



THE EDUCATIONAL REVIEW



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What Maladjustment Means

Prof. S. K. Dasgupta, M.Sc., M. Ed., Khurja (U.P.)

We consider the behaviour of a child as normal and ordinary, or we class it as problem behaviour, not merely in terms of the child's own nature but also on account of the concepts or standards of child behaviour held by the adult people in the environment of the child. But the judgements of adults of the problem behaviour of children may vary greatly. Fenton and Loutitt¹ tell us that the definition of the problem behaviour is relative to the particular neighbourhood, the particular class room and teacher, and the particular home and parent. Wickman, Stogdill, *et. al.*² reported that the same problem behaviour in children was rated differently as to the degree of seriousness by teachers, nurses, parents and the mental hygienists.

Various authors have given various definitions of the word 'maladjustment' as this term like other psychological terms is also difficult to define. Several workable definitions have been offered. According to Professor Gates,² maladjustment refers to a disharmony between the person and his environment. Fryer and Henry³ tell us that the action of an organism upon its environment may be adaptive or non-adaptive. With human beings living in society this activity is called adjustment. The criterion of perfection of reaction is defined in a large measure by the rules and standards of society (folkways and mores), which are the social habits of groups. Woodworth⁴ defines it by saying,

if an individual is participating intelligently and wholeheartedly in what is going on in his environment, we have no hesitation in calling him well-adjusted. If his participation, while whole-hearted enough, is not intelligent, his adjustment lacks something on the scale of emotion and interest. In the opinion of Mac Iver⁵ every difference of environment means a difference in our habits, our ways of living. On the other hand, our habits, our ways of living, in so far as they differ, create for us a different environment, a different selection with it, and a different accommodation to it. Through a process of constant selection and constant adaptation, the moving equilibrium of life is maintained.

Two things are obvious from the foregoing definitions. In the first place the problem of maladjustment is directly related to the interaction of an individual with his environment to which he has to adjust. In the second place, folkways and mores of society are the two great determinants of an individual's adjustment to his environment. Hence, under the circumstance, before going deep into a discussion of the problem of maladjustment, it would be worthwhile to have a clear understanding of the claims of the environment and society on the one hand and the individual on the other hand.

On the claims of the environment, the sociological point of view as given by Mac

Iver⁸ is that we never know life except in an appropriate environment, an environment to which it is already adjusted. Life and environment are, in fact, correlates. This makes us think that we cannot deny the fact that life and environment are intimately related. It would not be wrong to say here that an organism is the product of his past life and the environment in which he has lived. The environment starts showing its effects from the very beginning of life even in the germ cells. Every form and variety of life, every genus and species, every individual living thing has its own specific environment, different from that of others in some degree at least if not always in kind. Every change in a living being involves some changes in its relation to environment, and every change in the environment some change in the response of the organic being.

In respect of the claims of society, the words of Aristotle⁹ may be repeated here, i.e., "Man is a social animal". Prof. Mac Iver⁸ tells us, also that society is a system of usages and procedures, of authority and mutual aid, of many groupings and divisions, of controls of human behaviour and liberties. The everchanging, complex system we call society. It is the web of social relationships, and it is always changing. It may be remembered that society depends on differences as well as likenesses, and all people contribute to one another in some way or other. The human being depends on society because he is not only a social animal, but he depends on society also for protection, comfort, nurture, education, opportunity and the multitude of other services which society provides. He is dependent on society for the content of his thoughts, his dreams, his aspirations, and even many of the maladies of the body and mind. The absolute need of society itself is brought with it by his birth in society. That solitary confinement is one of the most fearful punishments, need not be wondered, for it prevents the satisfaction of the fundamental needs of the individual confined. A man lives in

society by the social mores, and these mores become specialized with the evolution of society. These emerge and apparently seem to be a series of special codes, custom and tradition, fashion and law, and the codes of variant religions and other cultural groups.

The psychological point of view emphasizes the claims of the individual. A sociologist is concerned with social relationships, but the same individual as a psychologist will find his attention turned from the relationships themselves to the related units. Each and every social relationship involves an adjustment of attitudes on the part of those who enter into that relationship. The varieties of the process of adjustment are as numerous as the varieties of processes that relate human beings to one another. According to Woodworth⁴, individuals, while differing in every way, are after all fundamentally alike, and the difference in them is that of degree rather than of kind. They meet similar problems, and their resources for handling their problems are basically the same.

Thus, although apparently independent, in actual living the claims of the environment, society and the individual are essentially dependent on one another. A ceaseless interaction exists between the individual being on the one side and the environment on the other side, and this interaction continues from birth to death. As long as the interaction goes on in a harmonious manner, it is said that the individual is well adjusted to his society and environment, but as soon as the mobile equilibrium is disturbed, it is believed that the individual is not adjusted, but he is maladjusted.

In any consideration of adjustment a discussion of the basic needs of the individual must find a place, because problems of adjustment arise only when needs are thwarted or blocked. Every individual has certain needs which may be divided into two categories, viz., (a) the organic needs like air, water, food,

suitable weather, rest, sleep, sex, etc; and (b) personality needs which include affection, belongingness, independence, social approval, achievement, prestige and esteem. All the needs are interdependent and related to one another in the sense that thwarting of one leads to the thwarting of another. Besides the aforementioned ones there may be other more personal and individual needs which vary with individuals. Generally, it is held that the basic organic needs are inborn, they must be met, or the individual will perish. But the personality needs are not generally inborn, but even then they are to be met, otherwise the organism may lose efficiency and happiness. As averred by Gates and others ² need exists as a state of tension in a person which serves to direct his behaviour towards certain goals. A goal is an activity or state which to some extent satisfies the needs of an individual, and all behaviour originates in needs. Usually a need which may be satisfied easily does not effect adjustment, if the present needs were readily satisfied through the medium of previously acquired behaviour.

All thwartings do not lead to maladjustment and all persons do not succumb in the face of even serious problems. Problems of adjustment are seldom involved in the satisfaction of the organic needs, since these are fulfilled sufficiently for all persons except in unusual circumstances. But all the personality needs are not always easily satisfied, and the organism has to satisfy them through other means. Physical, social, economic, and personal limitations, incompatible goals or needs, the individual's own standards of morality may be some of the factors which become the sources of obstruction and frustration in regard to the fulfilment of needs.

Frustration always does not have a bad effect on adjustment. Thwarting leading to frustration upto a certain extent is necessary for the development of personality. Brown ⁷ propounds that, without any blockage, the individual remains a

mediocre, stupid, unimaginative, with "cow-like content". In brief the effect of frustration depends in part on the actual possibilities for another means of satisfying one's needs in the environment. Till such other means are readily available, the problem of maladjustment doesn't arise. If a boy has a strong desire or need for a certain factor, and he finds that he is unable to excel, and he turns to a goal less attractive to him, or if he is still unable to achieve his goal, he may turn to a still less attractive goal to him, and may endeavour to make his attempt an outstanding one, and thus he may be able to satisfy his need through other means, and one should not be hesitant in calling him a well adjusted person.

It would be important to note that there is no sharp dividing line between the well adjusted and the maladjusted person, because all those traits of behaviour which may be found in children who are already maladjusted in an exaggerated degree are common to all other children, the only difference being that they are not so exaggerated and not so persistent in the normal children. All children, even the most well adjusted among them, are at times found to tease occasionally children who are younger; all boys and girls are found to be shy, sometimes withdrawing in some situations and they are found avoiding the company of associates and friends under certain circumstances; all children show destructiveness in some degree, and all boys and girls like to show off at times, but they are not necessarily maladjusted. When such tendencies become permanent parts of a child's personality, and begin to interfere with his normal activities and social relations, it is only then that people call them symptoms of maladjustment.

