I have prepared a small Handbook for the Inspectors of Basic Schools. This is expected to be out shortly. I strongly feel that with good supervision we can certainly have better Basic Education.

I revert to the point made earlier i.e. the difficulties Basic schools and the Basic teachers generally experience. It was as early as in 1941 that a reference was made during the Annual Basic Education Conference, to the difficulties of Basic school teachers. Basic Education started against the background of the traditional system of education which was defective in many ways and as such Basic Education had to face difficulties from the very start because of its poor legacy. After that on several occasions references have again been made to this problem. Recently the

National Institute for Basic Education carried out an investigation on the subject and they have made a good analysis of the problems that are being experienced by teachers in Basic schools. The report of the Assessment Committee on Basic Education has also drawn attention to some of the difficulties. Besides the difficulties of accommodation and equipment and supply of raw material which have been emphasised again and again and which only the Government can remedy, the other main difficulties mentioned are :—

1. Lack of feeling in the Basic teachers.
2. Lack of training in crafts on the part of Basic teachers.
3. Paucity of craft teachers.
4. A feeling of inferiority and dissatisfaction prevalent in basic teachers. So much so that if a teacher is transferred from an ordinary school to a basic school he considers it a demotion.

A narration of these need not, however, dishearten us. Development of any system of education has to face some difficulties. These difficulties are not unique to Basic Education. I am quite sure that if given a benevolent treatment at the hands of the authorities and society, the Basic teacher will feel amply rejuvenated and rehabilitated to carry on this work properly and thus justify the definition of education that Mahatmaji gave in 1937; "Education means an all round drawing out of the best in child and man, body, mind and spirit". It will mean constant effort and research.

Let us now examine the various points raised above. The atmosphere in the training institutions as well as outside will go a long way in creating in the teacher the required zeal and feeling for Basic Education. If the utility of Basic Education and Basic schools is recognised by society, the Basic teacher will no longer feel inferior. Greater emphasis on craft training followed by occasional refresher courses should gradually equip our teachers better in the matter of crafts. The main lacuna at present is that the teacher under training gets to know about the crafts for the first time in the training institution where his stay is too short to give him sufficient facility in that area. With

the spread of Basic Education at the elementary stage and the introduction of crafts at the secondary stage, this point will gradually lose force. For the interim period we may have to make some other arrangements. Professional craftsmen may be employed for teaching crafts. Some skilled labour may be appointed as Class IV employees and used for helping in craft workshops and laboratories. Perhaps the community could also help and schemes like the one started in Madras by Rajaji could be initiated to advantage.

POST-BASIC SCHOOLS.

The question of Post-Basic Education has recently come to the fore and has been agitating the minds of many for quite some time. There are about 60 Post-Basic institutions in the country at present. They are run mostly by private agencies and offer 3 or 4 year courses after the Senior Basic stage. Although most of them enjoy complete autonomy in the matter of syllabus and evaluation, attempts are being made to integrate them into state units as has been done in the State of Madras. Emphasis is naturally on crafts, community activities and some correlation. In many places they have been recognised for purposes of employment, but Universities are yet hesitant to recognise them for admission to places of higher learning. The question is whether we should have two parallel systems at the secondary stage. For obvious reasons, there is a tendency on the part of students and parents to avoid Post-Basic schools. It has been mainly for this reason that even in Bihar such institutions (called Sarvodaya schools) had to be changed into ordinary Higher Secondary Schools, although some attempts are made at community living and correlation. The four such schools in the Panjab have followed suit, although attempts are still being made to retain their 'Basic' pattern.

The Panjab Government, which was perhaps the last in the country to adopt the Basic Pattern (only in 1949) has been quite progressive in this respect. To elicit expert guidance in the matter an ad hoc committee was appointed and its recommendations are now with the Government. It was as the Secretary of this committee that I visited the various Post-Basic

centres in the country and made a thorough study of their working. I am definitely of the opinion that although academically they may follow courses in line with the Higher Secondary Scheme, the separate identity of at least some of these institutions, is very necessary to preserve the intrinsic ideals of Basic education so that they may act as lighthouses for guidance and inspiration. They follow a definite philosophy of life and education, which may be lost if applied on a large scale, but which is essential to preserve values in Indian life and education. It is, however, necessary that the students who prefer to join these institutions, do not suffer in the matter of future careers; but I also feel that no one after the usual vocations in life, need come here. Only those with missionary zeal will benefit from this atmosphere. The staff must also come of a similar class of workers and not from the usual material available in traditional schools. I met a few people in these places who lead a life of sacrifice and devotion, and my head bows down to them in respect. They reminded me of the Gurus of the old living in Ashrams.

In the end, I would like to say that although things have not gone at the required pace and in the correct direction, there is no cause for despondency. I cherish the hope that as true citizens of India, we should be able to recapture the spirit behind Basic Education, and work and interpret the system with devotion and zeal so as to give peace and satisfaction to the soul of the Father of the Scheme and of the Nation !!!

VITALISING TEACHER EDUCATION

I am firmly of the view that no system of education can rise above the level of its teachers. There is nothing vitally wrong with our system of education. There seems to be no serious lacuna in our syllabi, text-books, etc. although there is always much scope for improvement everywhere. The main lacuna, as I feel, seems to be that we do not have a sufficient number of happy, satisfied, enthusiastic and properly trained teachers. This is unfortunate that while we have been spending a lot of money on educational luxuries like Evaluation, Guidance, Textbook Reform and Educational Research, the main problem cited above, has not been properly handled, at least as far as the school stage is concerned. Things are, however, brighter in the universities and in the higher technical institutions. But we must not forget that it is the schools where the vast majority of our children receive education. Only a very small percentage of those joining schools, reach the higher stage because of one reason or the other.

I am, therefore, making bold to suggest that during the next ten years or so, we must concentrate our attention to :

1. Improvement of the school teachers' economic and social status so that a better type of recruit may be attracted, and those who enter the profession may feel happy and satisfied and thus may be able to put in their best.
2. Improvement of Teacher Education both at the Elementary and Secondary levels.

Organisational Aspect

The ideal situation seems to be that all teacher training institutions be nationalised and taken over by the Centre. I would suggest that there should be a separate Teacher Training Cadre on, All India basis or on the State basis to start with. But I feel that the process must be completed soon as a phased programme.

In the first phase, we may also take the following steps :

1. The capacity of the present government training colleges be doubled which may virtually mean the closing down of third rate private institutions.
2. One Post-Graduate training college in every State and one elementary training college per district be taken over by the Centre.
3. By the end of five years, if any private colleges survive, they should be taken over by the Government.
4. Establishment of Comprehensive Training Colleges having more than one class and a strength of at least 400-500 students be encouraged.
5. As suggested by the VII and VIII Conferences of the All India Training Colleges Association, a National Council for Teacher Education may be instituted with state units. The main purpose of this council will be to have a co-ordinated teacher education programmes and facilities in the country.

The emoluments of persons working in teacher training colleges should be higher than of those working in Arts and Science Colleges, for the simple reason that the former possess double qualifications. If nothing else, I would suggest a special pay of 15 percent for all training college personnel.

One thing naturally follows that no person should be appointed directly to a training college or a training school. One must compulsorily work in a school to start with. I would suggest an upward move from the ordinary high schools. A person having about three years teaching experience in a school may be considered for appointment to an elementary training college if he possesses at least a M.A. plus B.T. or B.Ed.; M.Ed. degree should be preferred. Only after working for three years in a junior training college, a person should be eligible for appointment to a secondary training college. Besides a 2nd Class M.A., a 2nd class M.Ed. should be the minimum qualification for

appointment to a post-graduate college. Of course, we will have to adopt some other criteria for craft teachers and D.P.E's.

Strengthening the present B.T./B.Ed.

It is the general feeling that the present duration of the B. T./B. Ed., training course for teachers is not sufficient for giving proper orientation to the recruit towards proper professional philosophy and technique. It is, however, also felt that it may not be possible under the present circumstances to increase the duration of the course to two years. The remedy, therefore, lies mainly in making the best use of the time available and to increase the actual working days and the daily working hours. This can, however, be done best in an institution of a purely residential nature which situation, however, cannot be enforced till the training colleges have complete residential facilities both for the staff and students within the college premises.

The State College of Education, Patiala, has been striving to make this orientation as extensive as possible within the limited time and resources available. I think the Punjab is the first state which has increased the number of working days in training colleges by cutting down holidays and reducing the period of summer vacations. Roughly, training colleges in the state now work for about 227 days as against less than 200 days in other states. Even the recently started Regional Colleges work for about 222 days a year. I am proposing a further increase in this period by reducing our summer vacations to six weeks instead of eight weeks, as we have at present. An ideal situation will be to have the training colleges as non-vacation institutions.

The actual working hours per day in the Patiala college work out to more than eight. This is increased to 9 or even 10 on certain days when we have seminars, extension lectures and other academic activities in the college or in the hostels. We are, however, proposing to permanently increase the normal daily working hours by at least 40-45 minutes by starting the college earlier.

I propose the following schedule :—

(a) The session in a training college should extend from 1st of July to the end of May, with only one month break for long vacations in between and very few holidays say ten in all.

(b) A training college should work for at least eight hours a day from 8-00 a. m. to 5-00 p. m. with a sixty minute break for lunch. Arrangements for subsidised lunch must exist in the college itself for all staff and students. Transport arrangements for students should be streamlined wherever necessary.

(c) As long as hostel facilities for all are not available, one-month hostel residence be made compulsory for all day scholars. Efforts should be made to provide full residential facilities for the staff and students within the next Plan period.

A teachers' training programme must be *broad-based*. Opportunities for discussion and self-expression must exist. I feel very sorry when I ask a trained teacher about Guidance and he pleads ignorance because of the fact that he did not have Guidance as a subject at the B. Ed. or at the M. Ed. level. I insist that both the M. Ed. and B. Ed. students should have some working knowledge about as many aspects of evaluation as possible. We have to initiate suitable programmes in this regard irrespective of the examination requirements.

During my eight years stay at Chandigarh, I started the system of co-syllabus series of lectures and seminars. I also introduced ten day courses in Audio Visual Education and Evaluation for all the B. Ed. students. I am continuing the same in the Patiala college.

The Seminar period should be a must in the daily B. Ed. timetable. Weekly lists of topics for discussion be put up on the notice board. Different students may initiate the topics every day and others may participate in the discussions that follow.

For this purpose the B. Ed. students at Patiala are divided into as many groups as there are members of the staff

including the Principal but excluding the Craft teachers and D. P. E.'s. Every lecturer gives an important topic for his seminar period. The time table is so arranged that every group of ten students meets each lecturer by turn when this topic is discussed. The list of topics is put up in advance and every student has to write some 750 words on the topic. The sum total of this system is that in one round every student does about thirty topics and meets every member of the staff by turn which he would have not done otherwise. Usually this seminar system is introduced in October and repeated in January with the result that the students get acquainted with nearly every possible topic in education irrespective of their options for the examination. I wish other training colleges could accept similar features measures.

M. Ed. Programme

For the M. Ed. Examination, every student has to take three compulsory papers and two elective papers besides a dissertation. Except for the elective papers on Administration and Guidance, the number of students in other papers is very small say about one or two each. There are certain papers like Comparative Education and Indian Education where we may not have any students at all. Now I cannot think of any M.Ed. student going out of the training college without knowing something about the problems of Indian Education whatever his/her option might be. Following this line of thought, therefore, I have made it compulsory for every M. Ed. student to attend lectures on all the papers till the end of December weekly seminars are also a must.

INTERNSHIP TEACHING

Teaching practice is perhaps the weakest link in the teacher training programme in our country. Different training colleges follow different practices. Some have their teaching practice spread over the whole year at the rate of two half days in a week. Others have block practice for about four weeks after the theory examination. In both the cases, however, students go to the schools only for a short period and teach about two

lessons a day. A very small percentage of the lessons is actually supervised. The lessons are given in an atmosphere of artificiality. Every one has been clamouring for a change in the system. The four Regional colleges have adopted a system of Internship in teaching although for different reasons. At the Ajmer Regional College, for instance, students from Rajasthan, Punjab, Kashmir and Delhi get admitted. It is a good idea to send the students from Punjab to Punjab schools on a whole time basis so that they could teach through the Punjabi medium in Punjabi conditions. This is good because eventually they will have to teach in Punjab schools.

I commend that this system be made an integral part of the B. T./B. Ed. course all over. Students be deputed full time for at least six weeks. Special grants for T. A. and D. A. for students and staff will have to be made either by the government or from the Students Fund.

In the Patiala College such a programme was started two years back? We have achieved considerable success. Both the schools and the trainees have welcomed it.

Prior to the Internship period, a two-day seminar of the participating institutions is held to discuss details of the academic work and other arrangements. To start with we had only local schools and those lying within a radius of twenty miles to facilitate movement of the staff members. In some places students camp together in the school premises and have a common mess.

During the Internship period every student is also required to complete the following assignments :—

- (a) An analysis of the syllabus in his/her respective subjects.
- (b) A detailed study of the school plant.
- (c) Case study of a school student.

Degree-Cum Training Colleges.

The only effective measure to counteract the wrongs in teacher education seems to lie in catching the recruit young and in giving him a long period of training college life,

A modern innovation that has found favour in many countries is the provision of integrated courses in education. In India such an experiment has been started at Kurukshetra as well as at the Regional Training Colleges. There is, however, one big difference in the two systems. At Kurukshetra the College of Education offers a four year integrated course leading to the B. A. or B. Sc. degree in Education after Matriculation, meaning thereby a clear reduction in the duration by one year. The Regional Training Colleges offer four year courses after Higher Secondary. According to this scheme the candidates will get a B. Sc. after three years and a B. Ed. after the fourth year. However, the courses have been so arranged that education figures as a subject from the very beginning. The B. Sc. degree given by the Regional Training Colleges will be rather distinct from the ordinary B.Sc.

I feel that in both the above cases it is doubtful, if the qualifications will be universally accepted as equal to the ordinary degrees in Arts and Science and Technology for the purposes of higher studies in these areas. There is a danger (and this danger is more acute at Kurukshetra) of the future careers of these students getting virtually blocked. There is also no scope for these students to shift to other professions at a later stage.

However, I would prefer the scheme that is being followed at the Regional Colleges because in this case a candidate will get two degrees and there is no danger of any possible knowledge deficiency on account of the reduction in the duration by one year. The Kurukshetra course offers virtually a 'short cut' to teacher training. I am very sure in my mind that the Kurukshetra graduate is likely to be deficient both on the content side as well as on the method side. Another danger which stares the two schemes is the quality of the possible recruit. I would very much like to see how many candidates offer themselves for studies at Kurukshetra and in the Regional Colleges in case the present incentives in the shape of scholarships (and assured jobs) are taken away. No talent can be attracted without substantial basic incentives.

For the present, the only acceptable solution to my mind, lies in combining the above two systems and creating a new

type of a Degree cum Training college where a student may join after Matriculation or Higher Secondary like in any other degree college for the usual Pre-University or the Three-Year-Degree course. The only difference will be that he will select his subjects with an eye to school education. To preserve the training college atmosphere, it is essential that only good training colleges are utilised for the purpose. I also visualise that in such a college other courses like M. Ed. and B. Ed. will continue.

After getting his ordinary B. A./B. Sc., degree, the willing candidates will go on to the one year B. Ed./B. T. course in the same college. The same professors who were teaching him content courses for his B. A. will teach Methods of Teaching in B. Ed./B. T. The atmosphere in the college will be purely educational and all members of the staff will have high qualifications in education as well as in other subjects. The student will, while following his B. A., or B. Sc. course, be exposed to a teachers' training orientation. Such a candidate will have normal qualifications and he will have no difficulty in going into either some higher course or to some other profession if that be his wish. It goes without saying that all incentives available at Kurukshetra and in the Regional Colleges should also be available in this case. Every student will, however, have to give an undertaking to serve in an educational institution for at least three years after completing the course. Another alternative could be that scholarships are given only in the final year.

