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Viewpoints and perspectives
The school and life
Preface

'We live in a world that is changing before our very eyes—a world in which the population explosion, decolonization and the profound economic and social transformations resulting from technological development are so many forces making for the democratization of education. At the same time the acceleration of scientific progress is resulting in the more and more rapid obsolescence of knowledge, and the development of mass communication techniques and audiovisual methods is revolutionizing the traditional bases of communication. With all this it is out of the question for education to be confined, as in the past, to training the leaders of tomorrow's society in accordance with some predetermined scheme of structures, needs and ideas, or to preparing the young, once and for all, for a given type of existence. Education is no longer the privilege of an élite or the concomitant of a particular age; to an increasing extent, it is reaching out to embrace the whole of society and the entire life-span of the individual. This means that it must be continuous and omnipresent. It must no longer be thought of as preparation for life, but as a dimension of life, distinguished by continual acquisition of knowledge and ceaseless re-examination of ideas.'

In many countries, despite declarations to the contrary and despite repeated modifications, the educational system continues to provide content, structures and methods which are totally unsuited to the needs of our times. And this situation is to be seen in many of the so-called developed countries. After leaving their schools and universities, a great number of students in these countries find that the knowledge and skills they have acquired are not the ones they need to participate fully in the economic and social development of the community, nor in its cultural life. They find that they are ill-prepared to cope with the problems of modern life.

In too many countries, education, in its general orientation, continues to prepare young people for occupations which have no productive function and a mode of life formerly reserved to a small social group. One of the most serious aspects of this situation is the continued resistance to technical and professional training by those who advocate education for general culture.

Furthermore, educational structures, contents and methods of work in the class-room are too often cut off from life. Excessive stress on the intellectual aspects of education and

1. From the message delivered by René Maheu, the Director-general of Unesco, at the beginning of the International Education Year.
the failure of schools to take part in the daily life and work of the community tend to isolate students and bring them up in ignorance of productive and manual work—if not with contempt for it. 'But how is education to broaden its bounds in this way if it remains compartmentalized in its internal organization and isolated as a whole from life and society? Not only are the various elements involved in the educational process often poorly integrated, but education itself is still all too often cut off from the rest of human activity. In too many cases, the school, the college and the university, far from living at one with the community, constitute tiny worlds of their own.'

Education continues to restrict itself essentially to the transmission, accumulation and—in the best instances—the systematization of knowledge. This is no longer enough in an age of rapidly expanding scientific and technological progress. Education should offer each individual the basis which will enable him to enrich, perfect and renew his knowledge continuously, whether it be by himself or in a group. The objectives, organization and methods of instruction should lead to a permanent education.

For many young, developing countries the problem of the divorce between the school and life is above all the question of the failure to adapt teaching to national characteristics. The school systems they inherited from the colonial period rarely satisfy national needs and developmental priorities. Nor are all the problems qualitative; quantitative difficulties are to be found in the lack of teaching personnel, the shortage of materials, etc. Thus the problem of the liaison between school and life calls for the development of national educational systems and the study of the rational use of human and material resources.

The problem of the interrelation between the school and life is not new, although it has never before been seen so sharply. Statesmen, philosophers and educators have often referred to it. The article by Professor Korolev, published in this issue, refers to this problem, among others. 'We do not believe in the value of study, of education and of teaching if they must be limited to the school and cut off from life', Lenin said in speaking of youth. In some countries a great deal of effort at the governmental level has gone into bridging the gap between schools and the life of the community. In others, interesting experiments have been carried out on certain aspects of the problem. The question is under discussion in one form or another in practically every country and it is widely agreed that a solution is urgently needed, not only from the educational point of view but on social, economic and ethical grounds as well.

The relationship between education and life may well be the most important pedagogical problem of the twentieth century. Life in this century consists of the constant creation of new forms and structures and never before has education been faced with such a rapid increase in technical knowledge and shifting social values. To speak of education and life is to evoke the complex interactions between present-day man and his society, his government, his profession and even his family.

This issue of Prospects in Education cannot, of course, deal with the subject exhaustively. Rather, it is restricted to articles which illustrate the methods used by some countries in their efforts to bring education and life closer together.

Simon Tanguiane
Director, Department for the Advancement of Education

1. ibid.
The school as a social institution

Rarely has a demand regarding school been so persistently repeated through history as the demand that school be related to life. From Seneca to our day this demand has been stressed with variations, never with complete success.

Even our era, characterized by rapid and profound changes in the whole of social life, has not been spared the renewed postulation of this task: school is not only expected to establish a balance between itself and life, it is also expected to hasten social changes. Teachers, politicians and futurologists of all kinds compete in attempting to envisage a type of school which would satisfy this centuries-old aspiration.