The degree of harmony between a person and his environment depends upon certain potentialities of the environment. Some hereditary factors of obscure nature predispose some individuals to a mental breakdown under environmental conditions

of an adverse nature, which may not or do not cause breakdown in other persons. Some individuals are likely to become maladjusted under conditions of adverse nature, which may not or do not cause breakdown in other persons. Some individuals are likely to become maladjusted under conditions of stress although they may not be fated to do so. It is doubtless true that some persons with a definite handicap find great difficulty in adjusting to the conditions of normal living.

The prime thing is that the environment must be such that it is possible for a person to satisfy his basic organic and personality needs; if not so, then he is forced into the rut of maladjustment, inefficiency, and unhappiness. Prof. Gates³ states that, for example, a man accustomed to living in a metropolitan centre is transferred to a small town far from a city of any size. Although he has been efficient and happy, he and his family are unable to find congenial companions in the town and become quite unhappy. He is maladjusted to his (social) environment. According to Carr, maladjustment occurs whenever there is lack of adjustment between the organism's motivating needs, its immediate environment, and its reactive equipment. When events or obstacles thwart the important needs, the adjustment of the individual is affected seriously. The tension which corresponds to the the strength of the the need, as a result

increases, and it is experienced as something not pleasant.

Lastly, maladjustment itself is also a kind of adjustment to environment, but it seriously disturbs other adjustments in life.

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Religious Teaching in Schools and Colleges

U. A. Arsani, Lucknow.

The idea of the teaching of some sort of broad universal religion (transcending all denominational faiths) as well as ethics, in schools and colleges, is being widely canvassed these days. It is argued that that alone can correct the unhealthy materialistic trend in modern society, restore moral values to their old respected status, and bring about peace and goodwill on this earth. I am afraid this is too simple a remedy for such a deep and complex social malady to be successful.

In the first place what the content of that broad religious teaching should be, will always be a matter of controversy. Faiths vary; some pin their faith on logic alone, or on mystic experience only. Even on ethics there will be disputes about the utility of Ahimsa or the limits of temperance; controversies between idealism and realism, puritanism and practicalism. It is much better that we do not disturb this hornet's nest at all. Let the representation of the good points of all the principal world religions, as well as biographies of prophets, incarnations, saints, martyrs etc., and an inculcation of broad spirit of toleration, be a part of our cultural teaching; to be inculcated through extra-curricular lectures, celebration of anniversaries etc. A general strongly ethical and yet non-sectarian and tolerant atmosphere should of course pervade every educational institution; but assigning periods for religious and moral teaching, or setting examination papers on religion and morality is not the correct method of developing that atmosphere. Compulsory classes and examinations alone make religion and morality unpopular, and even nauseating to some; at their best they make these two vital subjects only of academic, rather than realistic or practical interest. I speak from experience of institutions in which such a compulsion was enforced. 'What we need is not imparting

of instruction but the transmitting of vitality. We must civilise the heart' (University Educational Commission.)

Let us not be under any illusion that indoctrination, during school career, along any religious lines will make human society angelic. Materialistic hedonism may be a product of the present age in which science and technology reign supreme; but even when religion was a very strong force in society, Satan was very much in evidence at the same time; and some of the bloodiest wars were fought in the name of religion. There may be a war even between indoctrination, on the one hand, and freedom from indoctrination on the other; the present struggle between the Soviet and the U. S. A. is exactly of this nature, though as regards political idealism instead of the religious.

The real trouble appears to be that, while science and technology have advanced considerably, and are still advancing rapidly, our ethics and religion have remained static. Their theological basis, and their statements of rewards and punishments in some existence after death, have ceased to be effective. Every day experience discloses frequently the success of dishonesty, power, violence, wealth etc., in preference to moral and spiritual virtues. Hence even enlightened persons forget moral and spiritual values, in the stress of practical life, or simply throw them overboard. They have no alternative ethics or religion to believe in, and science does not yet provide any; but somehow they lead double lives, believing in one thing and doing very often just the opposite. The chasm between the ideal and the actual appears unbridgeable. Scientific Ethics and Scientific Religion are hence a crying need of the hour; ethics and religion, so defined and evaluated, as to appear vitally valuable to

man even in his present life. Then alone, I think, can we restore moral and spiritual values to their old position of respect and allegiance.

I have so far encountered in my studies, two attempts at this highly difficult objective. One is a book on 'Search for a purpose' by that reputed American educationist, A. E. Morgan, who was a member of the Indian University Commission. His thesis is that ethical conduct serves the long term needs of human society, though unethical conduct very often succeeds in fulfilling short term objectives of individuals, groups or nations. He quotes the biologist, G. G. Simpson of Columbia University, to show that during the course of biological evolution, 90% of animal species (out of a total of about 340 millions) have become extinct; and the cause in most cases was the neglect of long term interests of the species, in preference to immediate gains of individuals. So the elite in society have to realise that for the smooth working of society and for biological survival, man must not neglect moral values. Theological ethics ignores faults like not standing in a queue or driving a car on the wrong side of the road; Morgan's sociological and biological ethics does not. Theological ethics may tolerate economic exploitation and even bless violence and war; Morgan's ethics may not. So this ethics is wider, more realistic and capable of evaluation through sociological and biological research.

The other attempt is an article on 'Synthesis of Science and Mysticism' by

Zero, in *Shiksha* (journal of the U. P. Edcan. Dept.) of July, 1960. It tries to prove that religion and mysticism may do more, but they should at least relieve man's tensions, worries, frustrations etc and bestow on him perfect mental health. They should make him ever at ease in his environments, improve his physical health and personal charm, and increase his efficiency in action, elevate him in short to the position of a *sthita-prajna* (Gita, Chap. II) Religions and mystic methods can, thus be judged realistically by physiological and psychological research.

But all this is for convincing the elite and the educated, that moral and spiritual values are vitally necessary for humanity. Ordinary people will follow their example, in this matter, as in walking on the right side of the road. It amuses me to hear politicians advocating the teaching of morality and religion in schools. Honourable exceptions apart, present day political life in our country days scant respect to moral and spiritual values. Such politicians, are only concealing their own defects by shifting their responsibility on the teachers. The latter are miserably paid, and inefficiently supervised; their demands and demonstrations are suppressed. It should therefore surprise nobody, if morally shady practices become prevalent among them, and the whole profession becomes the resort of the helpless. Example works much more than precept. To expect such teachers to teach morality and religion is to make a mockery of the whole affair.

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Problem of Education in National Integration

S. Chakravarty, B.A., A.M I A. E. Madras.

The present is the passage of the past to the future. In ancient India, citizens used to ask, "What is his background, who is his guru (teacher) and where has he gathered these national senses?" whenever they happened to listen to a popular

Mosque or the Church or the wayside inn, they argued in differing languages to name this wanderer as a Saint or a Sinner.

The majority branded him a sinner, were he to discard his caste, communal or religious enclosure. All the penal codes

from Cape Comorin to the Himalayas were pulled out to put him on charges and counts. He was then referred to a Select Committee of Traditional Elders who themselves formed a heterogeneous group of Saints and Sinners.

From the Books of Castes and Communities, he was sentenced to a reprimand or censure and handed over to his own fold or kith and kin to do penance for the sins he had committed. From the Code of Nationalism, he was also acclaimed a Saint with the definition that a communal sinner is a national saint and a sinner in South India might often be regarded as a Saint in Delhi and vice versa.