An improvement that could be suggested is that one of the subjects that a student may offer be 'Education'. In many universities of the country 'Education' is being taught as a separate discipline in the ordinary degree colleges.

Yet another suggestion may be that 'Education' be available as an optional subject on the Panjab pattern. But the point to be emphasised is that the degree of B.A. or B.Sc. should be the same as taken by students of ordinary degree colleges. The degree of B. T./B. Ed. should also be the same as available for others. In fact, it is envisaged that the B. T./B. Ed. class will have both the categories of students, those who have followed the B.A. course in this very college as well as those who wish to do their training after graduation elsewhere.

I have a feeling that if a student is exposed to teacher education for three years, he may develop an interest in the profession and he may be better prepared mentally and intellectually to do his work as a teacher. I also envisage that a better class of recruit may be attracted to this course as compared to the ones we have at Kurukshetra or at the Regional Training Colleges, where experience shows that only boys and girls from the poorest classes offer themselves for admission and their main incentive is scholarships.

The project will naturally require some special grants for training colleges for additional staff and other facilities. To start with, the experiment may be initiated in only one training college per state as a pilot project. Eventually, I envisage that all training colleges will have such facilities for a limited number of candidates.

I do not, however, wish to completely ban others to join the B. T./B. Ed. The two systems should go on hand in hand and supplement and compliment each other.

MULTIPLE-CLASS TEACHING

In a vast country like India with ever increasing demands for education, no plans for the extension of primary education can ignore the phenomenon of schools where the number of teachers is smaller than the number of classes. The difference will only be that some may be single-teacher, some two-teacher and some three teacher schools consisting of four to five classes. Whatever the nature of the schools, they must provide the minimum of instruction necessary for a student either to continue his studies beyond the primary stage or to enable him to receive some sort of vocational training.

And yet, such schools are not the product of the modern age and peculiar to 'backward countries'. Since always the one teacher schools have been recognised as a solid institution for imparting elementary education to the masses specially in rural areas not only in India but even in such advanced countries as U.S.A., Australia, Sweden and U.K.

In India the single-teacher school has always been recognised as an important instrument for imparting knowledge. Dr. A.S. Altekar in his book 'Education in Ancient India' has repeatedly talked of such institutions at Banaras, Takshila and at other places of learning. During the Muslim period one repeatedly comes across a similar institution under the name 'Maktab' where the teacher with the help of senior students or 'Monitors' carried on the profession of teaching the 3 Rs. Andrew Bell and William Adam in their reports talk repeatedly of single-teacher schools in Bombay, Madras, Bengal and Bihar. It is no doubt true that during the British rule some attempts were made to liquidate the age old institution. In 1924 the Royal Commission on Agriculture spoke in disparaging terms about such institutions. Later the Hartog Committee vehemently criticised the institution of single-teacher schools and advocated their complete abolition. Acting on this advice many such institutions were closed down in the various parts of the country between the period 1924-29, 30.

This step sadly resulted in reducing the facilities for primary education. However, soon after there was a turn in the tide and when the British left there still existed quite a large number of such schools in rural India. Opinion has now changed. The authorities are now anxious to put such schools on better footings and even to increase their number extensively. A few years back the single-teacher primary school suddenly came into prominence as a result of the Government of India scheme to open 80,000 such schools all over the country as the first step towards providing employment to the educated unemployed. In the Panjab also such schools were opened as a part of this scheme. It is recognised on all hands that in many small villages and far off areas conditions are such that only the institution of single-teacher or two-teacher or three-teachers schools can be economically justified.

What is actually needed is that the state governments may order a survey of the conditions prevailing in such schools, and of their needs and requirements for improvement. Such schools present a number of problems both academic and administrative and unless a satisfactory solution is found to these, it is idle to talk of any educational development in the earlier stages. I will even go further and say that in the development of suitable techniques of multiple-class teaching lies the key for developing rural education in the country. Perhaps this remark may be better appreciated against the background that more than 70 percent of our countrymen live in villages. Perhaps the State Institutes of Education recently started, with the active cooperation of the Junior Basic Schools situated nearby may be able to render effective service in this direction. Yet another step in this connection may be to sponsor such pilot projects within the frame work of the usual work allotted to the various education blocks. I will even go further and say that multiple-class teaching techniques must be made an essential part of the Junior Basic Training Course and of the orientation courses sponsored by the state departments for the District and Block Education Officers.

The main academic problems that arise are in respect of the number of students and of classes and of subject in such schools. It is idle to expect one, two or

three teachers to teach a large number of classes of students and an equally large number of subjects at the same time and with the same efficiency. The number of students per school will have to be restricted to a figure manageable by the number of teachers available. At places for example where only one single-teacher school exists it may be more profitable to start another such school rather than to add one more teacher to the same school. The main 'benefit' of single-teacher schools, in my opinion, is an intimate relationship between the teacher and the taught. It is not sufficient that teachers should teach and students should learn. What is more important is that the teachers should attempt to teach better so that the students may learn more.

In a school where the number of teachers is smaller than the number of classes, we cannot afford to have more than 75 students per teacher, meaning thereby that the total number of students in such a school should be regulated by the number of teachers in that school. The basic fact, however, must be recognised that a single, two or three teacher school has to follow the traditional grading of students as well as the common syllabus as available in ordinary primary schools. In the state of Panjab for instance, all primary schools have five classes and they follow a set syllabus all over.

The other acknowledged fact remains that all the classes cannot be taking lessons from the same teacher at the same time. Further the total school period cannot exceed $5\frac{1}{2}$ hours per day. Another basic factor that must be recognised in the very beginning, is that neither the teacher nor the taught can be expected to remain seated and attempt working for all the five and a half hours when the school is on. All this presents rather a complicated problem which the teacher incharge may not be able to solve on his own. Some concrete guidance and help will have to come from the Inspectorate. The Extension Services Departments that are now being attached with some of the Junior Basic Training Schools could also provide some guidance in the matter.

This step sadly resulted in reducing the facilities for primary education. However, soon after there was a turn in the tide and when the British left there still existed quite a large number of such schools in rural India. Opinion has now changed. The authorities are now anxious to put such schools on better footings and even to increase their number extensively. A few years back the single-teacher primary school suddenly came into prominence as a result of the Government of India scheme to open 80,000 such schools all over the country as the first step towards providing employment to the educated unemployed. In the Panjab also such schools were opened as a part of this scheme. It is recognised on all hands that in many small villages and far off areas conditions are such that only the institution of single-teacher or two-teacher or three-teachers schools can be economically justified.

What is actually needed is that the state governments may order a survey of the conditions prevailing in such schools, and of their needs and requirements for improvement. Such schools present a number of problems both academic and administrative and unless a satisfactory solution is found to these, it is idle to talk of any educational development in the earlier stages. I will even go further and say that in the development of suitable techniques of multiple-class teaching lies the key for developing rural education in the country. Perhaps this remark may be better appreciated against the background that more than 70 percent of our countrymen live in villages. Perhaps the State Institutes of Education recently started, with the active cooperation of the Junior Basic Schools situated nearby may be able to render effective service in this direction. Yet another step in this connection may be to sponsor such pilot projects within the frame work of the usual work allotted to the various education blocks. I will even go further and say that multiple-class teaching techniques must be made an essential part of the Junior Basic Training Course and of the orientation courses sponsored by the state departments for the District and Block Education Officers.

The main academic problems that arise are in respect of the number of students and of classes and of subject in such schools. It is idle to expect one, two or

three teachers to teach a large number of classes of students and an equally large number of subjects at the same time and with the same efficiency. The number of students per school will have to be restricted to a figure manageable by the number of teachers available.. At places for example where only one single-teacher school exists it may be more profitable to start another such school rather than to add one more teacher to the same school. The main 'benefit' of single-teacher schools, in my opinion, is an intimate relationship between the teacher and the taught. It is not sufficient that teachers should teach and students should learn. What is more important is that the teachers should attempt to teach better so that the students may learn more.

In a school where the number of teachers is smaller than the number of classes, we cannot afford to have more than 75 students per teacher, meaning thereby that the total number of students in such a school should be regulated by the number of teachers in that school. The basic fact, however, must be recognised that a single, two or three teacher school has to follow the traditional grading of students as well as the common syllabus as available in ordinary primary schools. In the state of Panjab for instance, all primary schools have five classes and they follow a set syllabus all over.

The other acknowledged fact remains that all the classes cannot be taking lessons from the same teacher at the same time. Further the total school period cannot exceed 5½ hours per day. Another basic factor that must be recognised in the very beginning, is that neither the teacher nor the taught can be expected to remain seated and attempt working for all the five and a half hours when the school is on. All this presents rather a complicated problem which the teacher incharge may not be able to solve on his own. Some concrete guidance and help will have to come from the Inspectorate. The Extension Services Departments that are now being attached with some of the Junior Basic Training Schools could also provide some guidance in the matter.

Before I proceed further, I emphasise a studentwise and not a classwise allotment of students to every teacher. I will clarify my point like this; suppose there are two teachers in a five-class school. Every class will be divided into two groups and as such five groups will be allotted to every teacher, because I feel if the same teacher remains incharge of the students for all the five years, he may get to know them more intimately and pay individual attention.

I would like to give below for the consideration of colleagues some points which have been upper most in my mind regarding this problem.

1. The first two classes may be kept in the schools only for about three hours, and half of this time be devoted to games and other educational activities.

2. The rigid classification of syllabus into subjects should be done away with to a certain extent so that some integration and co-ordination may be possible. In some cases some pruning of the syllabus may have to be done to emphasise the essentials and set basic concepts.

3. The time-table be so arranged that one period of class work is followed by one period of activity including drill, hand-writing practise, map drawing or model making and paper work. This will necessarily mean remodelling of the syllabus on modern lines and introducing more of activities and practical work. If activities are interesting and absorbing not much of supervision is required. If necessary a monitor could look after the class during activity periods.

4. The time-table could be so arranged that the various classes or groups of classes have their mid-day break at different hours of the day.

All this will naturally mean that the teachers employed in such schools are of a superior type and it may be worth-while to give such teachers some incentives in the shape of additional allowances. They must also be given some orientation before

they take over their duties in institutions involving multiple-class teaching.

Another administrative measure that I would like to suggest, is that teachers who may have gained some experience of multiple class teaching should not be shifted as far as possible. And if at all they are to be shifted they must be transferred to a school in the similar category.

Such a teacher will also have to have practical knowledge of the methods of teaching like Play-way, the Project method, and the Dalton plan. He will also have to have some knowledge of the techniques of holding discussions, giving assignments and the technique of institutionised group work like holding of mock parliament, mock court, mock elections etc. A better plan may be that most of the full-fledged training institutions for elementary teachers may have a single, two or three-teacher primary school attached, so that some practical training in multiple-class teaching could be given to the trainees.

Some of the other problems that we have to face relate to administrative details and we have to be ready for their solution. Teachers will occasionally fall sick and go on leave; there may be some office work involved. Salaries have to be drawn and disbursed. The educational administrator has to be ready to solve these and other problems. We must face the 'sordid' fact that multiple-class teaching is going to be a permanent feature of the educational system in the country !

THOUGHTS ON EXAMINATION REFORM

Rarely have examinations been looked upon with a friendly eye. The common feature, however, has been to denounce them freely and even bitterly and then to tolerate them as a necessary evil. Different people have described examinations differently. Some label them as "an enemy of the pupil", others as "an obstacle to education" and yet others as "a gamble"! Observations have come from individuals as well as from several educational bodies all over the world.

In India, too, thinking has been on similar lines. The Report of the Indian Universities Commission (1902) contains the view that it was 'beyond doubt that the greatest evil from which the system of the University Education in India suffers is that teaching is subordinated to examinations, and not examinations to teaching'.

The Government of India Resolution on Educational Policy (1904) says :—

"In recent years they (the examinations) have grown to extravagant dimensions and their influence has been allowed to dominate the whole system of education in India, with the result that instruction is confined within the rigid framework of prescribed courses, that all forms of training which do not admit of being tested by written examinations, are liable to be neglected".

The Calcutta University Commission (1917-19) went on to say, 'it is impossible to pursue the evidence on the examination system as it exists today in Bengal without a feeling of profound sadness. The immensity of effort, disproportionate to the results; the painful anxiety of the candidates, the mechanical award of marks encouraging the least fruitful efforts of the mind; the sterilising influence of the whole system on both teachers and the taught, and this consequent crying waste of the intelligence of the youth of Bengal, these are evils which have been brought home to us by the most convincing evidence.'

Professor Amarnath Jha in the course of his presidential address delivered before the Examinations Section of the 13th All India Education Conference held at Calcutta during Christmas, 1937 observed :—

"Should the examination be mainly a paper examination? Should all school examinations be on strictly academic lines? And should there be no contact between the mysterious shadow of the examiner and the pupils trying to satisfy his demands from a distance? How are character, physical fitness, cleanliness, record of social service, healthy instincts to be appraised?"

The Zakir Hussain Report on Basic Education (1938) made the following pertinent remarks :—

"The system of examinations prevailing in our country has proved a curse to education. A bad system of education has, if anything, been made worse by awarding to examinations a place out of all proportion to their utility. As a measure of the work of the individual pupils or the schools by a consensus of expert opinion, examinations are neither valid nor complete. They are inadequate and unreliable, capricious and arbitrary. We should take care to guard against their baneful influence."

The Primary and Secondary Education Reorganisation Committee, set up in U.P. in 1939, opines :—

"The frequency of examinations and the manner of conducting them exercises an adverse effect upon the aims and methods of education. An unhealthy and forced concentration upon memorization of facts and isolated bits of knowledge prevents the development of sound judgment and objective view of things. Under the strain of examinations students are left with little opportunity to think for themselves or to follow out the ideas which arise in their minds. Thus their individuality remains undeveloped. Both teaching and learning tend to become mechanical. Examinations tend to create among students the evil habit of neglecting work during the course of the session and of concentrating on it right at the end."

The verdict of Radhakrishnan Commission that "If we have to make any reform in higher education, it is in the examination system," is of no little significance. The Commission also warned that if we do not take early steps the whole edifice of our education would collapse.

In passing it may not be out of place to quote from the report of the World Conference of the New Education Fellowship. It is observed therein that :—

"The use of the same examination for a variety of incompatible purposes, such as assessment of ability, determination of attainment, selection of the specially gifted, and control of curriculum and teachers, is a system productive of grave confusion and harm. As long as external examinations are used as a chief means of evaluating schools and pupils in them, they will lead to deplorable over-emphasis upon the more external and easily examined parts of the curriculum together with a neglect of those less easily assessed and ignoring of creative and social activities and gifts. The present examination system is a handicap to the normal progress and development of education throughout the world."

The western countries where this system of examination was very popular, started reacting against it towards the end of the 19th century. The Committee of the Secondary School Examination Council made a similar criticism of examinations in England. They were of the opinion that one of the most vicious effects of the examinations has been the sacrifice of originality for the sake of uniformity.

The interesting point, however, remains that inspite of severe criticism against the system of examination, no one has yet suggested a reasonable substitute. Instead, not only are admissions to the universities and entrance to the services governed by examinations, but the system of examinations is now extending to all professions for the simple reason that there is no other fool proof criteria of selection which may be healthy as well as objective and reliable.

Examinations, on the other hand, are even now regarded to be valuable in so far as they are a great stimulus to hard work. It is human nature not to do a thing until we feel the spur of necessity. It is the "must" in our lives that brings out the best in us, and it is examinations that have so far provided that "must". But for examinations, both the teacher and the taught would have taken things easy.