Even this Supreme Court has never attributed political motives to persons or their languages, since politics remained beyond the mental reach and out of their intellectual vision. Castes, Communities and Religions were never blamed in the process of growing Saints and Sinners. On the other hand, they emphasised that what is, is nationalism, and castes, communities, and religions are differing curricula for modern education. They have known in their wisdom that freedom of thought emerged from these narrow grooves, and the nation owed its high ideals and noble purpose to these very institutions which the modern leaders in India want to disintegrate.

Then, wherefrom did this instinctive drive for national integration start in modern India? It is obvious that even saints as well as sinners would grow out of their personal prides and prejudices. It is also clear that their cooperation on personal levels might have paved the way for a new class of incompatibles in India.

Often Indian leaders do not signify what they mean. Abolish all castes, and communities. Then what will happen? They will be paving the way for Atheism in India.

Education, like democracy, gives the Indian leaders the right to go wrong. But the target of national education happens to be the growth and development of a Theistic Personality, even though Atheism comes in the process as an outgrowth or a byproduct of personal levels of organisation. Atheists might come and go, but Theism will go on for ever. After Atheist leadership, what? Theism will assert itself as a national organisation.

Moreover, all the Indian leaders have had the same type of education and possess a B. A. or M. A. Degree even though they lived in communal families, caste environment and religious discipline. It is strange that they are now classified as communal leaders, leaders with a parochial outlook and national leaders. It is time that Universities in India started a Refresher Course for all Indian leaders to develop in them concepts of toleration and understanding.

The aim of this article is not political, but to inform the Universities in India that a single State language medium up to the university stage tends to produce citizens who can be organised as members of an organisation who will later on preach secularism or Atheism, to find compatibility in modern society. Educationists should insist that all languages in the States are media of national instruction, and Indian nationalism is a concept of unity in diversity and not the ganging up of citizens who speak the same mother tongue indicating that the mother is the first politician in the world. Languages not only united the people, but also organised them on political levels to become citizens of a political party in India.

However, there is no cause for alarm. Educationists, Scientists, and Indian Administrative Officers (I.A.S) in India do not disown their origin in castes and communities, and they represent a living example of the concept of the Unity in Diversity. They never find national

Integration a problem in their own sphere of activity, and tell Indian leaders that they are not masters to their own servants. On the other hand, they might wish for disintegrating the Red Tape, which the national leaders are unable to snap. Then, the bonds of ropes and sinews of castes and communities are much more strong than tape and all cooperative endeavour at the conference level happens to remain a wish fulfilment.

Then, what is to be done now? Education from the primary level to the University Special Course would not be able to solve the problems of national integration. Even the Adult Education despairs of educating the incompatibles in India. National Education remains a contradiction in terms, since nationalism takes its origin in castes, and communities in India, while education belongs to the individual. Nationalism has no soul,

and education does not arise there at all.

But educationists in India are not without any hope. They may not enter politics to keep it out of interference, but they can vote for an Indian leader who does not contemplate destroying all the books in the national libraries except his own manuscripts on national integration. There is also a long term plan. They should consider educational ministers both of the Centre and the States of India as incompatibles in the educational field and refrain from altering their ideals of education according to the grants received by the Government. The concept of the Unity in Diversity is the goose that lays the golden eggs for the educationists in India, and they should not permit a minister in power for a few years to tamper with the Educational Autonomy in India.

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The Scientific Temper and Climate

Raghu Vir Sahay Nigam, A.M., S. onl.

Science has a particular mode of thinking. It has permeated all modern thinking, even the ethical thought. Biological philosophy has tintured even social and philosophical knowledge. Technology has given power to Man to conquer even space. It is revolutionising social and economic life beyond recognition. Man seems to have acquired potentialities of immense progress. Even the picture of Utopia embraces infinity.

In fact, many people have been so much angered by science on account of its misuse by rulers in competing countries that they have denounced science and everything smacking of it. But scientific method of reasoning is applied by them even in political moves and thinking. They have not been able to get away from it.

But let us study how much of our life and thinking has been coloured and impregnated by the scientific mode of reasoning. We are notorious talkers, and words charm us. We are carried away by words, both the demagogues and the populace. Slogans hypnotize us. Muddled emotion carries us into sloughs. Political, 'casteistic' linguistic, regional, and credal appeals pull us into it. Scientific thinking shall save us from this catastrophe. Hence there is a vital need of inculcation of scientific temper in the populace.

As our education stands, even the teaching of science is done so unmethodically and bookishly by the 'chalk and talk' method that the growing mind cannot form the habits of inductive generalisation, forming of hypotheses and framing of

theories. Even brilliant minds are so constituted that they are rocketed into theorising before any shooting platform has been built up by inductive study and generalisation from facts observed. It is not denied that some have vision and can see through things by their sixth sense. But the generality of mankind have to crawl or slog along.

It is said that humanity is now emerging from a state of childhood when it could be appealed through the heart, and now being grown up has to be mobilised through the intellect. Hence intellectual processes have to be gone through. The philosophy of Nyaya is analytical and deductive, and was meant for a time when thinking was the monopoly of professional thinkers.

There is now mass exercising of the intellect and the scientific method in our times is the only way of not going counter to the evolutionary march.

But it must be said to the credit of our bucolic population that in matters of farming they do full inductive reasoning. Even our omens and auguries have been the experience of thousands of people for thousands of years. There is no connection between some one sneezing in front of one going out to undertake a new work and his disastrous failure, or between the falling of a lizard on a particular part of the body and the evil consequences prognosticated. The forebodings are believed to be the outcome of the experience of so many people so many times. The auguries have become crystallised into beliefs and many think that they prove true so many times even now. Perhaps the psychological preparedness creates an inclined plane towards it. And this also has to be remembered that exceptions sink into oblivion and the inductively derived rule reaches the limits of sublime faith.

How can modern scientific way of thinking be inculcated in greater part of the population?

It should not be thought that in the advanced countries, where they enjoy the blessings of science and technology and 'do' much of science, that the majority of them think scientifically. There is much copying and unconscious regimentation of life, e.g., having common hours for meals; getting bread from a common source; using tinned food imported from outside for all; and urbanisation caused by living huddled together far from the rich variety of Nature (This has given birth to scouting). Scientific teasing of the grey matter is confined to the few, and they too indulge in this when there is a dire need, and that too economic or political.

The spread of instruction in the three R's, smeared with the farce of training in handicrafts, will kill the habit of inductive reasoning in spheres of farming and intimate agricultural life. The countryside will thus leave off whatever scientific thinking there is. The drivers of the bucolic herd will see to it that the people move to the tune of the slogan-shouters.

In the educated class, education has made them supercilious and egoistically high-brow. They need re-education in the scientific mode of thinking.

Demagogues can spare the people all irrational thinking, but political ambitions do not permit them to do so. Self-preservation is an instinct, and self-immolation is difficult.

Educationalists and publicists can do much by inducting the method of observation and study, followed by deduction of rules and settled forms of thought. When theorising starts, hypotheses may be framed without any preoccupation with preconceived notions induced by current prejudices and traditional beliefs. These hypotheses are to be tested by further experiments, study of cases in different circumstances elsewhere, knowledge derived from books, experiences of others and so on. Then

the hypothesis which stands all this scrutiny must be presumed to be the theory.

It does not mean that theory is gospel truth. Revelation of new circumstances, new data coming in must lead to a re-examination of the theory with an open mind. If necessary, it might be modified or completely demolished. No clinging to the dead corpse, however sweet the associations it might have got. Orthodoxy and cussedness are the bane and deadly venom. The course of evolution will wash it away.

The country needs a sort of rationalists' movement. Science is invading all walks of life. Unfortunately the executive or the human administrative agency is not well equipped with scientific knowledge of their own field of official activity, e. g. ignorance of geography of a locality by the workers in the Block Development and Community Development schemes.

Science is filtering down into the common people's thinking, though there is a good deal of burning of spores and seeds in the heat created by demagogic processes.

Even the rulers have accepted the idea of having an All-India Scientific Service, though the Chief Ministers cannot be persuaded to have a slight limiting of their all-pervasive powers by having an All India Agricultural or Educational Service.

Banalities like the Vijaya Mandirs of Science Days are to no purpose.

A steady drive, under whatever name it might be, is needed in the educational field. The education of adults in rational-

istic thinking can be done by the leaders and the publicists. The plan of evening colleges and correspondence courses can be utilized for this work. In schools and colleges, science itself may be taught in a manner that may inculcate scientific thinking in the growing minds. Expansion of facilities has to be done on a vast scale. Will the craze for universal and compulsory education allow any resources for this? Five years' instruction under conditions as they are will not produce any literacy even, much less an educated electorate. Rather, this nominal literacy will provide a readier field for the demagogues to sway the minds of the 'masters'.

Science and more of science should seep into the body social, and even political. The scientific method should compulsorily be employed in administrative business.

The journals published by the State Governments enjoy publishing more of short stories than any matter which smacks of rationalism. There are tit-bits about technological advances like raisins or swollen grains floating in a soup. One may not ingest them.

Scientific magazines published from the Publications Division, Delhi, should regard it as their business to propagate the scientific mode of thinking.

Radical social and political changes cannot be brought about without a revolution in the thought-processes of the population. Scientific ways of the exercise of grey matter in the crania are the only mode.

Thus alone a scientific climate can be produced in the country.

THE PROMISE OF EDUCATIONAL TELEVISION

Dr. Donald L. Barges Ball, State Teachers College, Muncie, Indiana, U.S.A.

Many countries throughout the world have recently adapted television to instructional purposes. Schools in the United States, Great Britain, France, the U.S.S.R., Italy and Japan are using television for regular in-class instruction. Elementary, high school and college teachers have welcomed this new animated teaching aid and found the offerings both stimulating and rewarding. At present there are more than 4,000,000 students in 7,000 schools throughout the United States learning through the medium of television. One hundred and ten colleges and Universities have also used television for instructional purposes.

In the United States, the television teacher enjoys a number of very important advantages not available to the classroom teacher. (1) He usually teaches only one or two lessons a day, and therefore, has greater time to prepare. (2) He frequently has an opportunity to run through a lesson under the watchful eyes of his producer before it is telecast. (3) He usually enjoys the services of an artist or film librarian in preparing his visual materials. (4) Through clever camera work, unusual visual effects may be achieved that are not possible in the normal classroom.

Like other innovations which we observe in human activities, educational television has definite limitations. Schools in the United States frequently find it difficult to adjust their complicated schedules to the telecast periods, and schools must, of course, receive the programme during the hours it is offered. In the United States we also find that it causes a very definite inflexibility in the curriculum. Teachers who use the programmes in their classrooms have no choice but to follow the topics and the plans of the television instructor. In the United States, where we attempt to

capitalize upon the interests of children in the various classrooms, this is, perhaps a greater handicap than in countries where the curriculum is very standardized. Inasmuch as television instruction is a one-way communications medium, there are many important aspects of teaching that cannot become a part of the telecasts. Television teachers cannot plan with students, draw ideas from learners, adjust the pace of instruction to individual groups or help pupils evaluate their own work.

Obviously, educational television must have some important advantages, or it would not have been accepted throughout so many countries of the world. The advantages of educational television may be listed as follows:

1. Through this new instructional medium many important people and resource materials may be brought into the classroom that would be unavailable under normal conditions. When Prime Minister Nehru visits America, he may be willing to speak to a half million boys and girls over television, but he could hardly visit them in their classrooms personally. Likewise, our museums and archives frequently contain but one example of natural or man-made objects. These cannot be made available to classrooms except through television.
2. Classroom teachers often receive new ideas from viewing the television teacher in action. It seems that we often learn best through demonstration, and the fortunate classroom teacher with a receiving set in her room

has the privilege of watching other teachers in action every day. (She must, of course, make certain that she does not limit herself to a one-way communication as the television teacher does.)

3. Experimentation has verified the fact that more is usually taught in a given amount of time on educational television because presentations are carefully timed and uninterrupted. Frequently, we find that two years' work can be covered in one year.
4. Classroom teachers find that they can provide much more individual assistance when using television, for the rest of the class does not get restless while she is devoting her attention to the individual child—they simply follow the programme.
5. Experimentation has revealed that television tends to focus the attention of students on that which is under discussion. In a sense, the camera serves as a

built-in conscience. As the student follows the programme, he has no choice but to see what the camera wishes to show him. He sees fewer extraneous things than he does in an ordinary classroom.

6. Every student in a television class enjoys a front row seat. Camera close-ups allow excellent observation of material under discussion. One must see the miracle of careful camera work to appreciate the tremendous advantages.

We in the United States have been using television as a means of augmenting efforts of the teacher. We do not except to replace teachers with a television set, for we are very eager to maintain the personalization possible in the ordinary classroom. Educational television brings to the classroom the tremendous benefits of team teaching without the segmentation and impersonalization often associated with departmentalized plans, for the classroom teacher supplies the indispensable personal dimension—the sensitive, guiding hand important to real learning.

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INTRODUCING CHILDREN TO TOPOLOGY

A Daring Pedagogical Experiment

Poivre de Latil

When she had finished handing round red or blue paper hats, some of them with cockades, to the little girls, the nursery school teacher said to them, "At the signal, all the red hats form together on this side! All the blue hats on the other side!" And all the little girls scampered happily to their places when she clapped her hands.

"Now, we'll put a rope around those who are together!" And each of the groups was roped in. Then the teacher

said, "Next, we'll tie all those wearing a cockade together."

This was more difficult because there were children with cockades on their hats in both groups, and the cord around them had to cut across the other two ropes.

Is this a new game for the kindergarten? Not quite. We've just imagined a little science, fiction story about a nursery school class in advanced mathematics, where young children are put in contact

with a fundamental concept of human reasoning.

For the theory of groups illustrated by this very simple example is located in the vanguard of modern mathematics, on the peaks where generalizations merge arithmetic, algebra, geometry, topology and even logic. At present, it is almost never approached before the university.

A "group" may be defined as a "neighbourhood or assembly of several entities which together become elements of a new group entity." Here, the "entities" were the little girls. But they could equally well have been hairs on a head, books in a library, the claws of a cat, figures of a multiplication table, points located inside a rectangle or lines of light rays converging on the same point.

In the example above, the formation of a new group of little girls with cockades on their hats from the two other groups was designed to illustrate another fundamental concept, the idea of "intersection."

With slightly older pupils, the teacher might draw coloured lines on the blackboard to represent the cords enclosing the groups. She would then ask each of the pupils in turn to come to the board and mark her place inside one of the circles. "No, Mary, you're not there! You are wearing a blue hat, and you don't have a cockade. So you're not in the intersection of the "blue" group with the "cockade" group. You're here"

And so, gradually, the children would progress, effortlessly, from concrete games to the most abstract conceptions, considered today as belonging to the realm of advanced mathematics.