Keeping in view their inherent worth, educators have, however, thought of improvement in the system of examination rather than its abolition. The early years of the 20th century were marked with great schemes of reform propounded by educators. The United States of America took a lead in this direction and made a number of reforms in their examination system at the secondary as well as the higher stages of education. They started a system of practical examinations for recruitment to different services as well as a system of extensive internal assessment as also the credit system. On the lines of America, England too started reform in their schools. The Act of 1944 proved a landmark in this direction.

In India, it was only about ten years back that the All India Council for Secondary Education started tackling the problem of examinations with vigour and persistence for the first time. The University Grants Commission also began paying attention to this problem about the same time. The Council organised some conferences and evaluation workshops under the distinguished guidance of Dr. Benjamin S. Bloom, Head of the Board of Examiners at the University of Chicago. In this connection, a conference of the Chairmen and the Secretaries of Boards of Secondary Education and of the Universities conducting the School Leaving or Matriculation Examinations was also held at Vigyan Bhawan on Friday, the 5th and on Saturday, the 6th April, 1957 with Mr. K. G. Saiyidain in the chair. I think it would not be out of place to mention some of the observations made there. Mr. Saiyidain in his presidential address observed, "The problem of examinations has been with us for a very long time, but inspite of the general criticism of the system voiced from all quarters, no bold or drastic measures had been under-

taken for its reform. An unsatisfactory examination system, was not only bad in itself but had the effect of completely dislocating and disrupting curricula, syllabi, methods, objectives and purposes, in fact the entire educational system. Let us make our examination procedures intelligent, humane and reliable and save our entire educational system from being reduced to shambles", concluded the learned speaker.

The delegates present generally accepted the view that the much abused external examination could with a few modification be transformed into a valuable aid for the improvement of our educational practices.

The conference endorsed the view that evaluation must be regarded as an integral part of the total educational process and that educational objectives, learning experiences and evaluating procedures are all linked up in this process. It recommended to the Ministry of Education, Govt. of India, to set up an Examination Unit, whose functions may include ;

- (a) to identify, clarify and gradually enlarge the objectives of teaching the various school subjects,
- (b) to suggest adequate learning experiences for the purpose, and
- (c) to improve evaluation tools.

The Unit has since been very active and we hope that their work will lead to a gradual improvement in curricula, methods of teaching and examination procedures. The evaluation tools are being made available to the State Boards of Education for use by their paper-setters and by the schools for internal assessment. Some states have also started their own units and it is hoped that with the co-ordinated efforts of the central and the state units, the shape of things will soon be changed for the better.

The main trends in this direction have been as follows :—

- (a) Introduction of cumulative record cards in schools ;
- (b) Internal assessment,
- (c) Use of the objective type tests and the short answer type questions in the external examinations.

How far these steps have been able to bring about an impact is still to be assessed. However, my own impression has been that there has been no substantial progress. Many states have already discarded the use of objective type tests. Internal assessment where introduced on a large scale, has brought about more confusion and abuse than good. Both the above new items inflated the pass percentage without any improvement in the quality of the candidates.

Whatever step is to be taken, it should be well thought out and planned, keeping in view the Indian child, the Indian teacher and the local conditions. Further we should have patience in assessing results as we should have in introducing reforms. There are no short cuts or quick results in education.

I am firmly of the view that the present confusion in our examination system is largely due to the uncertainty as to their purpose. At the same time it should also be clear that results based on one single examination envisage a lower degree of reliability than a series of tests separated from each other by suitable intervals.

Another disturbing factor that has to be taken note of, is that examinations have been associated with malpractices like use of unfair means, paper leakages, and approaching the examiners. These were causes enough for alarm. Recently students have started using violence against examiners and invigilators. In some states university examination centres are being guarded by the police as a matter of routine. To me this feature is more menacing for society than the academic limitations outlined above, and yet I feel that the two are inter-linked. If one is solved the other will remain a problem no longer.

Fear Element

Our present system of examination is responsible for creating some sort of fear phobia in the candidates in some form or other. Ours is an era of keen competition in all spheres. To get employment, a degree or diploma is a necessity. Passing some public examination has become the main job for students.

Help books and coaching colleges which exist in their hundreds, only help in confirming this position. They advertise themselves as the saviours of the student community. Pass marks must be obtained by fair means or foul. All other values in life get abandoned. It is here that the element of 'chance' and a sort of 'gambling spirit' comes in our examinations and they no longer remain an aid to education but become a wild challenge to the student community.

The whole problem should be so tackled that besides highlighting good educational values, no necessity may arise to pay undue importance to the final examination. The following may be considered as basic to any future planning in examination reform.

1. The frequency of examinations should be increased considerably, so much so that there may be no fear of any waste of time. I should consider an interval of 3 months as adequate to obviate any frustration in the candidates.
2. Another point that I would prefer to put forth is that the semester system as followed in American Universities and as recently started in the Panjab Engineering colleges may be a better arrangement than asking the candidates to take the examination whole hog.
3. A student should not be required to re-appear in a subject in which he has passed once. This will obviate the vicious circle that is created very often in the life of some examinees.

Internal assessment is a recent innovation in our country. No doubt, the idea is educationally very sound but when applied on a large number of students and a large number of institutions, it is likely to be misused and no positive correlation is possible between the internal and external assessments or between institutions. It is useful only on an institutional basis as in America. It might be a useful departure in our educational practice, if to start with, professional colleges are allowed to carry on their own evaluation and award their own qualifications. The market will be free to make its own selection. Healthy competition

will naturally help institutions keep their standards high. Of course, healthy and objective criteria of assessment will have to be evolved by institutions themselves.

Oral tests are rarely used in our country. They are to my mind the best means to judge a candidate's verbal expression, ready wit, grasp of situation and powers of discussion. This again can be done best at an institutional level and not on a wholesale basis.

In Russia oral tests form an integral part of the examinations at all stages. They have a very interesting system. The Ministry of Education prepares a list of topics to be used in oral tests. This list is sent to all schools in advance. On the basis of this list, tickets are prepared, each ticket containing 2 to 3 questions. These tickets are used in the oral examinations. A panel of examiners is constituted for each school. The tickets are placed face down on the table. The pupils who come in one by one draw a ticket each and answer the questions given, before the panel. In Mathematics and Physics, the pupils work out the solutions on the black-board. The panel may put further questions to the candidate to judge his/her grasp of the topics dealt with in the questions. The panel grades the pupils on a five point scale and takes into account the record of the year's work also. If there is some marked difference between the panel's grading and the grading of the child based on the year's work, a new panel of examiners is appointed.

I am sure oral tests can also be given an important place in our own system of examination. This may take any shape. In subjects like geography for instance, practical and outdoor work may form part of the oral test. Asking the students of Class VI or VII to read a relief map or model of India seems to me a better test in geography than asking them to divide India into physical divisions from memory.

Some sort of final written test, however, will always have to be there, and I feel it must be there as it seems very necessary to keep up standards in education. In this regard I have two rather very bold suggestions and I would like educationists to

give them some thought and not dismiss them as academic nonsense. They may, if adopted, minimise, if not abolish malpractices in examinations.

1. No fixed examination date-sheets may be announced beforehand as at present. Only the period of examination may be fixed e.g. Matriculation examination to be held from the 15th of March to the 2nd of April. Names of individual papers be announced only 24 hours earlier.

2. Our present examination papers at best present a random sampling of the syllabus. This leads to guess work etc.. Our aim should be to see that somehow students study a major portion of the syllabus.

Taking this in view, will it not be better to issue a month before the examination a set of about 20 questions in every paper, out of which questions may be set in the final examination. In such a case all the students will at least study these 20 questions well and thus our purpose of education might be served better.

We are following such a system in the Patiala college as far as our terminal examinations are concerned and the results have been very encouraging indeed.

3. Permission to use good reference books and dictionaries in the examination hall for consultation, may be yet another innovation.

While concluding I would like to say that, I have been very impressed by the practice in many places of issuing two types of certificates in their High School examination. Those who get a certain percentage of marks are eligible for entry into places of higher learning while others are issued the School Leaving Certificate which is sufficient qualification for entering junior positions in the offices and various other professions. There are no failures and as such no wastage. Why can't we adopt such a system ?

SCHOOL INSPECTIONS

Our country is passing through a most crucial stage in educational development. We have set ambitious targets, both quantitative and qualitative, in education. The task ahead, therefore, calls for more attention to school administration. The inspector who combines in himself the dual role of an educational administrator and supervisor has to be properly selected and trained to play his part effectively. Things have also to be so arranged that he is relieved of his routine duties. Care has, however, to be taken that his status is in no way affected adversely by this bifurcation. The man incharge of routine duties should function directly under his control. In the set-up that we find in India, a pure educational supervisor will never elicit respect. The example of U.S.A. is not feasible for the simple reason that most of the schools there are private schools and the Govt. Education Department has to do nothing with their administration. The work of the inspector there is purely supervisory. When we speak of separate administrators and supervisors, we ignore this pertinent point. Whenever and wherever this rigid bifurcation has been tried, results have been disastrous for both the educationists and education. I, therefore, plead that we should be in no hurry to change the nomenclature or limit the functions of the inspector. Under this context, therefore, the term 'inspector' is the only term that fits in our environment. The nearest to this is what we have in the Panjab now, 'Education Officer', although the word 'officer', sounds a bit out of tune.

It may be worthwhile to add here that now all educationists recognise that there should be a definite philosophy behind inspection. Why should an inspection be carried out at all ? Is it based on a suspicion of the school staff, or is it based on a desire to help them in the sacred task of education ? Or is it a punitive measure ? I am one of those who feel that the provision for inspection of schools recognises the need for improvement in the quality of education and guards against any misdirection

of resources and energies. As such the inspector has to achieve the following four main purposes :—

- (i) Correction.
- (ii) Prevention.
- (iii) Construction and
- (iv) Creation.

Correction involves the routine duty of putting mistakes right when detected during regular or surprise checks. It is no use simply criticising. Concrete suggestions for improvement have to be given. Follow-up-work is also essential.

Prevention means safe-guarding against any possible mistakes. For instance, the introduction of a new syllabus or a new activity may bring in its wake some difficulties in implementation. The inspector should anticipate these and prepare the schools and teachers accordingly.

Construction and Creation mean bringing new ideas in the educational process. The inspector may help towards experimentation with a new idea or trying out something novel. Action research can be a useful field for inspector and teacher co-operation. Teachers have to be inspired to think for themselves.

Inspection is, therefore, somewhat a specialised job and as such the great need for the training of the school inspector is coming to be recognised. This training can be split up into pre-service and in-service education and unless provision is made for both, it is idle to expect results. Recently the Punjab Education Department has launched upon a vast experiment in educational re-organisation as advocated by Shri J. D. Sharma, our Director of Public Instruction, in his report. It is gratifying to see that a full chapter in his report has been devoted to the problem of providing proper training to this category of educational workers.

The first point, however, that arises is : who should be selected as an inspector ? Obviously the answer is that all such

posts should be filled by people of merit having a good measure of organisational ability and academic background. As such mere seniority should carry only limited weight. Knowledge of the latest in education should be an added qualification. People with high qualifications in education are to be preferred, provided they also possess the above mentioned qualities of teaching and organisational competence. It will certainly be a good innovation if some percentage is reserved for direct recruits and for people from the colleges and universities with requisite qualities and qualifications. The introduction of fresh blood may help in keeping up some freshness in outlook. The claims of some good training college people for absorption in inspectorial and administrative jobs should also be increasingly recognised. In fact, I would advocate a healthy exchange of personnel between the training colleges on one hand and schools and the inspectorate on the other. Elaborating this point, the Mudaliar Commission very emphatically recommended :—

“There should be a free exchange between professors in training colleges on the one hand and selected headmasters of schools and inspectors of the Education Department on the other; and that for varying periods of three to five years, there should be a possibility of sending one or other of these to any of the posts mentioned herein. Professors in training institutions should be enabled for short periods to take up the duties of headmasters or inspectors so that they may become familiar with the actual conditions of school life and realise how the training that is imparted by them in the training colleges, is actually put into practice.”

The professional training of the inspector should be, I feel, indigenous to the country taking in view its basic educational objectives and the pattern of its government. The pre-service training must start right from the B. T. or B Ed. level where provision must exist for an additional paper on Educational Administration and Supervision. This should be taken up by candidates who have the inclination for this type of work. It should also be possible for anybody to take up this additional

paper at any stage later. The contents of this paper will naturally have to be elementary but practical in nature so that they may also be helpful to a field worker in his ordinary school duties as a teacher as well as a headmaster.

Next comes the M. Ed. stage where in most of the Universities provision exists for such a study. The nature of courses differs from University to University and we have to think out a plausible situation. Twenty eight universities in India offer courses in Educational Administration. Some universities offer one, some two and some three papers in the subject. For instance Andhra, Banaras, Delhi, Gorakhpur and Punjab offer Educational Administration as one paper out of six or more optionals.

In the universities of Bombay, Calcutta, Gauhati and some others two papers are offered, one in the compulsory group and the other in the optional group.

In some universities, Educational Administration constitutes one of the areas of specialisation. Usually three papers have to be offered in the selected area. The three papers offered at Agra for instance are :

- (i) Principles of Educational Administration and Human Understanding.
- (ii) Principles of Supervision, and
- (iii) Curriculum Development.

It will, therefore, be seen that there is wide variation in the courses offered. Some sort of uniformity is desirable. With a view to this the First All India Seminar on Instruction and Research in Educational Administration was held at Delhi in April 1961, where I had the privilege of representing the Punjab University. Some useful suggestions were made under the following headings :—

- (i) The general nature and contents of Educational Administration.
- (ii) Methods of teaching, field work and inspection.
- (iii) Scope of research in Educational Administration and
- (iv) Major problems encountered in instructing students of Educational Administration.

It was felt that besides the general papers, there should be various areas of specialisation each having two papers and a dissertation or field study. Educational Administration should be one of the areas of specialisation.

It was also felt that some field and practical work should also form part of the above specialisation. A programme of apprenticeship has also been suggested. This may include deputation to a school as well as work with an inspector. This may take about a month or so like the school practice sessions at the B. T., or B. Ed. stage.

The dissertation and field studies must be so planned that the candidate gets acquainted with the real situation in the field.

Some universities and state governments may also start Diploma Courses in Educational Administration of 6 to 8 months duration. Baroda already has such a course. These should be integrated courses emphasising both pedagogics, administration, supervision and field work. Both the M. Ed. and Diploma courses should be offered only to teachers who have a good Master's degree besides a B.T. or B.Ed. At least three years 'experience' as a teacher should be the minimum experience requirement. Besides, only those should be encouraged to offer these courses who have shown enough inclination for such type of work. In case facilities for specialisation exist at B.T. or B. Ed. level only candidates with this sort of specialisation must be admitted. Much will, however, depend on the right selection of candidates.

One more thing has to be taken note of. The above specialisation may be further divided into (i) Primary and (ii) Secondary sections. Some papers may be common but specialisation may be particular. I feel that this sort of specialisation may prove very effective.

When such a system comes into being, it should be only people with such qualifications who may ordinarily be appointed to the inspectorial and administrative posts. In order to attract people of the right type to the inspectorate, it may be useful to offer them some incentives in the shape of special pay etc. It is, however, necessary that before they actually take up their new assignment, the would-be inspectors go through an initiation course of about 10 to 15 days duration. In this connection, I would suggest that the State Governments may arrange such courses just before the beginning of the new school session. That no inspector be ordinarily appointed in the middle of the session, will be a prerequisite of this useful provision.

As long as such a system does not exist, we will have to have longish orientation courses during vacations for prospective inspectors. These may be residential courses of 2 to 3 months, followed by some sort of evaluation. In any case we will have to give preference to persons with higher qualifications when selecting people for these jobs. It is absolutely essential that the inspector is a person with superior qualifications and experience, so that he may create confidence in the mind of the lay teacher.