Perhaps, our story is not so far-fetched after all. To-day, the teaching of mathematics dominates the scientific future of all countries; it is decisive in training engineers and scientists, in short supply every-

where. Already, several countries are moving towards a large-scale reform of mathematics teaching. And one of them, Belgium, is determinedly charting the way. A university professor, Georges Papy, who teaches "modern algebra" at Brussels University, has done pioneering work to introduce these modern theories into secondary, and even primary, schools. And top officials at the Belgian Ministry of Education are supporting his efforts by encouraging a large-scale experiment with the new methods.

To proceed cautiously in a matter like this is to court failure. Usually, when schools decide to teach new subjects, they offer them as optional courses which the pupils take-or don't-without any great interest. Or else, a few notions, so summary that they are useless, are added to the old course. The fact is, one cannot add new material to old without dangerously overloading the syllabus.

The only solution is a radical one. It consists of abandoning the old system completely and replacing it by the new. But if this were done, would not pupils run the risk of flunking entrance examinations and finding themselves barred from higher education? And how would they be able to pass exams in subjects which they have stopped studying but which are still being taught? Changing the entire mathematics syllabus of the national school system has been suggested. But one can't launch out into such a reform without prior testing; and further, the subject is so new that it would be impossible to find sufficient teachers right away to take all the new classes.

The Belgian solution is remarkable in that it takes account of all these difficulties. To test the new teaching, schools were chosen which are an end in themselves, since they do not prepare for higher studies. They are the *Ecoles Normales Gardiennes* which train young

girls to be nursery school teachers. These girls are not particularly gifted for maths; they are not even especially bright pupils. Therefore, if the experiment were to succeed, it would be highly convincing, and no one would be able to say that the instruction was too difficult for an average class. And even if it should fail, the careers of the young girls would in no way be harmed.

What are the results to date? After two years of experimentation, Prof. Papy finds them eminently satisfactory. These girls of 14 to 16 are perfectly at home in the abstruse universe of groups. They handle problems the mere statement of which is incomprehensible to most adults. Which goes to prove that we regard many problems as difficult simply because we did not learn to analyse them at an age when the mind is malleable.

The Belgian authorities fully realize this. In choosing the Ecoles Gardiennes as a testing ground for their new methods, they are pursuing what may develop into a long-term project. By educating future teachers in the theory of groups, they are paving the way for the introduction of these concepts into nursery schools. That may explain Prof. Papy's quip: "Perhaps the crowning point of my career will be to teach one day in a nursery school."

But why so much importance attached to this famous theory of groups? It was first outlined some eighty years ago by the Russian-born German-educated mathematician, Georg Cantor, who suggested a new conception of geometry in which every figure was conceived as a "group of points". Later, the French mathematician Maurice Frechet generalized the theory, extending it to "abstract groups" comprising any kind of object. Since then, groups have become increasingly important in mathematical thinking. To-day, they are considered the common trunk of all branches of mathematics; and the principles of the theory are regarded as the very foundation of reasoning which works best starting from groups of objects rather than from an object taken singly.

By dint of abstractions, through the discovery of principles which are common to all mathematical disciplines—the principles of logic-mathematics have succeeded in achieving an extremely high degree of generalization. This took centuries of groping and hesitation. But now that the discoveries are made, young people should be spared the tortuous paths followed by past generations. They should be launched from the start on the straight road of modern mathematics.

Chandigarh Central State Library

S. S. Sekhon, B. A. Dip. Lib. Sc., Chandigarh.

The fast changing conditions of social life demand not only emphasis on dissemination of knowledge, but also organised institutions wherein this task may be undertaken. Illiteracy in our country has so far had its hold on the minds of the people because in the pre-independence era no serious, well-directed, well-organised efforts on a national basis were taken in hand. In the absence of such efforts, we ceased to think in terms of national bonds,

and as a consequence, developed a parochial outlook which we are endeavouring to uproot today. In the present article, we shall discuss how far and in what way a central state library such as the one at Chandigarh, could, with all the resources available at its disposal, help in this stupendous task.

The modern concept of library service in India is entirely different from what it

was during the early years of this century. In this advanced age, no body can maintain that the library and its service are confined to the four walls of the library alone. A librarian is now expected to quench the people's thirst for knowledge by providing them with books of their taste and thus help them brood over changing conditions of the world. Besides, he is expected to devise ways and means for the arousal of interest in reading among the public.

The Central State Library is situated in the heart of Chandigarh—the capital of the Panjab. The Sector 17 in which it is located, is going to be the heart of the commercial and social life of the Capital. This library is the direct boon of the fruitful imagination and strenuous labours of M. Pierre Jeannerette, the French architect. Its rugged simplicity, the symmetry of its architecture, its airy and soothing atmosphere add to its magnificence. It has got a salubrious atmosphere and one feels joyously overlaid by the instinct of curiosity when one enters its portals. The Central State Library has given this Sector a typical importance of its own.

With a placid little pool just close to the entrance, fine carpets of grassy lawns, with exquisite type of flowers, this five-storied building presents the look, so to say, of a young queen with all modern fashionable attractions and attributes. All other surrounding buildings pale into insignificance like maids in comparison with its marvellous design of structure and richness of its resources. Almost all the requisites of a modern library have been provided therein. Not unbecomingly, therefore, did Mr. J. Smeaton, Librarian of the British Council Library in India, remark that he had not seen a better public library in India.

The State Librarian, having a mature mind and inborn capacity of administration is the Mind of this magnificent. Body and Matter of this wonderful form. His rich experience of about twenty years at

different important places in the country, has given this Library a new orientation of outlook, an everlasting lease of life and a unique position in the sphere of emotional, cultural and social integration. In the words of Mr. B. S. Gujrati himself, this Library is still a sapling newly planted and requires careful planning, and selfless devotion to nourish it into a fruitful tree.

The library under review has been specially designed to meet the needs of even higher intellectual attainments. All the innovations and new directions are emanating from the precious experiences of the pilot of this institution, Mr. Gujrati.

The administration of the library has been entrusted to a committee comprising of eight members, who hail from different spheres of cultural, social, and educational walks of life. Their rich and varied experiences in their respective fields, have already given this institution worth and value. Here also the government has taken a wise step in having appointed the Librarian as the secretary of the committee.

And now to the functioning of the library itself. The first thing that must needs be mentioned in this context, is the scientific set up of whole library. A department-wise review in a succinct form may be presented as under:—

1. Processing Department:—

Here books are given the technical shape in the light of the latest knowledge given by library science. These are classified, catalogued and, when fully-equipped with the requisites, are transferred to the lending section, which is the hub of the library. This section is well managed under the charge of an Assistant Librarian, and very promptly the books are rendered fit for use by the readers.

2. Circulation Department.

Here the issue and return counter is situated in the centre. Proper guidance

and assistance is rendered to the readers at all times during the working hours of the library. There is the open access system which really forms the nucleus of efficient service. The readers are helped to locate the required material without the least delay. Well arranged and comprehensive catalogues covering almost all the subjects, arranged in the dictionary way, are available to the readers. When the call number is provided by readers, the library staff at once locates the very book. In addition, two Assistant Librarians in the Section, are ready to assist the readers. Almost 1200 books are issued out daily, and the man at the counter is always busy.

3. Reference Section:

This section is fully equipped with standard reference material, such as the Gazettes, Directories, Encyclopaedias, Dictionaries etc. This Section is also planned out on modern lines. Only the members can consult the reference books, which restriction has been objected to by many of the non-members. But this procedure is adopted by the library simply to avoid loss of rare and costly books. The beautiful hall is situated on the 2nd floor of the Library building and forms the calmest atmosphere of study for the readers. The hall is almost full in the evenings. About sixty queries per day are answered by the Assistant Librarian, in charge of the Section. She even, sometimes, provides the exact portions to the readers. A well arranged catalogue is also available in the section. A bronze bust of Mr. Sondhi the veteran educationist, two oil paintings by Mr. Satish Gujral and the display show case lend an aesthetic air to the section. Frescoes and other fine paintings of almost every country find a place in the side almirah placed near the Asst. Librarian's seat. These are provided on demand, because otherwise these could have lost the usual magnificence while placed in open shelves. This section has been trying its utmost to perform successfully its role in interpreting the book stock to the readers.

4. Periodicals Section

This section is also housed on the second floor in a beautiful hall equipped with most comfortable furniture. About 140 periodicals are subscribed to. This department lies in close vicinity to the Reference Section. Just close to it is the Randhawa Section having about 800 volumes donated by Dr. M. S. Randhawa, at present additional Secretary, Planning Commission. On the last floor was the P. A. B. Section of the Library, but it has recently been transferred to the Civil Secretariat under orders from the D. P. I.

5. Children's Section

This section is the potential builder of the next generation. It is exquisitely decorated, and the furniture, stacks, counter and catalogue cabinets are specially designed to suit the requirements of the youngsters. The beautiful little chairs and tables are seen full with innocent and bright faces. The hall situated on the ground floor, is decorated with framed paintings of aspects of child life - nature study by children, or children enjoying the summer and winter seasons etc. In books also the graded assortment is made. In the English portion, mostly fiction and stories by Enid Blyton, are found, which are much liked by children. Pop-up books, animal stories and fairy tales are found in abundance. Periodicals suiting them are also provided for. The issue and return counter also suits their size. Mostly they are casual readers frisking about like lambs. Films portraying the innocent period of childhood and emotional aspect of this period, are shown by the Film Librarian, twice a month at least. Story hours are arranged by the In-charge of the Section. The children too are found anxious to reveal their talents and aptitudes for telling short stories, tit bits and arranging skits etc. Mr. Gujrati is anxious to arrange for an activity room comprising meccano sets, toys, wooden blocks etc. That would really attract more tiny readers.

The most prominent feature of the Library can well be conceived in the words of a Polish lady, Miss Marte Valicke Gube who had once remarked, "I find the library a very wonderful building and even more wonderful, the spirit of the people working in it." It is really the solid manifestation of the spirit of the Panjab State, a wonderful transmission centre seeking to further the intellectual and cultural needs of the people in the State. In the forthcoming Five Year Plans the library would have various other full-fledged departments like those of Audio-visual aids and exhibitions etc.

It would, therefore, hardly be an evidence of exaggeration on my part to say that the Central State Library, Chandigarh, by virtue of its special privileges and

position, is eminently fitted to act as a nucleus of the dissemination of all those forms of knowledge which, in the first instance, could enlighten the minds of the people and help them realise the important role that they are to play in the very life and progress of democracy. They are to wake up to their obligations, social, political and moral, and shoulder the responsibility with a firm mind. Secondly, it has its unique function to render people conscious of their duties in uprooting those evils which even today are eating into the vital fabric of the social life of the people. We are still a prey to a number of mental conflicts. The need of national integration is great, and if the Library could do its bit in both these spheres, it can amply justify its existence and labours.

Prof. M. Rangacharya's *Great English Translation of*

SRI-BHASHYA

VOLUME I. Rs. 15.

The Educational Publishing Co.,
Nungambakkam, Madras-6.

OUR EDUCATIONAL DIARY

"PEPYS"

14-10-61 The Director of Public Instruction, Madras, was all praise for the Russian System of education. Failure was very rare in Russian schools, and the teacher was blamed even if 10% of the students failed. Scientific education received great prominence in Russian schools. Even in the ninth standard, students were taught physiology and anatomy, and he said that he wanted to recommend some changes in the educational system here.

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Dr. Kabir, speaking in Dindigul, said that he was against a uniform pattern in education. He advocated bold experiments in education. There must be diversity and variety in education also. Higher education had tended to become abstract and uniform in pattern. He called for new experiments which would integrate general principles. He was all praise for the bold experiment now being carried in Gandhigram. G. Ramachandran said that rural higher education was a new adventure in education. It was rural education at University level. It was also proposed to start a post-graduate course in rural higher education, he said.

16-10-61. The Andhra Pradesh Education Minister said that the four South Indian States had agreed to have common nationalised text books at the primary stage.

17-10-61. Mr. C. D. Deshmukh said the transition from English to the regional languages in the matter of the medium of instruction must be a phased programme, and that it should be acceptable to the academic world and not merely to legislators. He said that Hindi could never displace English. He stressed the importance of uniformity in the content of education especially with a view to promote national

integrity. He recommended that education should be made a concurrent subject.

22-10-61 Dr. Shrimali said that the educational system in India tended to be bookish and he stressed the need for a spirit of adventure. He spoke thus at the Himalayan Mountaineering Institute.

23-10-61. Mrs. Durgabai Deshmukh pleaded for the expansion of Primary Education for children in the age group 3-6. She said that voluntary organisations which took up pre-primary education would be given grants-in-aid.

26-10-61 Speaking at the Headmasters' Conference, the Director of Public Instruction, Madras, said that the Government had sanctioned 100 trained graduate teachers for higher elementary schools within the State under a phased programme. Mr. Kuruvilla Jacob stressed the need for a twelve-year pattern before a three-year degree course. He pleaded for a two-year junior college course.

29-10-61 The Prime Minister expressed himself in favour of the nationalisation of text-books.

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At the conference of education of the four southern States, it was decided that the study of English should commence from the third standard. It was also resolved to evolve a common syllabus. The conference also felt that the entire pattern of higher secondary and Pre-University courses should be reviewed by an expert body.

30-10-61 The conference of Vice-Chancellors of Universities suggested that a Central University should be located in the south as well. It also felt that the medium of instruction in it would have to be either English or Hindi. The following are its other recommendations: i) Merit

and distinction should alone be considerations in the appointment of teachers. (ii) There should be diversion at different levels for specific training programmes. (iii) To promote national integration, a certain minimum percentage of seats should be reserved for students of other States. (iv) Communal or denominational names of educational institutions should be given up. (v) Research institutes should be built up around personalities who had made a name in the particular field of research (e.g., Sir C. V. Raman). (vi) Facilities should be provided in North Indian Universities for the study of South Indian languages and literature.

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The All India Secondary Education Conference recommended that every school should start its work with flag salutation and community singing of "Vande Mataram" and end the day with "Jana Gana Mana". At the time of flag salutation, the teachers and the students should take a pledge that they would do everything possible to advance the cause of unity and would settle all disputes by peaceful means. It also called upon the executive of the All India Secondary Teachers to collect and compile ethical and patriotic songs for dissemination all over the country. Its other resolutions are: (i) drawing of a uniform code of conduct for teachers all over the country; (ii) setting up tribunals at the District level to hear appeals from teachers, whose findings should be binding on the managements of schools as decrees of Court; and (iii) implementation of the triple benefit scheme, free education for children of teachers and free medical aid.

1-11-61 The Union Government has decided to give scholarships to talent-

ed children of primary and secondary school teachers. It was proposed to award 500 such scholarships which would cover the entire college course. It was also decided to give loan scholarships to intelligent and deserving students. A ten percent rebate in the repayment will be allowed for every year of service put in the teaching profession.