In-service : The inspector like all the others in the field of education, also needs constant in-service refresher courses, workshops and seminars. Visits to other inspectors' offices within the State and outside may also prove helpful. A constant supply of useful material for individual study may also help. The states may also take up the publication of educational journals where articles on administration and

supervision be published for the benefit of this class of field workers. Week-end seminars of inspectors may be arranged at the divisional and district headquarters for the benefit of junior inspectors. The extension departments and the training colleges could also be involved in the process. An Association of School Inspectors with purely academic aims may also help in the professional growth of such workers. Periodic exchange of ideas is always helpful !

In all the advanced countries many facilities exist for both pre-service and in-service education of inspectors. In U. K., U.S.A., and U.S.S.R. special institutes have been started for this purpose. In India also some steps have already been taken in this direction. Recently the Government of India have started at Delhi an Institute for Educational Administrators and Planners with the active co-operation of UNESCO. The National Institute of Education at Delhi has also initiated special courses at the M.Ed., Ph.D., and Diploma levels. The four Regional Training Colleges that have been started recently, can also lend a hand to the states in this area and organise such courses on a regional basis.

The Centre has helped the states to start Institutes of Education with the sole purpose of carrying on this sort of training as well as research in Elementary Education. In many cases Secondary Education has also been included within their purview. In short signs of the correct type of development are already there, and there is no need for despair. The fundamental fact, however, should not be ignored that much in education depends on the interest, zeal and initiative of the field worker. Training only helps in a limited measure. Our main problem is to attract people of calibre and merit to the profession and unless this is done all developmental projects will have only limited utility.

Almost all categories of administrative posts in education in Russia are filled by appointment from amongst teachers of merit who possess organisational ability. Educational workers, like teachers, have to undergo in-service training once in five

years. In addition there are short-term and other refresher courses. The entire programme of in-service training is organised through a separate net-work of institutions established for the purpose. *"The systematic programmes of in-service training offered both to administrative officers and teachers ensure that each category of educational personnel is equipped to participate effectively in translating the objectives of policy into school administration and practices."* There is a good measure of co-ordination between educational administrators and teachers.

In every Union Republic there is a Central Institute for in-service training of the educational administrators which offers a variety of short-term courses for certain key categories of educational administrators and also guides the programmes of in-service training in the institutes at the city/regional level. At the district level, monthly seminars are held for the inspecting and administrative staff.

The Central Institute for the Training of Educational Workers at Moscow was founded in 1927. The Central Institute for Educational Workers is directly under the control of the Republic Ministry of Education. The courses at the Central Institute are taken by ministers of autonomous Republics within a Union Republic, Chairmen of District Education Boards and Regional Boards, Inspectors of Schools, Directors of the Regional Institutes for the Training of Educational Workers and officers of the Republic Ministry of Education. During a year, the Central Institute imparts In-Service training to 2,000 to 2,500 persons. The duration of the various courses varies from two to six weeks and the programmes are designed to meet the specific needs of the particular categories of educational workers, and are related to the issues highlighted by policy decisions. For example, a special course is organised by the Central Institute for the Directors of Boarding Schools, since Boarding School education is at present receiving particular emphasis.

The establishment of similar Institutes of Research and Training in every Indian state is worth attention. Such an institute cannot and should not function as a separate self-contained organisation. The best course would be to combine it with a teacher training college. It may be worth while to merge in these institutes organisations like the English Institutes, the State Institutes of Education. Besides, economy this merger may result in better performance. Research cannot be done in isolation. The proposed institutes could have three main spheres of work.

- (i) Educational Research
- (ii) Teacher Education.
- (iii) Guidance and Evaluation.

The Research Wing will be a unit engaged in educational research in the various spheres e.g. (a) curriculum construction, (b) Text-books, (c) Techniques, (d) Basic Education, (e) Teaching of Languages, Physical Sciences, Social Sciences and of Crafts etc. This wing would also be charged with undertaking studies in the basic problems like (a) wastage, (b) stagnation, (c) choice of subjects and the like.

The second wing will be of Teacher Education. It is suggested that there may be only one section for B. Ed., besides a small M.Ed. class. This would enable the staff to keep in touch with advanced students and studies. The programme of in-service education for teachers shall be carried through the Extension Departments. This wing would also be entrusted with the assignment of providing refresher courses and in-service training to educational administrators at various levels. Courses and training may be offered for officers as suggested below :—

- (1) Two months in-service training courses for Headmasters/Headmistresses during the vacations.
- (2) Two month's training courses for Block Education Officers.

- (3) There could be another course of one to two months duration for senior education officers like the District Education Officers, the Deputy Education Officers, Principals of colleges and officers at the headquarters. These courses will aim at giving orientation in :—
- (a) Principles and Methods of school administration, with particular reference to current problems and trends in education in modern India and other advanced countries.
 - (b) Dynamics of human relationship, in particular, effective control of school personnel.
 - (c) Inspection and supervision, with particular reference to the nature and scope of inspection ; contact with the community etc.
 - (d) Financial and Service Rules and Regulations (e.g., C. S. R., F.F.R., Education Code, Budget Manual etc.). Office Procedure, Budgeting, Educational Statistics and Plan implementation. In order to ensure seriousness of purpose, there may be an evaluation at the end of each course.

The third wing will consist of Guidance and Evaluation.

The main functions of this unit would be as follows.

- (i) to impart training to teacher counsellors.
- (ii) to provide technical supervision over all the School Bureaus of Guidance in the state.
- (iii) to construct and standardise necessary psychological tools.
- (iv) to guide the teacher counsellors from time to time in order to resolve difficulties, if any ;
- (v) to guide and counsel individual cases.

If these wings are to function separately and in isolation as different institutions within one institution, the

main idea will be defeated. The programme of the various wings may better go on a co-operative basis. Every member of the staff may carry on some teaching assignment besides his/her own work in the particular wing. Research and other projects should emerge out of actual problems in the classroom or in the field. It will be no use carrying on work merely on purely academic and theoretical problems.

While arranging courses for inspectors, it may be wrong to stress only methodology of supervision. They may be given the latest in general education, as well as in their respective areas of subject specialisation, and also knowledge about the latest aids, books and methods. Another point that has to be taken note of is that special attention has to be paid to the Higher Secondary Schools and the Basic Schools. The officers responsible for the various types of schools have to be well versed in the details regarding the particular system of education in question so that proper guidance and help is given to schools. How to run one or two teacher schools is yet another field where guidance from the inspectors will be necessary. The training courses will have to take note of all these problems.

Recently two very disturbing developments have taken place in our country. There has been a sharp decline in the pass percentages; and an increasing use of unfair means at the various examinations has been detected. The Inspector of Schools with his academic resources and better knowledge of actual conditions in the field, can afford a very helping attitude to the authorities. He can, on his own, carry on some actual case studies to arrive at the actual causes behind these developments and not only suggest methods for improvement but actually experiment in this direction. He may take the help of the neighbouring training colleges and their Extension Departments. He is most suitably placed to help in these matters provided he has the depth of imagination and is catholic in his outlook.

The Punjab formula (now modified) of awarding punishment to the defaulting teachers has been widely criticised by all. Although on the face of it, it looks like a punitive measure, but I take it as an academic challenge to the field worker. Why has the teacher not been worried about this gross wastage in education? After all how can we differentiate a good teacher from a bad one? It is only the end product that can set the required criteria. Good teaching must result in good learning, and good learning must result in higher achievement. This patent fact cannot be denied, all other reasons and circumstances apart. The inspector has to educate the lay teacher to take all such measures of government as opportunities for self-improvement and self-education. The teacher's morale has to be built up, and who can do it better than the Inspector of Schools!

If, however, the inspector continues to be an officer wedded to routine, it may be worthwhile to abolish this agency and replace it by something local like Advisory Committees & co-operative supervision. The State Headquarters could be strengthened with the appointment of subject specialists. The office of the headmaster has, in any case, to be strengthened. The fact has to be recognised, earlier the better, that education goes on in schools and not in district, circle or state offices of education!

THE CHALLENGE OF ADULT EDUCATION

In a country like India where about 75% of the people cannot read or write, the problem of adult education poses a strong challenge and it has to be met with courage and determination. It is, however, true that while we have been conscious of the magnitude of the task, our endeavours have not shown determination and consistency. In the words of the famous Dr. Ranganathan, 'we have tried to solve this formidable problem with slogans.' And slogans lose force with the passage of time. No doubt independence did bring about a great awareness of the situation and we started a 'Social Education' movement with éclat in 1948. For some time there was a lot of activity but soon, however, our enthusiasm waned and we moved on to 'pastures new', leaving Adult Education starving and struggling. It is not encouraging at all that the literacy in the country showed only an increase of 7.1% during the decade 1951-61.

According to my analysis of the situation, the causes of this slow progress could be: (1) that we made our programmes rather too ambitious and that (2) Adult Education fell in the hands of self-seekers, the so-called social workers, whose acquaintance with the fundamentals of education was negligible and who, although caused a lot of noise, naturally could make no headway. The literacy part of Adult Education was neglected while the other aspects, which were no doubt more spectacular, met a lot of trumpeting. Result? The sound of the trumpet slowly died down. I am, therefore, quite sure in my mind that the entire problem needs fresh and serious thinking, if at all we wish to raise our literacy percentages to some respectable level.

While I do recognise the value of the other aspects of Adult Education, I am very sure in my mind that the problem as it presents itself in India today, is primarily of remedial education,

that is giving adults the opportunity of getting education that they could not get during childhood. I am also very sure in my mind that all the other aspects of adult education now collectively called *Social Education* have to be maintained only as aids. There cannot be any solid ground for development of human personality unless we give to the adult a solid content base. Unfortunately this aspect has been sadly ignored in our post-independence Adult Education programmes so far. I do not by any way mean that we should revert back to the pre-independence conditions and concentrate only on teaching and learning of three Rs. Our programme must certainly be more than a mere literacy drive. The fact, however, remains that the ability to read and write well is one of the main qualities to be developed in the adult. He needs literacy so that the knowledge of the world may become accessible to him. And surely we have to teach him how to harmonise himself with his environment and make the best of the physical conditions in which he subsists. We have also to teach him improved crafts and modes of production so that he can achieve economic betterment. Rudiments of hygiene and elements of citizenship have also to be included in the programme. And above all we have to integrate education with recreation so that his interest may be maintained.

We have, therefore, to draw for the adult a programme of literacy where other aspects of adult education complement and supplement the main activity. Such a programme, however, cannot be effectively carried on by non-technical persons. It is essentially the work of people who besides having the requisite missionary zeal, also possess specialised knowledge to educate the adult.

I am, therefore, making bold to suggest that let us, even as an experiment, give the responsibility of adult education to teachers in schools and colleges. Let the thousands of schools and colleges in the country act as Adult Education centres where the children of the community as well as the adults may get

their education and professional training. Such a movement, I am quite sure, will not only result in good adult education but will also bring the schools and the community nearer and such a relationship can be most beneficial for all.

Under my scheme every teacher, may he be in a primary school, secondary school, a college or even in a technical institution, will also act as an adult education worker and do this service to his country on a part-time basis in his or her off hours. Teachers in primary and secondary schools and in colleges may be paid an allowance equal to about 25% of their salary for this extra work. This extra income might also discourage the evil of private tuitions which is rampant in the teacher community. The wider use of the school plant will also reduce considerably the state expenditure on adult education and bring about better results at low cost.

Teacher Training :

Teaching adults is a specialised job and it needs some sort of background and acquaintance with the fundamentals of adult psychology and methods of teaching. As such arrangements will have to be made on a large scale to give some short-term training to adult education workers. To suit the convenience of the participants such courses could be held in the evenings or during the vacations. I am, therefore, making bold to suggest that every State Government may start in some teachers training colleges such courses on a regular basis. Some sort of uniform programme could be chalked out.

I am primarily a teacher training man, and I wish to do some loud thinking on the subject of training teachers for Adult Education. I envisage a training course of six months duration with sufficient practical work, besides a good theoretical background.

The following topics may be included in the theoretical part of the training :—

(1) *Principles and Philosophy of Adult Education.* This should include the role and status of adult education in a national programme. This in turn works out to mean the aims and the purposes of adult education in India and abroad. A comparative study is essential because conditions and requirements may vary from place to place. We in our country should be very definite about our ultimate targets.

(2) *Psychology of the Adult.* To have an acquaintance with an adult mind, his emotions and other faculties, it is essential that a grounding in the elementary principles of adult psychology are included. The points to be emphasized are individual behaviour, differences as based on age, sex, heredity and the social and economic environment. The role of the adult as a parent, as a worker and as a citizen is also to be taken into consideration. And finally I would include the various processes of adult learning—mainly participation, retention and application.

(3) *A Brief Survey of the Adult Education Movement in India.* This provision is only natural as it is necessary to know what has already been done in our country. The treatment will necessarily have to be critical as we have to improve our system and our techniques and set the present mistakes right. It is, however, true that nothing much has been done in our country and there is not much history attached to it.

(4) *Experiments in Adult Education.* This may include the study of Adult Education in some foreign countries such as Denmark, Sweden, the United States, the United Kingdom and China. This background is important as anyone who wants to do useful work must know the latest techniques in the subject. Useful work is being done, or has been done in the countries included in this list.

(5) *Methods and Organization.* The above four topics were concerned mostly with preparing a background for the real work of educating the Adult Education worker. Under this section, I should like to discuss the theory of the actual

work of educating the adult.

Teaching to read and write the mother-tongue is perhaps the main aim of the adult education movement in India at the moment. The problem is to teach language efficiency and in the shortest possible time. Methods used for children may not prove useful. A more direct approach is desirable. Training in the methods of language teaching is, therefore, essential for the trainee. This may also include elements of classroom techniques, without a fair knowledge of which the teacher may not be able to proceed.

I have been very impressed by the 'New Word' and the 'Verse' methods of teaching adults, and I would like to emphasise the two in the short-term course envisaged above. As the Verse method involves singing, it is a wonderful method that combines education with recreation. Shaligram Pathik who evolved this method has reported good success. It combines word with sound and only words used commonly by the adult, are used. It must, however, be understood clearly that no method can be patent specially at the adult stage. There is ample scope for experimentation.

A knowledge of some ordinary audio-visual aids and of the Project Method may be of great help in the work of adult teaching. This part of the course may include not only the theory of handling and use of ordinary radio sets and projectors, but also the making and the use of charts, maps and models. Flash cards and flannelgraphs are very helpful in teaching spellings, writing and composition.

Besides the above formal techniques, there are some non-formal items such as dramas, melas and exhibitions which are of immense recreational value. Our aim is to combine recreation with learning, and with non-formal items judiciously selected and wisely executed. Formal and non-formal aids and techniques are good only if the teacher knows how to make a proper use of them. Therefore, training

on these lines is very essential.

Adult education centres, or Community Centres as they are called in Britain, are an essential part of the whole scheme. Such centres combine the essentials of a club and a reading-room with those of a school. A community centre may range from a simple room with matting to large sized buildings with separate, well-furnished rooms for the various activities. A garden or some out-door space for games would be an additional advantage. Only a school building will fulfil these conditions.

Some training is necessary in running and organizing a centre. The course is akin to the School Organization course at the B. Ed. stage and may include the duties of the various officers, the making of time-table and syllabuses and details of equipment, furniture and extra-curricular activities.

Time-table making in adult centres involves some particular significance and the process has to be constantly worked out as in a workshop. The adult students are sufficiently developed psychologically and sociologically and this background has to be taken into consideration. Adults cannot concentrate and learn like children. They can spare little time for learning and cannot keep up their interest in the process. The adult has acquired certain skills, aptitudes and attitudes towards certain situations in life. The time-table framer has to keep in view all these factors while proceeding with his work.

This amount of theoretical background should be quite sufficient for the purpose. A total of about fifty to sixty lectures with a few seminars should be adequate to cover the entire theoretical portion. As no text-books are intended for the trainees, I would suggest that each training centre supplies free to the trainees summaries of lectures on every subject for further

The practical portion of the programme is, in my opinion, of greater importance. The trainee should get some experience

in teaching and, therefore, I would suggest that every trainee makes three persons literate during his three-month training period. This will not only help in giving some teaching practice to the trainees, but will indirectly also help in making more and more persons literate.

Another important item will be some practice in using the various aids such as the radio, the magic lantern, the film projector etc. Simple repairs should also be done by the teacher himself, and for this too some practical training is necessary.

The making of maps, charts, and models is a specialized job and needs some practice under expert supervision. For this purpose the services of an arts and crafts teacher will have to be requisitioned in every training centre. The idea is to make a teacher self-sufficient in every respect.

After training every adult education worker will be in some way or the other connected with a centre. To prepare him for this job, besides the theoretical knowledge mentioned previously, some practical experience in running a centre is also necessary. I would suggest visits to the local centres thrice a week. Trainees should go there first as observers and later on as helpers.

I am quite sure this training will be better absorbed by the trained teacher than by the lay worker because the teacher by temperament and training, is more suitable to put educational processes into action. Every training college in the various states will have to develop strong departments of Adult Education, and our school programme will also have to be orientated to this useful facet in education.

The atmosphere in the training colleges and schools where adults will come for education, will naturally have to be of constant research and investigation. Adult education presents typical problems which need constant research and thought. The problem of ensuring attendance at the centres is a perennial one. Reading interests of the adults pose a problem important in itself. Production of literature for the neo-literate is yet another

field demanding attention. And, then there is the problem of the adult relapsing into illiteracy. These and others are essentially educational problems to be solved by educationists and not by the lay voluntary worker.

Adult education is a massive problem and we cannot solve it by playing with it. I am quite sure in my mind that unless we solve it educationally through the solid cooperation of schools, training colleges and teachers, we will only be delaying the solution!

Some of the recommendations made by the Education Commission also deserve immediate attention and action. The use of correspondence courses and of the media of mass communication may bring about rapid progress. Universities could contribute by starting departments of Adult Education. The public and school libraries should be dynamic and set out to educate and attract the adults to use them.

EDUCATION AND THE COMMUNITY

The first responsibility of any nation, at any time and at any place is the care and growth of its children, the citizens of the future. The conscious acceptance of this great responsibility by a people and its efforts to fulfil it, constitute 'education'. Education to my mind is, therefore, the most essential social activity that can go on anywhere and everywhere. Education is the direct means to shape a nation's destiny.

It is, therefore, only right that the community recognised Education to be a great undertaking and teaching as a great profession. The teachers on their part have to be fully conscious of the great and noble task that has fallen upon their shoulders. They have to approach their task with a sense of service and of nobility neither necessary nor available in any other profession.

Education is perhaps the only social activity that involves the entire personality of the human being as well as his behaviour in society. This naturally gives wide dimensions to the work being done in our schools, and the society can only ignore this phenomenon to their cost.

Of the many facets, one aspect of education is concerned with the physical well being of the child, so that when he arrives at manhood, he will have a healthy and active body and thus be able to face the hazards of life. The physical aspects of education mainly mean provision of physical activities and exercise both at home and in the school so that the physical potential in the child's body gets maximum opportunity for development.

Growth of knowledge is another task of Education. There are certain essentials and skills that a child must know and grasp well if he is to take his place as a useful member of the

society in due course. Besides this knowledge which is basic to all human development, there are a few other items of information and specialised skills which may help him serve the country better and make his own life fuller.

Taking these basic facts in view, the pre-adolescence stage has been divided into three sub-stages. From the time of birth to about five plus is the stage which should as a matter of rule remain the monopoly of the home. Exigencies of modern life, however, have brought about some visible changes in this. An institution called the 'Nursery School' has come into existence because many parents find that they can neither spare the time nor they find themselves confident to look after their pre-school children well. The case of working mothers is even more significant. This development I consider sad but necessary on account of the circumstances in which we find ourselves today. No Government in the world can provide adequate Nursery School facilities for all the children belonging to this age group. Here to me is an opportunity for philanthropic and enthusiastic citizens to fill in the gap. A large number of educated ladies having nothing much to do at home, could take up the responsibility of running Creches and Children's Homes on a voluntary basis.

The age group 6 to 11 provides what we call 'Primary Education'. This is a stage which Mahatma Gandhi called the stage for Basic Education, when the child learns the use of his limbs and of his faculties and gathers some useful facts of knowledge and experience. In order to remove the heavy burden of bookish education, Mahatma Jee has suggested education through a craft. It is very sad that Basic Education as advocated by Mahatma Jee has yet to be given a fair trial and has not so far received the support of the intelligentsia of the country, so much so that a very large number of people in this country are allergic to basic schools and the circumstances have forced people like Dr. Zakir Hussain to publicly proclaim its failure. To me it is a sad commentary on our common-

sense and on our spirit of patriotism. I, as a devout student of Basic Education, would appeal to the intelligentsia of the country to try to understand the principles of Basic Education, and then to give a fair trial to the system before one condemns it. It is our ignorance about the system and our passion for the so-called English type schools that has been responsible for virtually killing a system which, I feel, contains within itself the best ingredients of education for the elementary stage suited to Indian conditions.

Broadly speaking Basic Education envisages three main points :—

- (1) That the medium of instruction be the mother-tongue.
- (2) That the process of education at the elementary level should centre round some form of productive work and also invoke natural and social environment of the child. Emphasis on productive work may naturally be able to contribute to the economic life of the schools.
- (3) That in every school there should be a good system of community life and pupil self-government in preparation for democratic living later.

I am sure no parent will find anything objectionable or controversial in the objectives and that the system will get the support from a large number of progressive parents.

The third and the final stage in child education is the Secondary stage which constitutes education from the age of eleven to seventeen plus. This coincides with classes VI to the 10th and/or the 11th. The secondary stage has been further subdivided into the Junior Secondary and the Senior Secondary. Classes VI, VII and VIII constitute the Junior Secondary and

classes IX and X (and XI) constitute the Senior or Higher Secondary stage.

According to the traditional system, education from classes VI to X constitutes one unit and comprises of some compulsory subjects plus a small number of options culminating in the Matriculation Examination after the 10th year. This unilateral system of school education was based on the assumption that every body will go to a college after the 10th class and decide about his future later in life. This was all right as long as the purpose of education in India was government service and the number of scholars was small. However, after independence when education is being claimed as a birth-right by all and we find a virtual flood of children in our schools, the system can no longer hold good. To suggest ways and means of providing better secondary education to the millions and millions of our school-going children, the Government of India appointed a Commission under the chairmanship of Dr. Laxmanaswami Mudaliar in 1952. This was preceded by the Radhakrishnan Commission in 1948 which made recommendations about University Education. The combined recommendations of the two commissions are that after the 8th class a child should remain in a higher secondary school for three or four years and instead of carrying on an haphazard system of education, it should be provided with courses according to his aptitude. Usually 6 or 7 courses are followed in our Higher Secondary schools, namely the Humanities course, the Science course, (having both medical and non-medical subjects), the Technical course, the Commerce course, the Agriculture course, the Fine Arts course and the Home Science course. Which course a child going to follow is to be decided not only by the parents' wishes alone but equally by means of guidance tools and the opinion of teachers. For this purpose the 8th class examination has been introduced so that screening could take place at this stage. The 8th class has, therefore, been given the name of 'Delta class'.

The curriculum at the higher secondary stage is divided

into two parts. Part I which is compulsory for all, is called the Core curriculum and comprises of subjects like English, Arithmetic, General Science, Social Studies and Craft. The first examination is held after the 10th year. The second part is called Elective. Under this a child may take any Group outlined earlier. Examination in this part is held in the 11th year but the teaching starts from the very first year.

The latest modification introduced by the Panjab University is that for all practical purposes the tenth year of the Higher Secondary has been equated with the 'Matric' and students may be allowed to join the Pre-University in a college after passing the Core Examination.

The Higher Secondary course is eventually going to be a twelve years course and will be a terminal stage for a vast majority of children who will join some profession or some technical institution after this. Very few of them will enter the University. It is proposed to split the four year Higher Secondary course into two parts, Part I comprising of 9th and 10th classes, and Part II comprising of XI and XII classes. The latter could be located in a good school or failing that in a good college depending on the facilities available. It is hoped that when the scheme is implemented fully, the present phenomenon of educated un-employment will be a thing of the past.

The first University degree i. e. B.A. or B.Sc., is now a three year affair instead of four as formerly. Matrics, have, of course to stay for four years in a college and pass the Pre-university before going in for B.A. It is, however, hoped that when the Higher Secondary becomes a 12 years course a candidate will get this B.A. or B.Sc., degree after a total period of 15 years as compared to fourteen as at present. One need not stand up at this increase because all over the world the first University degree is given after atleast fifteen years.

Apart from these basic aspects of education, a child needs help in many other directions. This is sometimes done directly.

and sometimes indirectly. Character building, emotion training development of the power of analysis and judgement and inculcation of certain noble sentiments like patriotism and fellow-feeling are all indirect results of sound education in the basic aspects stressed in the curriculum.

We must all acknowledge that all this comes mostly by correct instruction and approach by the teacher who plays an essential role in the process of education. No one can, however, ignore or minimise the part played by other agencies like the home, the church, the press and the like. I am most positive in my mind that best results can be achieved by co-operative efforts of all the agencies combined. The teacher and the school, however, remain the centre and other forces mainly complement and supplement the main processes.

The community must, therefore, realise that the teacher is much more than an instructor and a giver of information. He is a poor teacher who does not recognise and gives no care and attention to the wider educational processes. It is the totality of experience that matters. The experience gained in the classroom must be strengthened and nourished outside and in this the community has the main role to play.

Education as indicated above is today threatened by two main forces. Firstly the modern parent bothers only about the knowledge aspect of education and 'examination results'. He is not much bothered about what we call 'experience'. This tendency on the part of the parents has virtually resulted in making our schools coaching academies where the main business is to help the child pass examinations. The private institutions have completely fallen in line with the parents' wishes and are more popular with the community. The Government institutions try to follow a wider pattern of education and are, therefore, not much fraternised by society except by the poorer classes because of free education and lower fees and naturally we find much frustration in these institutions. Model Schools may be exceptions.

The other unhealthy tendency is the use of short-cut methods in education which again take care, if at all, of the narrow knowledge aspect only. The world today is facing a population explosion and to cope with the demands of expanding education, experiments are being made with certain mass communication media like the radio, the film and the television on the pattern of work being done in U.S.A. Correspondence courses are also now being increasingly used in some foreign countries to help people pass examinations without going to a college or a school. One such pilot project was started a couple of years back at the Delhi University and I learn that they have hundreds of students from all over the country on their rolls. I feel such facilities should be restricted for adults only.

I take this opportunity of appealing to parents to fight against these tendencies of narrowing down education to the mere passing of examinations. Good education based on healthy experience is fast becoming a thing confined to the books on education. If this tendency is not checked and ways and means not found out to provide liberal education to all, we should be ready for an educational crises in our country where standards are already falling rapidly.

No one can have good education for his children without doing something about it himself. I would suggest that parents own the schools where their children go for education. In our own country, home and school have always been very near. In pre-historic times home and school were one; parents, brothers, and sisters, uncles and aunts were teachers of children. In those happy days there was no occasion for the so-called parent-teacher co-operation. In ancient Hindu India there was a system of Gurukuls and Ashrams where children were sent to stay away from home with the teacher. The Guru worked both as a teacher and the father for as long as fifteen years or so and was completely responsible for the complete development of the personality of the child. Parental

influence or interference was non-existent. Here also there was no occasion for parent-teacher cooperation as we understand it today.

In modern times, however, things have greatly changed. Our homes are no longer in a position to work as centres of learning. Schools and colleges have come in to bridge the gulf and to act as supplementaries to the home and vice versa. It is, therefore, sad that this link is gradually giving way. On one hand we have parents who expect wonders from teachers alone and have completely taken themselves away from the healthy partnership that should exist between the parents and the teachers. Some teachers are equally suspicious of the parents and always avoid coming nearer them to avoid trouble. There is a split between the parents and the teachers and the youngsters are caught in the middle. They are pulled into two opposite directions by home and by schools. The child stands disillusioned.

Perhaps many parents have unpleasant memories of their own school days and these weaken their enthusiasm to work with teachers. Parents of today have doubts and dissatisfaction for the schools. They blame the teachers for not doing their work sincerely. They accuse teachers for hankering after private tutitions. They resent when their children are punished and fined. Some parents do not like their children to take part in activities like physical education, social and cultural activities and consider them a waste of time.

It is, therefore, very necessary that both parents and teachers agree on what good education could be. If such a unity does not exist, the children will not experience the consistency of treatment they need for their full development. If mutual trust and understanding exist, the homes and the schools will find their creative energies freed from doubts, arguments and suspicion and released for the benefit of the children.

I am sure, it is not an impossible job for parents to get together with teachers and agree on good education. After all

teachers are also human beings; they have feelings, and emotions; they have the power to reason. Do not under-rate them; give them the chance to see, to think and the chance to work and serve which they deserve as adult citizens of India. There might be problem teachers but there are also problem parents and problem parents are responsible for problem children. Researches have shown that most of the behaviour problems in children have their roots in the difficulties at home. Problems like truancy, arrogance, disobedience, unpunctuality can often be traced to the home environment. The least one can do is to provide a smooth road for the teacher and the students to go together undisturbed !

EDUCATION, PATRIOTISM AND NATIONAL STRENGTH

It was perhaps Toynbee who declared that "Social classes or nations survive or go under as they make or fail to make an adequate response to the challenges facing them". The history of the Indian Nation between 1857 to 1947 is a continuous study of the Indian people fighting against not only a political conquest but also against an attempt to impose intellectual slavery. After 1947 began a new phase in our national life. On the one hand a fight began against poverty, ignorance and disease and on the other hand, we had to muster our human and economic resources to fight any attempt at the violation of our frontiers.

The response to these twin challenges has also been splendid. India has seen a virtual revolution in the economic and educational field. For once we feel that a nation stands on the sound foundations of patriotism and mutual well-being. Wedded to a policy of peace and non-alignment our policy was never militant as we believe that no nation would strike against another nation whose policy has all through been of peace through word and action. We did not enter any military alignment, nor we sought any appreciable military aid in the shape of air-crafts, ammunition or armament.

The Chinese aggression of 1962, therefore, came as a rude shock and for a while we felt dislodged from our moorings. One thing was, however, evident that Indians can stand as one man in face of aggression. Our enthusiasm and sense of sacrifice knew no bounds. The happenings of 1962 gave us a jolt and we realised that even peace loving nations can also sometimes be challenged to an armed conflict and they should always be ready for such an eventuality. We had learnt our lesson and took appropriate steps. It was primarily because of this state

of readiness that we were able to face the Pakistani challenge of August—September, 1965 with confidence. Our performance both on the war front and in the rear has been splendid indeed, and we are now equally ready to face any further acts of aggression from any one desirous of measuring strength with the Indian people. The goal of national integration has been wonderfully achieved and the world more specially our friends across the northern borders stand non-passed at this performance. The secular democracy of India comprising of a large number of Muslims, Hindus, Sikhs, Buddhists and others has proved that they are Indians first and anything else afterwards.

In all this good work the role played by educational institutions cannot be ignored. Rather we have to see that these nurseries of future citizens are further strengthened and oriented towards a healthy growth of patriotism and national strength.

A nation's strength lies more in the sense of patriotism and courage of its men rather than in the amount of armament and ammunition borrowed from others or produced locally. India has been fortunate in its men. To knock out mighty Patton Tanks and Sabre Jets with Gnats and lighter machines is a sure testimony of the bravery and courage of our men!

What is a great nation? My answer to this question is simple. A great nation is a nation which is not only developed economically and is in a position to help others, but which is equally formidable in its fighting strength so that it may infuse terror in the minds of those who have evil designs. U.S.A. and U.S.S.R. are examples of such nations. They are materially rich countries but they are also so strong militarily, that they always have the last word in any dispute.