[The free scholarship scheme may well be extended to college teachers as well. They are also equally ill paid as the Secondary teachers. The loan scholarship is an excellent idea. It will attract talented but poor students to the teachers' career. The rebate system will make them stick to that profession. No one is likely to desert the profession he has practised for ten years.]

3-11-61 The American Consul-General, addressing the Pachappa's College Union, said that in America for every hour of class work students had to spend atleast two hours in preparation.

[That explains the efficiency of American education. Here we have all class work and no preparation at all. Naturally, however hard our teachers might teach, students are not able to take in what they are taught. It is really a sheer waste of time to teach the students from 10 to 5. The students only get fagged, and the teachers too. Instead, we could have classes from 9 to 1 p.m. The rest of the day, 2 p.m. to 5 p.m., may be spent in preparation for the next day's lessons and doing assignments on portions already done. Of course, students have to do these also at schools.]

THE TEACHER

Dr. V. N. Sharma, M.A., Ph. D., Madras.

(Continued from page 186).

The Ideal Teacher, Dakshinamurthi, the foundation of all knowledge, wisdom and consciousness, is placed before all teachers as their ideal in life and guide in their daily work. "He is the very storehouse of Life, ever youthful; the vow of silence is His ornament; His illumination and magnetism penetrates in all beings, irrespective of sex, age and distinction" ('Dakshinamurthi Stotra' of Sri Sankaracharya). The *Upanishads* enumerate the qualifications of teachers to a great extent for such a teacher who follows the steps of the Eternal Teacher. (Br. Up. III. 38; IV. 1; VI. 3, 12; Chtand. Up. III. 1, 5; Sveta. Up. VI; Mund Up. III. 2. 10).

"It is his duty to impart the highest knowledge to his eldest son or to a worthy disciple and to no one else, provided the recipient is tranquil in mind. He should conceal nothing from his pupil, if he had stayed with him"

Further, we have observation of some students who had spent their studentship under some ancient teachers. Sukesa, who had his tuition from Pippalada, speaks of his preceptor as "a teacher remarkable for his humility. He would answer the questions as he had the knowledge needed" (Prasna Up. I). The teacher is a dynamo of knowledge, and he is a savant well versed in all sciences and arts. "He is the one that can initiate a pupil into the secrets of knowledge. So he is indispensable to seekers of the self". "Apart from the teacher there is no access here" (Katha Up. II. 8). All seekers must "approach a teacher who is learned and dwells entirely in the self" (Mundaka Up. I. 2. 12). "He is a treasure of men, a vessel of the gods" (Adhikara Kanda I. 2). He is not an instructor, but a helper and a guide. He instructs by his personal

example ('Acharana'); he suggests and not imposes. He shows the student how to perfect his knowledge and encourages him in this process. He is wakeful in all stages of activity. "There is no sleep to such an one as his work lies in the brightening all to see That, the highest place of Vishnu". (Sama Veda Uktara, 18. 2). He is not mere teacher but an *apta*—a relative and a friend.

All the *Upanishadic* literature contains vast amount of information on the equalifications of the teacher. As we come to the other fields of ancient literature, there is so much, and every book proclaims the greatness and holiness of a true teacher. There are some books that tell us the form, movements and other personal features of a teacher. "The teacher is one who has his source in the Divinity itself; he is faultless and free from all vainglory. He is the best jewel among all devotees of the Lord. He is a Brahman, a master of truth, a follower of good ways. His organs are full of illumination with their perfection and beauty, he is a master of all sciences and arts, he has the capacity to create, uphold and withdraw all beings from the universe, he is ever cheerful in his faith and devoted to his work. He is a light in all natures of creation, he seeks the welfare and protection of all beings round him, a master in *yoga*, a master who could control both his inner and outer expressions, mind, emotions and actions; in all qualities none can surpass him. He has neither desire of the body nor of the mind, thinking always of the Lord and His illumination on the universe. He is the father, he is the mother, he is none but the Lord Himself on earth; all will have to go to him even when the Lord *Siva* is in his angry mood" (Purushotama Sainhita, Ch. I). An ancient verse

says, "He who follows the ancient traditions, he who performs all the rituals pertaining to his position, who is perfect in silence, in cleanliness, inner and outer, he who is a master in discrimination is the real teacher, and all should serve such a teacher alone."

In other words, a high standard of culture, self-imposed discipline and stern regard for duty, selfless action and sacrifice combined with self-respect and reverence for others, a high standard of academic dignity, and a sense of the nobility and great purpose of human life are the qualifications demanded from a teacher in India from time immemorial. To such a teacher poverty is not a bar for admission to the highest studies. His freedom was not hampered by public subsidies, nor was there any need for him to please the public with a view to enlist its moral sympathies and financial contributions. In India, teaching with its ideals of plain living and high thinking was a vocation and not a trade. The teacher had an academic dignity and seriousness, and he held aloft the idea of learned poverty before which the diadems of kings were at naught. He held a high status in social life and was the leader of the locality, and not merely the guide of the youth. He regarded life as a lofty destiny and lived it in such a way as to serve as a light and inspiration to all.

To the illiterate, says Manu, the possessors of books are superior. To the possessors of books, those who remember are superior. One who has got a true knowledge of their contents is greater than one who remembers them, and one who acts according to that knowledge, is greater than one who has merely gained a knowledge of their contents. Noble conduct *tapasya* and self-knowledge are the highest good of a teacher.

His *tapasya* consumes sin, self-knowledge gives him immortal life. The teacher must know all the sciences based on positive observations, and the teachings of the *Vedas* (Manu, XII. 103-105).

He further enjoined: "Self-controlled let him see all things, whether real or unreal, located in the Supreme Self; the mind of him who see all things in Self never turns to evil" (Manu, XII. 119).

An ancient Vedic text describes what a teacher is: "A teacher is he who destroys darkness or ignorance by light or *jana*. The word *gu* means "darkness" and *run* "destruction". (Tai. Ara, I-7). Another text tells us that knowledge (*vidya*) is the highest goal one must seek and a real teacher is a medium who represents the Lord, who is behind all knowledge on earth (Advaitataraka Up). "Even a teacher is the Lord, the teacher is the highest one one must seek, he is the highest knowledge, and he is the best and noblest in all".

This office was thought so holy that only Brahmins were teachers, and the school was not a school in the modern sense but more than that; it was a temple where the goddess of knowledge presided and all students went there to worship her, and the teacher was a mere priest representing the goddess and bestowing her glory on all those that came to her for boons.

The trust in the teacher was so great that the parents gave over their children to him completely for many years, and both teacher and students lived together as a holy family. Students had no reason to be afraid of him as he was the embodiment of gentleness. In other words, his gentleness prevented them from being afraid of him. Each boy then showed himself as he was, and the teacher was able to see the line best suited to him and to follow it. "He who has forgotten his childhood and lost sympathy with the children is not a man who can teach or help him". It is the injunction of the 'Manu Smriti' that "the Brahmins alone shall teach the *Vedas* and none else" (Manu, X. 1), as Brahmins, the highest class in the Indian social organisation, never, as a class, sought material aggrandisement or such things that would further material interests. Society left them free

to specialise in all concerns of the spirit, and their wants it was ready to supply, so that they could use their time and energy "to create immortal forms of art and master pieces of literature, to advance in the various fields of knowledge and the many sided arts of life, to lift themselves high along the steep road to human perfection, and to lead humanity to spiritual altitudes". We can say that the dream of Plato and the ideal of Comte were fulfilled in Ancient India with great and remarkable success.