Think of U.S.A. or U.S.S.R without their army, deadly tools of war and their nuclear weapons. No one would bother two hoots about their gifts of money and luxury goods and food. If we go about our planning sensibly, we too, with

forty-five crores of population and vast resources, could stand in line with these countries in about ten years time and have a definite voice in world affairs. When a strong nation preaches peace it is heard with respect, but if a weak nation talks in the same tune, it is taken as a cover for weakness !

Our planning will have to go in three directions viz, (1) building up our armed strength, (2) building up our economic strength, and (3) marshalling of our human resources. As far as the first item is concerned, it involves creating a formidable army both in numbers and strength. It also involves invention of new weapons of war. The number of people who could be called to wield the sword is the deciding factor. A strong nation should be virtually self-sufficient in the production of arms and ammunition. Continuous research has to go on towards improvement of our techniques and tools. Training of a very high order has to be made a part of all our military programmes on land, sea and air. This, however, is a problem that has to be tackled by the relevant defence organisations and is not within the purview of the present paper.

Development of industries and agriculture to the extent of hundred percent self-sufficiency should be the aim under item No. 2. The Planning Commission and the State Planning Boards as well as private enterprise have to marshal their resources in respect of production along with fair distribution. Planning has also to be done so that all element of waste is eliminated. We have to look after foreign exchange as well as long as our own country does not come up to that respectable standard. Along with increased production, I would also suggest strong measures against hoarding, adulteration and profiteering. Adulteration be dealt with as an attempt to murder and hoarding and profiteering as penal offences like dacoity. Black-marketing be penalised with heavy jail sentences so much so that it may not remain worthwhile to indulge in this evil. And above all, items like rationing should mean rationing for all from the President of India to a peon both in quality of grain, sugar and kerosene etc. and in

quantity per head. As long as higher officers and V.I.P.'s do not feel the pinch they cannot understand the philosophy behind such measures, and social offences cannot be stopped.

Every inch of land must be put to use. Grow more food campaigns in schools and colleges should take the shape of tournaments and meets. Agricultural competitions and contests and shows should be held frequently at all levels.

Food habits and cooking procedures also need some re-thinking and change. An average Indian depends on wheat or rice. Vegetables, fruit, meat, eggs and poultry do not form an important of the menu, specially for the poorer classes, who eat solid dry dishes made out of wheat or rice or maize with a pinch of salt or some garlic or onion. I would advocate dishes which need less and less of cooking and are richer in calories and vitamins. Dairy products like milk and Dhahi are to be increasingly used. Milk sweets and other such items should be discouraged, and in times of emergency banned, so that there is more milk for soldiers, children and the sick.

Human Resources :

The last but not the least comes the development of human resources and it is my main topic for discussion. In this venture the role played by educational institutions is supreme. It is in fact education that shapes a nation's destiny and involves the entire responsibility of the human beings. This naturally gives immense dimensions to the work of the educational practitioners and to the functions of the educational institutions. Only a well considered programme of education can create a lasting and satisfying situation.

The task before the schools is two folds, firstly to prepare the nation face sudden emergencies like the Chinese aggression in 1962 and the Pakistan aggression which started on the 5th of August, 1965; and secondly to institute a long term programme to inculcate deeply the qualities of patriotism and national preparedness. I put more emphasis on long term programmes because they lead to permanent strength and preparedness of a nation.

In 1962, we instituted a lot of activities all around involving recruitment, civil defence etc. The tempo, however, soon lost force and when in August, 1965, we were faced with a similar situation, urgent ad-hoc measures had to be taken all over again and round the clock training in fire-fighting, first-aid, rifle shooting started. All this is good and necessary but such ad-hoc programmes cannot be substantial and lasting. A nation should always be prepared for anything. There should be no period for complacency in our lives. My criteria of national readiness is that at a day's notice all young men between 18 and 40, wherever they may be, should be able to take up some sort of active responsibility at the front or at the back without much re-orientation. All young women should be able to take up things like looking after the wounded, driving civilian vehicles, manning telephone exchanges, replacing men at the offices and such other duties. All men and women from the higher age group should carry on normal work of the nation like the work in the fields, factories, shops etc. Besides adequate training, it is essential that these persons are imbued with a sense of deep patriotism.

Short Term Programme :

Talking of the short term programme, the purpose behind such a programme will be to arouse a sense of urgency about the country's defence and take appropriate measures about civil defence in the various localities. Another point will be to apprise people of the events and problems arising out of the immediate events. Another very important point will be to make available as much money as possible for defence efforts in addition to the national budget. Another very important problem to be tackled is that every one must contribute towards maintaining public morale through a defeat of panic and rumours.

Schools and colleges will have to implement this programme effectively without disturbing the normal working of the institutions.

Work will have to go on for longer hours and during holidays. Things have to be done quickly. Some of these items could be incorporated into the various curricular and

co-curricular activities. For instance, the P.T. and games periods could be used for training in fire-fighting, rifle shooting, first-aid and nursing etc.

Another item of immediate attention may be to equip students and others with necessary information understanding and skills to interpret day-to-day news leading to such activities as may lend and contribute to the defence efforts of the nation. This will help in minimising rumour-mongering and avoid sweeping generalisations.

It will be worthwhile that through a State order all teachers and others between the ages of 20 and 35 are by turn given military training for a period of three months each so that they could be made to form a formidable second line of defence, along with regular army personnel and the N.C.C. Those between 30 and 40 may be trained in civil defence and fire-fighting etc. through snap training courses. This process be continued till every one belonging to this group is involved. Refresher courses should be held periodically. Women of course be drafted in for nursing, driving and such other activities. Evenings and holidays could be utilised for this purpose. It, however, must be understood that such training for men and women will not interfere with their normal duties, except for those who are conscripted, if found necessary.

Schools and colleges could also organise Parbhat Pharies, cultural programmes and such other activities to arouse patriotic feelings in the public. We must not forget that war is formed in the minds of men. Panic and dismay and anxiety are to be avoided. The lay citizen is to be reminded of his duties during an emergency. Prices usually tend to shoot up during war periods. There is always an artificial scarcity of things. The public opinion could be educated to fight such tendencies.

Another thing that educational institutions could undertake during an emergency is to look after the families of the Jawans who may be on the front. Occasional visits by small parties of teachers and students may cheer them up.

Occasional coaching could be given to their school-going children. Small services like getting cheques cashed, writing letters, paying electricity bills on their behalf or getting their ration from the depots will, I am sure, be very much appreciated not only by the families but also by the Jawans and Officers themselves. They will be bucked up by the feeling that their families are being looked after well.

Another service that could be undertaken by the schools and colleges is to look after the wounded in the military hospitals. Small gifts of flowers, fruit and other nick-nacks and above all cheerful company, will certainly make these brave people happy. Film shows could also be arranged for them.

Letters could be written for them. Small functions could be arranged for them in the hospitals during Dewali, Dusherra, Id and such other festivals. Some light literature could be presented to the hospitals for the benefit of their brave patients. This college has actually been doing such things in the local military hospital and I found this experience very rewarding. The patients appreciate such small gestures very much.

National Defence is an expensive affair and we have to be prepared for sacrifices during an emergency. Gold and foreign exchange is needed for getting arms from abroad. Huge amounts of money are also needed to meet additional expenditure. Collections for national defence are a must during an emergency.

Students and teachers can be very effective in this direction. Students should be encouraged to go without pocket money and donate whatever they can do. Boarders can have miss-a-meal campaigns every week. The general public could be invited to cultural programmes, poetic symposia; and filmshows etc. arranged in aid of the Defence Fund. Care has, however, to be taken that there is no unnecessary harassment to any body and malpractices don't crop in. There should be no resort to narrow competitions and rivalries between individuals and organisations in this matter. Awarding of shields and certificates for collections defeats the very spirit behind such measures.

Blood donation is another channel of help during armed hostilities. All healthy persons between the ages of 18 and 40 should be inspired to offer a small amount of their blood occasionally. Blood donations do not in any way hamper the growth of an individual, while it may be the means of saving precious lives.

It is, however, most important that the normal working of the schools and colleges is not disrupted. Education delayed or gaps in education are very dangerous. In our country such experience is new and novel and there is a danger of normal life being suspended. Education must go on in all its manifestations in spite of the trouble around and in spite of the black-outs and air raids. A free, strong nation should be prepared for longish periods of tension and trouble and we must gear our life in such a manner that normalcy is maintained as far as possible. The feeling of urgency should be there but it should not manifest itself in panic or slackness but in a will to work harder. In the words of Lal Bahadur Shastri "We have to stick to our guns and all of us have to be prepared to make sacrifices". Indian educationists will remember that the most important landmark in English Education came during the Second Great World War when bombs were falling and shells bursting—my reference is to the Education Act of 1944.

The above are some of the items that could form part of our short-term immediate programme. However, I feel if we pay attention to our long term programmes and make defence and growth of national strength a permanent part of our national programme, then there will be no need for special effort during an emergency. Things will be set up automatically without much trouble and without any loss of time. While we have to carry on emergency measures, our permanent and continuous programmes must be started at once, and continued with the same vigour. I have a feeling that while protecting the present we cannot ignore the future. Had we continued our defence efforts started in 1962, with the same tempo, things could have

been more easily managed in 1965 at the time of the Pakistani attack specially as far as civil defence is concerned; and the hectic activity avoided. I am sure from now on we shall not slacken our efforts.

We have to understand that with two treacherous and undependable neighbours and with the power politics going around us, we cannot afford to be complacent. We have to emerge as a strong nation, and for this continuous efforts are needed.

Long Term Programme :

It is time for us to have a thorough stock-taking of the present situation and effect definite programmes as a permanent feature. The schools and colleges which are really the nurseries of future citizens, soldiers and workers cannot but play a very important role in this programme.

We will have to have a very strong and large army for all times to come. Besides, in addition to the regular army, we have to have a very large number of trained people who could be available for active duty without much fresh training. It is, therefore, necessary that N. C. C. (all wings) be made compulsory from as early a stage as possible. It is very gratifying to learn that the State of Punjab is planning to make N. C. C. compulsory from the V class onwards. I feel that in order to do so at smaller cost and more effectively, some re-adjustments will be necessary. The primary school will have to have classes only upto 4th class, and the Vth class will have to be shifted to the middle or high schools so that N. C. C. could be taken up as a continuous process from the Vth standard without additional staff and facilities. Another point that I would like to emphasise is that N. C. C. training should be taken up seriously and honestly and not only as a routine. Granted that all students will not join the Army, the Air Force, or the Navy in later life, such training is very necessary for not only national needs but also for the person himself. A new type of discipline is nourished within the youngman and the

uniform does wonders to his mental make-up. The N. C. C. personnel did magnificent work during Indo-Pakistan hostilities. I have a firm belief that educational institutions can completely take over civil defence in the case of need thus relieving the police, the Home Guards and the Territorial Army for other important duties.

Further, I have a feeling that skills like shooting and driving must be compulsorily taught and learnt by all, and schools and colleges can make a beginning in this direction with the help of departmental vehicles and N. C. C. rifles. I would advocate driving even for girls belonging to the age group 16+.

The N. C. C. Training must be followed by regular stay in the Army, Air Force and the Naval Units for, say six months once in life-time, before one attains the age of 30. We will see that this will bring about a wonderful change in the attitude of our men and women. It may be easier to enforce this in the case of government or public employees. Ways and means have to be found out to enforce this on others. We should follow the practices available in U. K., U.S.A., and U.S.S.R. where every one has to spend one year with regular army units. In our case, this period may be reduced to six months because of the period spent in N.C.C.

In the position that we find ourselves today and for defence purposes, and for allied tasks, all our programmes will have to be defence oriented. Ad-hoc collections at the time of emergency are in my view of only limited utility and need a lot of time. Further, when so many agencies are involved in the work of collection, there is the danger of money not reaching the relevant quarters in full and at the proper time. Besides, the procedure is open to mal-practices both in the manner of collection and disposal. Another point that I make bold to mention, and I hope it will not be mis-understood, is that because of multiplicity of the collecting agencies an average wage earner feels harassed. All agencies approach him and he finds it difficult to oblige all of them inspite of his best intentions. Further the

amounts thus collected are not usually substantial and constant. The enthusiasm soon wears off. I would, therefore, suggest that contributions for defence purposes be made a regular feature of the taxation structure. I have a feeling that we can easily collect at the average rate of Rs. 1/- per month per head, of the population meaning thereby, that the monthly collections could amount to 45 crores bringing the yearly contributions to (45×12) 540 crores. And all this should be besides the regular defence budget. This can be done by introducing a special defence cess at the rate of 50 N. P. per cent of gross income of individuals to be collected like income-tax at the source. There would be usually no adhoc collection drives which to my mind have more of publicity value. We should do solid things. During peace time there would be development work and the collections used for this. Another point worth consideration is that we should zealously work against any waste or un-necessary expenditure in any department or on any occasion. I am sure we can get a good amount at our disposal in this way also.

Programmes like fire-fighting, First-aid, Nursing and other items of civil defence must be woven into the educational fabric in such a manner that every one learns some such activity as a matter of course and not on an adhoc or emergency basis. Every institution should be fully equipped for such activities as a normal measure.

National Integration :

All this leads naturally to the great necessity of making our young men and women physically and mentally active having the sentiment of deep patriotism and fellow-feeling. National integration must be made a permanent feature and not only a temporary manifestation that may come to the surface only during periods of a national crisis. India is a vast country comprising of different religions, languages, and ways of living and habits. Occasions for inter-group or inter-state cohesion are usually rare. A man from the southern state of Travancore may not be thinking of the man from Panjab except as a geographical subject and vice-versa. These dividing gaps have to be narrowed down and deep

understanding and fellow feeling nourished. Now, this is a very serious matter demanding concrete steps. The Integration Committee presided over by Shri Sampurnanand did make some very concrete suggestions but the people seem to have gone oblivious of the same. The 1962 and 1965 events have given the impression that there is no more any urgent need for steps towards bringing about national integration which, it is claimed, stands established. Such sentiments are noble but I wish they were deeper and permanent also. Any way we cannot go on looking to wars to establish national integration. Permanent pillars have to be dug deep to support the edifice. Integration achieved through negative causes has to be used as a positive gain.

I plead for the establishment of Departments of National Integration in every state with a co-ordinating agency at the centre. However, some basic issues have to be decided first. Linguistic differences have to be narrowed down. A common script for the country is an essentiality. I am sure people belonging to the various linguistic groups will soon come to an understanding on this issue in the wider national interest. This question is to be studied dispassionately and in a cool atmosphere. The fact has to be realised that a common script, whatever it is, will go a long way in bringing the various groups and communities together. Speaking personally, I do not mind any script, Dev Nagri, Persian or even Roman.

Another point which I wish to stress is the necessity to evolve a common vocabulary for technical, educational, administrative and other categories of terms. This step will lead to a very healthy situation. The final vocabulary could be an amalgam of words from all languages including English, Hindi, Urdu and other major languages. This with a common script, will go a long way in bringing the various linguistic groups and communities together. This will also render the learning of other Indian languages much easier.

The departments of National Integration mentioned above will do well to encourage learning of Indian languages other than the mother-tongue by all school and college-going people as well as by adults. For this purpose Language Clubs will have to be started in institutions as well as in the various localities. Instruction may be arranged in as many Indian languages as possible. Introductory as well as advanced courses will have to be arranged with emphasis on functional skills like speaking, reading and writing. The three-language formula in the Hindi speaking areas as well as in the non-Hindi speaking areas is a "must". To start with these departments could be started as independent branches of the Education Departments in the various states with an officer of the status of Joint Director as incharge. He could do this work in addition to his duties with the help of an Assistant Director and some office help. A good amount (say about five lakhs per year) will have to be placed at his disposal for launching programmes leading to National Integration. Items like sponsored visits to the various states, inter-state camps for students and others during vacations and holidays and exchange of students and technical and teaching personnel should go a long way towards achieving our objectives.

The main thing, however, remains that the atmosphere in our schools and in our classrooms should be such that feelings of patriotism are not only aroused but permanently nourished. An appreciation of our background and of our problems should form an integral part of all educational processes. Our pattern of education baring some ad-hoc changes here and there, is substantially the same as was available in pre-independence India. Education as a preparation for adult life is still a goal far away. It is, therefore, imperative that we think out desirable changes in the field of education mainly in the curricular content and co-curricular programmes as well as in the teaching procedures and practices. I wish the Education Commission had, appreciating the turn of events, made their suggestions defence-oriented !

Talking of the content first, I feel that a lot of useless material could be either deleted or replaced by more useful material. In languages material about the development of nationalism and patriotism, biographies of war heroes and accounts of thrilling incidents during hostilities, could prove very inspiring.

The content of Social Studies and its allied areas like geography and history need particular attention. A study of current affairs will have to be emphasised. Elements of geopolitics could be an important addition to geographical studies. The development of geographical skills like reading and drawing of maps and the habit of rational thinking are important items of study. Geography should be so taught and so learnt that it helps in building desirable attitudes and modes of behaviour. Agriculture, industry and trade both foreign and local, should be studied under the background of national defence needs.

In the subject of history, the aim should be creation of a sense of national awareness leading to national preparedness and solidarity. The background, for instance, of the Chinese dispute and the Kashmir issue could be very interesting additions in Indian History. Use of current events and cross references in history could be more widely done than at present. The weak points in our historical perspective like our total indifference in the past to the security of our frontiers, the belief about the age old invulnerability of the Himalayas in the north and the north-east and the past indifference of the lay man to the events taking place in the country, have to be emphasised with a view to creating thinking and action all around. The idea that every citizen is involved in every national event and happening has to be emphasised !

Political illiteracy is rampant in our country specially as far as inter-national affairs are concerned. Colleges and schools have to combat this situation. In America there has been a definite move to include this item in the school curriculum so that when an average American leaves the school, he has some useful knowledge about his country's inter-national relations.

I, therefore, plead that curriculum-makers start thinking about this. The basic factor is that every citizen has to have a good understanding about the functioning of the political system of one's country. In India this item has to be included not only in the college and school syllabi but also in the courses meant for adults. This basic knowledge is necessary to enable every citizen to take an active part in his country's affairs. We should not be silent spectators of events.

The unity of the world in terms of prosperity and general welfare has not only to be understood but appreciated. The underlying principles of economic inter-dependence of nations has to be stressed. No one nation is completely self reliant. We have, however, to continue our work towards more and more self-sufficiency in all spheres. India has to work in such a way that not only dependence on foreign food and other imports is reduced but more and more exports are developed so that foreign exchange balances may go up appreciably. This includes higher production as well as lower local consumption and cutting down of all wastage. An all round appreciation of the inevitable inter-dependence of nations may lead to lasting peace. At least there is no harm in working towards such a goal!

The problem of peace in the world depends on the basic assumption that a threat to peace anywhere in the world threatens peace everywhere else. This we have amply seen during the last few years. Happenings in Korea, Cuba, and Congo and also in Kashmir have had their repercussions elsewhere. War is no longer a localised affair. The U.N.O. finds its foundations on this basic principle. India has been playing a very effective role in this. Peace with honour should, however, be the objective in view. We have to realise that inter-national norms of behaviour have to be evolved through mutual consultation and experience and they cannot be enforced by a single nation. All nations are different and will remain different, and peace depends on evolving compromises (not bargains). School-going children and elder students have to be taught that we have to find unity in diversity depending on basic human rights.

A study of foreign languages is a must to bring about such a state of affairs. Communication between peoples depends on the development of linguistic bonds. It is, therefore, suggested that learning of foreign languages must be encouraged as an additional item in the higher classes in schools and in the colleges. Evening classes, part-time courses and even correspondence courses may have to be pressed into service. We should seek to come to a position that every graduate coming out of an Indian University should know one foreign language preferably besides English. Emphasis should be laid on the languages used in the neighbouring countries. In India for instance a study of Tibetan, Chinese, Burmese and Persian could be increasingly encouraged.

The urgency of the task of providing an educational foundation of the kind suggested above has been recognised in the creation of Unesco. In India we have organised a National Commission for Cooperation with Unesco. This Commission has to be made more effective and State units need to be started as integral parts of the State Education Departments to carry on the message of inter-national understanding to every school and college in the country. The work of educating people towards such important items will have to go on through various other agencies besides the class-room. The school morning assembly, the school magazine, the daily newspaper and the radio will have to get involved in this useful work.

It is an age of Science and Technology and in this sphere also a lot of defence-oriented work can be done and is necessary. During the recent Indo-Pakistan hostilities, this point was made very clear. Indian made air-craft and arms and ammunition proved their worth. Even the Pakistan officials have admitted this, while pleading for replacements, that India produces 80% of her requirements. We should work for not only 100% self-sufficiency, but our aim should be to export such items in large quantities. Constant researches have to go on to invent better and more effective weapons of war. For this, countrywide efforts are needed. Beginnings for such work later in life, are to be made in schools and colleges. There an acquaintance with such items is necessary. Our school science syllabus is to be so revised

that such items are included as regular features. Making of toy guns and rifles, air planes, submarines and war-ships should be encouraged in our science and technological laboratories. Knowledge about the various types of bombs including atom bomb must be a necessary part of the curriculum. It might be our pious hope not to manufacture atom-bomb but we should be ready to do so at very short notice. Defence-oriented science fairs and rallies should be a regular feature in our schools.

In every state we have started specialised institutions for Science Teaching with a Science Consultant. A Department of Science has also started functioning as an ancillary of the National Council of Educational Research and Training. These specialised agencies along with the State Institutes of Education and the hundred and odd Extension Services Departments can take effective steps in the desired channels. They could help in revising syllabi in such a manner that items concerning national defence are duly incorporated specially in the practical side of the courses prescribed for the various age levels. They could also help in orienting the teaching staff properly through short refresher courses, summer schools and workshops. Some help could also be taken from the Home Guards and fire-fighting organisations as well as the Red Cross.

Robust health of citizens is an essential element in the movement for national strength. Courage, smartness, fortitude, agility and allied qualities of punctuality, leadership and initiative are indirect advantages of education for physical growth. It is, therefore, essential that attention is sincerely paid to this aspect of education in the shape of regular physical education activities and games in schools and colleges. At the moment an item like games for all is quite unknown. Attention is paid only to tournaments and occasional competitions wherein only a very small number of students can participate. Besides the usual games and physical activities, I would also recommend activities like digging and carrying heavy loads. Stiffening exercises like walking in jungles, running in rain, cold and in heat will go a long way in making our youngmen tough and able to face hardships. Demonstrations of mass P. T. with band is a very

useful innovation, and must be a regular feature in schools and colleges.

In addition to the provision for games and health activities is the provision for suitable, cheap and nourishing diet. In our boarding houses and canteens all rules regarding balanced diet are violated. I, on the other hand, feel that our college and school canteens and boarding messes could be the places where rules of nutrition should be demonstrated. In girls institutions this work can be undertaken by the Home Science staff aided by the college or school medical officer.

In order to make such programmes successful it is essential that they are made a part of the regular syllabus and examination. This will give a sense of seriousness to the whole scheme. In every examination, there is provision for some internal assessment. I am quite sure some of the programmes suggested above could be made integral parts of such a system. All this is, of course, besides the usual incentives of scholarships, freeships and the like. The Red Cross fund could be used for granting health facilities to the students of poor means.

Teacher Training :

No improvement in education can be successfully speeded up unless there is available a good number of properly trained teachers to do the job. Even a small thing like compulsory games remains an item only on paper without the proper staff support. The fact that most of the Public schools have good co-curricular life is due to the fact that these schools recruit their staff not only on the basis of their academic qualifications but also with an eye to their sports proficiency. A lay teacher trained in the ordinary training school or college has never played any games nor taken part in any co-curricular activities mainly for the simple reason that there are no such facilities in schools, colleges or in training colleges. When such a teacher goes to the job, he only helps in adding to the dead routine.

I am, therefore, quite sure in my mind that besides paying attention to most of the aspects outlined above for

schools and colleges, special facilities for these have to be provided in training institutions and the work done as a part of the regular training. Participation in jerks, games and other physical activities should form a part of the sessional work which is given a lot of publicity in J.B.T. and B.Ed. institutions. Training in fire-fighting, First-Aid, Rifle shooting and Nursing should be incorporated in the above area as a permanent feature along with community living and the like. Arrangements for such training must be made an integral part of the training college/school equipment and programme. The Panjabi University has already taken a lead in this matter and is seriously considering the question of reserving marks in Part I (Sessional work) in the B. Ed. examination for Civil Defence activities along with games and physical education with effect from the examinations to be held in 1966. I am sure the lead given by this infant university will be followed by others at all levels of teachers training. If we could reach the happy situation of training a large number of pupil teachers in our schools in defence matters, it will be easy to transmit this knowledge to the younger generations.

The Extension Services Departments attached to the various training colleges and schools should be encouraged and strengthened to include training in Civil Defence as a part of their in-service programme for serving teachers and others in the respective localities. These centres, I am sure can serve as community centres for such activities and produce during hostilities a strong psychological front. Of course for this, some additional facilities in money and material will have to be put at the disposal of these centres.

While concluding, I must repeat once again that education through its schools and colleges, its teachers and its students can play a very effective role in bringing about the desired qualities of patriotism, national solidarity and thus developing national strength. Education can be the most potent factor in the life of a nation; its present; its future !

A PLEA FOR BETTER TEACHING OF MATHEMATICS IN SCHOOLS

One does not have to be an 'educationist' to realize that teaching in schools has gone down miserably in spite of so much of *outward progress* in the educational philosophy and technique. I feel that I received better education thirty years ago than what my children are getting today in 1966. Mathematics is a subject that is perhaps most useful in a person's life because it deals with facts and not with whims and ideologies. Yet I have noticed in the case of my own children and during school practice that it is taught in such a dry, monotonous and mechanical manner that it is reduced to sheer cold computation. Children hate it. A weak foundation in mathematics means inefficiency later in life. It is, therefore, urgent that the teaching of this subject is put on better footings in our schools.

It is seldom, if at all, that teachers realise why they are required to teach mathematics. It is, therefore, very necessary that we make sure about the aims and objects of mathematical studies and always keep these in mind. We cannot afford to travel in a train without knowing exactly where we are going. These aims as I understand them, are :—

- 1 To help children acquire knowledge and skill in the use of mathematical processes and thus to discipline their minds for an ordered exposition of things and to enable them to express their ideas concisely and exactly. Vagueness in life is very harmful.

- 2 To help them to apply mathematical knowledge to everyday problems.

- 3 To indirectly train children in systematic and logical reasoning, analysing and judging.

The primary aim, therefore, in elementary mathematics is to acquaint the child with the various mathematical operations and train him to acquire skill, speed and efficiency in their everyday use. Further, he must be trained to think out and

express everything in a clear, concise and systematic manner. Mathematics adds system and order to everything. No beating about the bush !

Nature is measurable and mathematics is the 'language of measurement'. It, therefore, follows that the various processes in mathematics should be approached from the practical standpoint. Problems relating to nature and environment and everyday life of the child should be brought in for use of the methods to be elaborated in the classes. I have a book before me meant for Class VI. It has more questions on pounds, shillings and pence etc. than on rupees, and paisas which every Indian uses every day. I cannot think of any reasons why foreign items be used at this early stage. This only confuses the child.

To train the mind in systematic and logical reasoning is one of the highest functions of mathematics. For this the study of geometry is admirably suited. From the simple postulates and axioms the whole of the superstructure of geometry has been built up; theorems and corollaries that follow one another, are the 'bricks which by their combination, have built up the superstructure'. Teaching should be so conducted as to show this organic nature of connection between the various theorems. Paper work and clay work are more useful for teaching geometry than simple pencil work. Observation is also a great help in comprehending the various items in geometry.

At earlier stages we may follow the method advocated by Dr. Decroly. He believes that the use of conventional units of measurement should be introduced later in life when a child comes to the stage when exactness is needed. Instead of using inches, grams, etc., a child is more acquainted with arm-length, handfuls, etc. Why create confusion and difficulties of comprehension by introducing units when he does not understand their significance and value ? Surely this can go on upto the IV Class.

Further it may be better if instead of tying down a child

to pencil and copy work and asking him to add or subtract or divide, we devise some practical methods containing play and calculation. Let him deal with actual objects. This is a better medium and certainly less tiresome.

Instruction in mathematics should never be divorced from the practical problems of life. In fact most of the 'illness' that we see today is due to the omission of this simple fact. In my opinion it is necessary for the syllabus to be remodelled from this point of view. The whole of Euclid geometry arose out of the necessity to systematise the practical knowledge acquired. Further, there can be no water-tight division between arithmetic, algebra and geometry, the three main branches of mathematics. Each is a generalisation of the preceding, and a teacher's duty is to instil this in the minds of the young learners well. A glimpse of the whole vista of wider development in physical and biological sciences should be presented to them so as to stimulate their imagination and create a practical interest in this important, all-embracing subject.

Wrong methods of teaching and wrong combinations are equally responsible for the low attainment of pupils in the subject. Poor and uninteresting, they have created an all round dislike for the subject. The like and dislike for any subject depends upon the teacher and on his technique. There are teachers who can make interesting lessons dull and *vice versa*. Most of our present teachers follow the method of class *recitation* which does not give sufficient scope to the pupils for independent work for self-activity and expression. They also do not *realize* the importance of oral work. The work done in the class is all mechanical and routine. Proper grading of work is not also done. Many teachers grossly ignore speed in calculation. It is sometimes found that examinees fail not because they cannot solve the sums but because they cannot solve them within the prescribed time. Mental agility is not developed and this is a big drawback in life. Very often one has to take quick decisions after a quick survey of the available facts.

Definitions and rules are taught at a very early stage when

the pupils are unable to understand their significance. They are, therefore, driven to rote work. Abbreviations and symbols are introduced rather early. And lastly, individual attention is not given to pupils at all. Emphasis on individual work by pupils will prove very effective in the teaching of mathematics. What sustains the interest of the pupil in the subject is the joy of having solved a sum himself. It should be the teacher's duty to see that each pupil attempts earnestly to solve a few sums himself. What actually happens is that the teacher himself or a brilliant student solves the sums on the black-board and the rest of the class copies them down in their note-books, very often without understanding anything at all. The emphasis is on completing the class work as early as possible and with a certain amount of ease. Teaching is not a bed of roses. It is an obstacle race.

Every school should be provided with a mathematics laboratory having charts, tables, models and instruments etc. suitable for individual class-work. In that case it will be possible for pupils to do more practical work which will sustain their interest in the subject. Further, teaching should not always be restricted to the four walls of the class-room. Outdoor work can be taken up with ease for teaching many topics specially in arithmetic and geometry.

The objects set out above should also guide examinations. There should be questions of different types to assess the measure of success achieved in these objectives. While there should be questions to suit the requirements of every pupil, it is necessary at the same time to test the superior type of mathematical intellect of a pupil. New type objective tests cover a wider field in a shorter period.

Tricky and clumsy sums should not generally be set. Questions should be simple and should try to test the fundamentals of the subject, the skill acquired and the method of expression. Another point to be tested is whether children are in a position to apply mathematics to the practical problems of life. Further we have to see how far they have developed a

mathematical attitude. Mathematical gymnastics are least to be expected from school candidates.

A uniform standard in questions and in marking should be maintained from year to year. For this it is necessary to maintain a continuity in the methods used. A definite set of instructions should be prepared and that standard should never be allowed to vary to satisfy certain exigencies of circumstances. For this it may be necessary to have a board of moderators for the school as well as for public examinations.