Eulogising the qualification of a Brahmin, ancient texts say: "Study and teaching are a source of pleasure to him, he becomes ready-minded, and independent of others. He sleeps peacefully, he is the best physician for himself, and peculiar to him is the restraint of the senses. He delights on the one hand, in the growth of intelligence, fame and the task of perfecting people (janapakvata). The growing of intelligence gives rise to four duties, attending to the Brahmanas, Brahmanical descent, a befitting supremacy, fame and perfecting of the people. And the people that are being perfected guard the Brahmin by four duties—by showing him respect and liberality, and by guarding him with security against oppression and security against capital punishment" (Satapatha Brahmana, II. 5.7.).

Brahmins as teachers impressed the whole society by a certain degree of austere simplicity and loyal discharge of their duty to the community, which involved a sacrifice of all their time and energy. The development and growth of learning naturally required a special section of the community to be set apart for the pursuit of it. By a process, almost of natural selection, the Brahmin became the custodian of learning. He dispensed the learning, so that he "became not merely the special student who learnt all that was worth learning, but he also regarded it as his duty to hand down the torch of learning undiminished, if not improved and extended. He had a double function to be the authority for consultation and guidance in matters relating to conduct in society. He took upon himself the more

serious duty of perfecting the people" (S. Krishnaswami Iyengar 'South India's Contribution to Indian Culture, pp. 315-17). He was the custodian of spiritual power. He guided, commanded and compelled even the king to follow the ancient path of righteousness in all his daily duties. He regarded his vocation as a sacred duty to help forward humanity in life's path. In other words he was a missionary of Brahma on this earth to spend himself in constant endeavour to take his fellowmen to the plane of righteousness. He strove for peace on earth and good-will among men.

Teaching was the self-imposed duty of this particular class and not confined to isolated individuals or institutions. We have frequent prayers in the Upanishads for an increasing number of teachers, and also for students who would follow their noble path. Much freedom was placed in their hands as regards the selection of students. It is said that they selected pupils for instruction in accordance with innate aptitudes and inherited characters and, as we will see elsewhere, imparted to each the training for which he was fitted, the training that was best for him in the functional group to which he belonged.

The Chinese pilgrim gives us his own impressions of teachers in India. He gives also an account of his own teacher. "He was well versed in astronomy, geography, mathematics, divination and the calendar, and had a good ear for music. He could use the axe. He was never angry with his pupils. Never was he inactive, never got he tired. He never higgled in the market. He was always peaceful, calm and impartial. He never fell ill. He recited the sacred texts every day for 60 years. He was as a mother to his pupils, to the instructor (Upadhyaya) was as a father". Further narrating his teacher's qualities, he tells us, he cautioned him to leave him as soon as his studies were over, saying, "You must no longer stay with me; it hinders your study." It was with his permission that i-Tsing started on his well-known travels. (Venkateswara: 'India through the Ages,' 236).

EDITORIAL

Mr. Angus Maude, retired editor of the Sydney Morning Herald had some pungent things to say about Indian universities. He observed: "The universities, with a few shining exceptions, are wretched places where excessive numbers of utterly undisciplined students of mediocre attainments are badly taught by underpaid and second-rate men. The students, often uprooted from their native cultures, are being taught in a language that is foreign to them, and see little hope, especially in Bengal, of securing any place more rewarding than that of a Government clerk." This forthright comment from a candid friend should make us pause and take stock of the present position of education in India and the trends of development.

There can be no gainsaying the fact that there has been considerable development of a sort during the last fourteen years after Independence. More money has been spent and more thought bestowed on education during these years than ever before. But to what effect? It is clear that we have been more insistent on quantity than on quality. Feeling that we have a great deal to make up for, in the field of education, we have been in a hurry to expand primary, secondary and university education, all together and simultaneously. In the result, while education has expanded and included in its fold classes hitherto remote from it, quality has inevitably suffered.

In the primary and even perhaps in the secondary stages of education, the deterioration in quality does not obtrude itself on an observer's attention. University students are however the showpieces of the educational system: and there the unpleasant truth cannot be hidden. The backwardness of our higher education is more easily seen than tackled. It seems destined to remain with us for some time to come.

The causes for this state of affairs are well known, as well as the remedies there-

for. But it is unlikely that the remedies will be applied in the near future. For quality control is something which our administrators are unwilling to introduce into education at this stage of our national development. Political pressures all point in the opposite direction.

Higher education, to be effective, must be based on satisfactory systems of primary and secondary schools. In India, while primary education has been expanding rapidly, its qualitative progress has been retarded by lowering of standards to make things easier for millions of children coming from uneducated families and by unwillingness to pay adequate salaries to teachers. The primary school teacher in India is so shabbily paid that he looks with envy on the earnings of a peon in a Government Office or those of an unskilled labourer. In regard to secondary education, the same sorry tale has to be repeated. The deliberate lowering of standards is here more apparent.

Our universities have almost lost their rights to fix their sources of study or standards of admission. Political considerations based on parochial, linguistic and communal sentiment are playing ducks and drakes with our higher education. Admissions are based on caste, and not aptitude. The best talent is not available for the positions of lecturers and professors partly because the salaries are not attractive and partly because teachers are chosen more often than not on communal considerations.

The standard of teaching and study in the universities can be raised easily. What is required is a determination to restrict admissions largely to those who are likely to benefit from it, to raise the level of attainment necessary for a degree and to make the career of a teacher more attractive. If this is done, the sense of rootlessness and indiscipline may fade away, and a new synthesis of cultures

may emerge. But these are more easily said than done. The main trend in our education is to wipe out illiteracy and lift up the backward classes. In fulfilling this high ideal of social justice, we have been content to lower national standards generally. The two things do not necessarily go together. Given the vision and the will, social justice can be pursued, while national standards are progressively raised. But neither the vision nor the will seems to be there.

BOOK REVIEW.

ELECTRICAL THEORY ON THE GEORGI SYSTEM by Cornelius. Translated from the Dutch by I. J. Jolley. Cleaver Hume Press Ltd., London. Pp. 187. 32sh.

This book attempts a revolution in the teaching of the theory of electricity. Intended primarily for the technologist, the engineer and the experimental physicist, it breaks with the traditional use of different systems of units and resorts exclusively to the Georgi (M. K. S. A.) system. Field theory is expounded without assuming any knowledge of higher mathematics:

The whole book is stimulating. Ohm's law for instance is given not in the form of $V=RI$ but as $I=VG$ (where V is the potential difference in volts, G is the conductance in A/V , I is the current in amperes and R the resistance in ohms.) All objections to the adoption of the Georgi

system are stated and considered. Every opportunity is taken to refer to latest developments in theory.

Our teachers and universities should seriously consider the question whether they should stick of for all time to traditional concepts and methods of teaching. All teachers and students of electricity will find it worth while to read this book, which is clear, comprehensive, and provoking.

All India Educational Conference.

The XXXVI All India Educational Conference will be held at Trivandrum on the 27th, 28th and 29th of December 1961. Intending delegates can apply to the General Secretary, All India Federation of Educational Associations; Dharampeth Nagpur.

A strong reception committee has been formed under the chairmanship of Sri Pottam A. Thanu Pillai, Chief Minister of Kerala. Sri R. Shankar, Deputy Chief Minister and Dr. K. C. K. E. Raja, Vice-Chancellor, Kerala University, are pro-Chairmen and Sri V. I. Joseph is the General Secretary.

The Conference will be held in the University College and the Senate House, Trivandrum. The address of the Reception Committee is the University Library Buildings, Trivandrum.



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EDITOR.