Further, examinations will become a joy if some sort of practical work is also introduced to replace written work, specially in the earlier stages. Cutting of various figures in coloured paper, making of models, etc. are methods that combine education with pleasure. *Education from which a child derives no pleasure is not good education!*

GEOGRAPHY—PHILOSOPHY AND TECHNIQUE

Geography, in fact, is one of the most useful of subjects. Whatever may be the future calling of the pupil, a general knowledge of the subject will be directly or indirectly useful to him. Besides this utilitarian aim of teaching, the cultural aim too is to be understood. With a view to effecting interdependence and fostering mutual intercourse among different nations, nature seems to have wisely distributed her blessings among them. If the co-operation of different nations is to be sound and healthy, the economic, political and social problems of these nations will naturally form the basis of a pupil's study. Geography teaching will broaden the outlook of a pupil, will sharpen his intellect and develop his imagination. A well taught student is bound to be highly inquisitive. Knowledge of Geography is very necessary to intelligent citizenship and the subject can fully justify its place in the school curriculum on the ground that without it, we are unable to cultivate an intelligent outlook on the whole world, or to play our part as citizens.

Because Geography deals with the earth, our home, where farmers raise various crops for us, where weavers prepare cloth for us and where traders are in constant search of commodities to be supplied to us, the subject-matter of Geography has a direct bearing on our lives, much more than any other subject.

But all these aims of teaching can hardly be realised and the interest in the subject sustained, unless right methods of teaching the subject at the various stages of a child's mental development are adopted.

The methods of teaching Geography in the past would stand self-condemned if some of its shocking results were analysed and reviewed. The memory of pupils was unnecessarily taxed and much of their time and energy was wasted. Questions of the following types were usually set at the examinations.

"What are the following? Where are they and what are

they noted for?" The names of rivers, mountains, cities and anything that spontaneously occurred to the brain of an examiner were set down with a view to testing the knowledge of the pupils. The answers of the pupils were equally spontaneous, for neither intelligence nor reasoning power was used by them. Whenever the memory of a pupil failed, his imagination boldly came to his rescue.

These questions of 'what' and 'where' and 'what do you know of' decided both the matter to be taught and the method of to be used. The 'why', that had set hundreds of eager minds in quest of knowledge, was completely ignored. No body earnestly considered why geography should be taught at all in schools. Today the aims of teaching the subject have, therefore, to be carefully re-examined in our country.

We, however, have totally discarded the subject and merged it with a new 'hybrid' called 'Social Studies'. Our children today are totally ignorant even about the elementary facts of Geography. This has sadly reflected on their personality. Sense of location and place, the interaction of cause and effect is lacking and our knowledge even about our own country and its problems is poor. There is, therefore, an urgent need for rethinking in the matter and putting back Geography at its proper place in the school curriculum. A minimum of geographical knowledge is necessary for all. We have only to reorganise our matter and method in line with the latest ideas as found in the more developed systems of education.

The modern approach to Geography has been completely orientated. It has brought Geography from the level of physiography to the level of Human Geography. Geography is no longer a subject which professes to give us dry and laborious details about the earth. It has been completely humanised. Geography as Prof Unstead would define it, is the relation of organic and the inorganic life. It is the story of man on earth, How food, clothing and shelter are influenced by the geographical controls and how the man acts and reacts among them, is the theme of Geography. Modern Geography recognises

man as the unit around which and in relation to which, all the events move and facts are described. It is a description of his exploits and activities. This is only possible if the human approach to geography is fostered so that man, the microcosm is able to institute a relationship between himself and the world at large.

'Go from the known to the unknown' is a sound pedagogical maxim. This can be efficiently and profitably applied in the teaching of Geography with the above end in view. Same is the case with elementary school stage, as far as the 'Home Geography' goes. Let the child discover for himself the glories of lakes, mountains, rivers and other natural phenomena, some of which are accessible to every child. These base the new information in the context of the old. Tell him more about the world at large, logically, as the correlation of the formation is possible. Children have all eyes and ears for stories of wonder lands told to them. Elementary Geography professes to expose the wonders and beauties of life to children through episodes of the children of other lands. Thus it is, perhaps the only subject in the elementary stage that promotes the culture of mind, fills the young mind with lively facts, pulsating experiences and breathing details which make him feel his contact with the world.

Geography teaching often advocates the use of "Travelling Method" and the "Shopping Method". By the "Travelling Method" children go out for excursions to see for themselves the canvas of the colourful landscape, other human invocations and activities like factories, mills and other examples of human endeavour. By the 'Shopping Method' they go out for shopping and thus investigate in detail the exports and imports, other products, their availabilities etc. Thus they get a 'living touch' with all those things and commodities which they have to use in life.

Geography kindles the imagination with all its details. The argumentative side of it where we discover the cause and effect and correlate them, inculcates healthy and logical habits of thought which go to the making of a mature and cultured brain.

We have to have a personal contact with most of the things we learn. Thus they become a part of the learner.

When we read of other nations and their activities we naturally get interested in them. Especially when we read of the Eskimos and Negroes and compare our favourable position with them, we cherish a sympathetic feeling towards them. Thus we feel while we read.

The best way to study the lives of people residing all over the world is through the regional method. A geographical region is an independent unit with its own characteristics and peculiar activities. A peculiar type of relief, climate, vegetation and human activities predominate in each region. This method of treatment, though less popular, deserves to be recommended on the following grounds :-

(1) The regional method is more scientific. (2) It saves a good deal of time and energy, for once the particular geographical factors determining a region are grasped, they can be applied to other regions. (3) A natural region is more interesting to study for the human element is emphasised therein. (4) A natural region deserves to be called geographical, for nature made a region and man made a political division, (5) A natural region is fully educative.

Of course the definite boundary of a region is hard to fix, the names of its sub-units are still not finally decided, and better preparation and greater skill are required to handle a region while teaching. Yet the advantages of teaching by the regional method far outweigh the difficulties to be experienced. Comparison and contrast between the various regions with a view to find the factors of unity and diversity afford a great deal of interest and sound knowledge.

The human touch has entirely transformed the subject of Geography from a dry mechanical discourse into an interesting story of human life and its activities. The human element predominates in deciding the nature and scope of the subject to be taught. The earth has been rightly regarded as the home of

man and the field of his various activities. Hence it will be highly instructive and interesting to note how man has continuously tried to use and modify the natural resources lying all around him; how he has at times meekly submitted to his environment; or how often he has succeeded in acquiring wonderful control over the forces of nature obstinately defying this authority, how he has bored tunnels through mountains hundreds of miles long as through the Alps; how he has reclaimed deserts and turned them into fertile lands as in Egypt or Sind; how he has built walls like the ancient wall of China or the Maginot and Siegfried Lines to protect himself and his treasures; how he has compelled a rapidly flowing river like the Periyar flowing at first into the Arabian Sea to turn eastwards to quench the thirst of the dry land awaiting her waters, and then to flow to the Bay of Bengal. Even a lay man who has ceased to be a school-boy derives an indescribable delight from the story of man. Necessity, the mother of invention, encourages and emboldens man to construct canals, or to open new roads in mountainous country like the Alaska Highway or the recent Tibetan Roads. In spite of the fact that the intrepid courage and marvellous ingenuity of man has often refused to be baffled by colossal obstacles coming in his way, he has at times sustained great defeats at the hands of the forces of nature. Earth-quakes efface his comrades within a moment, merciless floods carry away thousands of souls to death and ruin. Typhoons or tornadoes occurring in the China Sea or the Mississippi Basin torment and often afflict man; and Alpine or Himalayan avalanches often threaten him !

HEREDITY, ENVIRONMENT AND THE TEACHER

'Heredity' is what we start our life with. It is the sum total of traits potentially present in the fertilised ovum. Environment is a collective name given to all sorts of outward influences that one comes across during one's life-time and as such it may stimulate or repress one's undeveloped powers, but the designation of heredity and environment as a wholesale analysis of the elements in educational experience is quite dubious an interpretation. Life comes from life. Man brings forth man after his own kind. The progeny resembles in some marked ways the ancestors from which it descends. It is, therefore, wrong to think that heredity and environment are co-relative factors. Education involves using of one's heredity in the institutions with which one is confronted and as such the teacher must not be ignorant of this very important problem.

'Sex is the cause of only a small fraction of differences between individuals', declared Professor Thorndyke; and thus the fact 'whether the training offered to girls should differ from that given to boys does not call for any serious psychological investigation. Perhaps the physical differences, and our views as to the ideals to be aimed at and the part to be played by men and women in their future lives, may suggest a differentiation of curriculum between the sexes. This depends largely on the traditions and the culture of different communities.

In India women are brought up mostly as housewives and probably marriage is their only ultimate goal. This may sound, and indeed always has sounded, 'silly' to the Western ear, but it carries a considerable amount of reason behind it. Every woman, whether she is an illiterate, brute or a 'learned scholar' longs for a home of her own with the man she adores. She wants to be a proud mother of pretty children, and the only work she really loves is the work in the home and in the kitchen. This warrants that men and women should be trained

on somewhat different lines, not because they are mentally different, but because of their physical differences and because they have to play different roles in life. But our women are not inferior to men and they are in equal need of liberal education.

Teacher's Duty.

It is a fact that howsoever stimulating an environment may be, it can never change an idiot into a Shakespeare or an Einstein; but its deep influence may result into some observable improvement in the behaviour of the child in question. On the other hand, recent research evidence in psychology bears out the fact that there is a marked decline in IQ points, to the extent of 20 to 25, if children are not brought up in a conducive environment. The duty of the teacher in all cases, therefore, is to develop to the fullest the potentialities of every child in school in accord always with the general good of the community of which it is a member. Some people think that the teacher is capable of creating new things in the child's mind. This notion has been a source of prolific error, especially, in India. It is impossible to develop in the individual life any thing that does not exist in the heredity of the individual. The heredity constitution sets the limits of individual development. To find out what a child's heredity is constituted of is the primary duty of every teacher. It is not an easy task and no definite procedure can be chalked out. The teacher must constantly experiment and pursue his technique.

Intelligence tests may be resorted to, but they are not a guarantee that the mental capacities of a child will remain the same. There are some 'late developers'. This, however, is a subject on which there is no precise information available. There are certain children whose real work is quite contrary to results indicated by intelligence tests, and there are some cases where the child uses his intelligence only in the subject of his interest, so that on the whole people may presume him to a 'dull' and 'backward'.

Consequently, the classification of children on the basis of

their intelligence quotients seems to be only a fraction of the solution of the whole problem. The teacher should watch the likes and dislikes of the child. He should also try to know the socio-economic status of the homes, and education of the parents of the children, because these factors wield a far reaching influence on the developing children. The teacher should give to children exploratory opportunities. This is not a short process. Children should be encouraged to do things wherein they are more likely to shine.

This method of intelligence grouping does not measure the likes and the dislikes of the child which, in my opinion, are the only basis of classifying students into different divisions, excluding, of course, those of defective minds and the lunatics. The system of measuring IQ ignores the spirit of competition which, I think, should play a very important part in encouraging children to use to the utmost their potentialities. If a reliable method could be found of measuring one's interest in one thing or another, education as a whole might be a much brighter affair. Most teachers assume that children dislike some lessons, and being imitators, they easily catch this attitude. But experience of some progressive educators proves that it is not so. Children like work which shows results; they can only be interested in the abstract if they can relate it to their own experience. It is not practicable and some think not desirable, to let the child learn only what it likes, but it is an established fact that it learns that best. It is idle to teach what is unsuitable and uninteresting; from doing so spring most disciplinary troubles. It has been established that the least amount of strictness is required by children doing what they like. Here the teacher may make use of the tests for measuring special aptitudes. It is possible that if the pupil uses all his intelligence (whether high or low) in doing a thing he likes he may develop into something well above the average.

Real Difficulty.

It is my opinion that it is the division of one's attention and intelligence that is the real difficulty, not the amount of intelligence that tests may reveal one to possess. Sir Percy

Nunn while speaking about intelligence tests says, "The tests are no longer confined to their original purpose of detecting mental deficiency, being now developed to diagnose ability of all grades and many purposes." But all their variations presuppose the assumption from which Binet started namely that it is possible by means of properly chosen tests to have an assessment of inborn capacities (heredity) as very useful as his later statement says, "The cleverest youth (having a high IQ) may fail to fulfil his promise because he is very lazy, or corrupt, or though virtuous, is lacking in some moral qualities for success in his chosen line of life." But who chose the line of life? Probably the parents or the teacher, who thinking the boy has promise, forced a line upon him that might have bright future gains but which the boy might have disliked. Hence the failure. 'Laziness and corruption' are not physical or mental defects, but spring out of monotony and lack of interest in a certain thing that a person might have been doing perforce.

The backward child is really a problem for the teacher. It is here that he is most likely to blame inheritance. The teacher will perhaps do well to note that heredity plays comparatively smaller part in the backward child than it appears to do. If the teacher endeavours to find out the child's likes and interests and develops them, and passes on from them through trifling hints to other broader interests, he has done his duty well.

I give the greatest praise to the vocational aptitude tests that measure ability for different vocations. They are really helpful to children in planning their future lives. The general practice in England is reported to be that these tests are used for children who are leaving school and are entering life. This appears to me an unsatisfactory method of approach and it could be more useful if the tests could be given earlier, in order to determine what education should be given earlier in life previous to school leaving so that when the scholars go out into the world they may be well prepared for the particular work which they desire to undertake.

This argument does not appeal to those who believe that environment does affect heredity. A medical environment makes a man medical minded, they argue. But these people forget that environment can easily be modified. A girl who shows interest in dancing and music can easily be given the particular environment that she requires. What she needs most is encouragement and high grade training in music and dancing. Encouragement and right help are, in my opinion, constructive items of great value. But this is a problem that concerns the teacher in particular as it has a bearing on the possible method of approach to a subject that a certain child has a liking for, so as to make it more interesting and helpful to him.

Eugenics.

Eugenics is, according to some people, specially in the eastern countries, a major factor in the educational problem. But western scientists attach no great value to it. Intelligent mating is, in eastern opinion, helpful in raising the potentialities of human beings. The eastern system of parent and priest arranged marriages is perhaps an exaggeration of this principle. A certain kind of man is not fit for marrying a certain kind of woman because it is believed that the offsprings of that marriage may not be of the right type. There may be some amount of truth in this assumption but there is no reason why "the process of accumulation of valuable facts should not continue with all encouragement in the hope of raising the potentialities of human beings." This factor, however, is out of the control of the teacher and solely depends on the people as a whole and chiefly upon the culture and traditions of the respective groups.

The control and selection of social environment has great educational possibilities. How the teacher is going to help along the process of self-development in the pupil depends on his or her control over the student's social environment and also on the knowledge of his social heredity. Man's social inheritance is perhaps more significant than all aspects of his physical environment, for it travels from generation to generation. It may afford an opportunity to excel or it may furnish

opposition. The controlling factor is the soul and man's environment is his own creation. "Give your soul the food of worship and devotion and make this body of yours a temple", once preached a hermit. He was perhaps true, for in those days man had more faith in his animistic beliefs than in the food supply and in thunder, lightening and rainfall. The social inheritance is in a man's development more vital than the biological inheritance. The social inheritance enables a man to stand on the shoulders of all past generations and to utilise their experiences to solve his problems. The law of gravitation is now a part of the junior physics—but it required a Newton to discover it. We inherit the genius of the *great* and "the great live on in us". They are immortal teachers of humanity. The social inheritance is, therefore, a great device for men of all generations to educate the new man in each generation. Social inheritance raises man up from the 'animal'. It makes him 'sui generis'.

The work of a true teacher is slow and sacred. Abundance of courage and patience and optimism are required. The future will thus be bright, the entire community will thus be improved, and the scholastic endeavours of the teacher may lead us and our future generations to an ideal state of educational and cultural humanism !

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