The essence of the question lies in the fact that school is an institution which originated at the time of the invention of written characters, extracting a certain strata of people who could engage in science and the arts beyond the sphere of productive labour. To this day, school has retained some basic characteristics of this origin. Many of our contemporaries would be surprised if we told them that there was a time when schools did not exist and that perhaps in the far-off future they will cease to exist. Marshall McLuhan has already announced the end of the era of written letters and books, and consequently the disappearance of school in the traditional form to which we are accustomed.

From the moment it appeared, the school, as an institution, withdrew from the general course of life, for it was fulfilling a particular function, using indirect sources of knowledge and developing its own specific type of academic life. Founded for the needs of people who had leisure time at their disposal and who were preparing themselves for governing, school had a determined substance to its activities. It was often physically set apart from the living throngs of people, encircled by fear-inspiring, high walls.

The function of the school has changed through the course of centuries, but it has retained the character of an institution which serves a certain social order of creating spiritual and political élites. That was its relation to life, distant and incomprehensible to the masses who were deprived of education. It is only with the appearance of elementary schools and the endeavours of Komensky (Comenius), Pestalozzi and others, that schools became somewhat more related to life. However, as a social institution it remained alienated from the people and their daily needs. The laborious and painful process of introducing the natural sciences into school plans and programmes, and the development of professional schools were early signs of a closer relation between school as an institution and the economic life of society.

It is characteristic that the demand for relating school to life is an expression of pressure by new social forces in the struggle against antiquated social institutions. New productive forces and progressive political movements always criticize the traditional school system and its orientation towards the past. They demand that the school adapt itself to the new educational goals and to the changes in social and living conditions. It is well-known that on the eve of great social
changes and during periods of political revolutions, visionary projects appear for relating schools with the new social tasks, and that after these events are over, legislative reform proposals are made which seldom attain the level of the demands.

It is a fact that school is progressing, but it still trails behind life. Many modern pedagogues and sociologists feel that even today one would have to count on a period of fifteen to fifty years in order to see the complete realization of any greater innovations in education.

Blame cannot be placed only on the school and on the teachers. Relating education to life is resisted by social forces with conservative outlooks and reactionary interests, to whom it is important that the views of young generations be directed towards the past so that they do not see what is occurring in reality. One also notices that the members of new governments cannot immediately dedicate their full attention or support to education because they are struggling to stabilize the government and bring about economic renovations. Nevertheless, school such as it is—a specialized institution—has something in its essence which conserves, which in practice resists change and a more speedy approach to the new needs of life. School is always an instrument for transferring the cultures of the past generations to the new ones and for consolidating the existing situation. Without that it could not exist in the form that it does.

Progressive social forces do not desire such a one-sidedly oriented school. They desire to see in schools an instrument for constructing the future. They are in favour of eliminating the antiquated and—under the new conditions—unnecessary contents of education. They seek a socially and politically progressive orientation on the part of teachers and pupils; they demand new contents and methods of instruction. The link between school and life is the bridge across which new scientific knowledge and moral values enter school and thus strengthen its ideological fund. Today’s task remains that of realizing and strengthening that link to its optimal measure.

Today we find ourselves in the midst of a scientific-technical revolution and in the process of far-reaching social changes—on the threshold of the cosmic era, in fact. The amount of scientific information is increasingly growing, as should consequently the knowledge offered in and beyond school. All social institutions find themselves under pressure as a result of these facts and, as usual, the school is expected to lead the struggle for realizing a better future. The new demands of society for the moment express themselves more in the form of criticism and dissatisfaction than in a positive manner. Parents, pupils, teachers and politicians are dissatisfied with present-day education. The unrest of students during the past few years is a serious warning-signal that radical changes in the position and role of school can no longer be delayed.

There is no doubt that the demands for change mainly concern the content of educational plans and programmes, so that efforts are most often made, solutions proposed and experiments executed in this sphere. However, the conviction is growing that the crisis in schools stems from their position in society and the interrelations among teachers and pupils. One notices that student demands to an increasing degree reflect certain social-political attitudes. Rebellious students are demanding the right to participate in the resolution of all questions, including questions regarding the relations between life and the content of education.

In our opinion, students are right in supporting radical changes and in offering their collaboration in resolving these questions. They are in fact demanding that school should become an institution of society itself and not of the State, or of the administrative apparatus, political parties or technocratic groups and corporations. The root of self-awareness, rebelliousness and faith in their own strength on the part of youth is to be found in the altered conditions of their lives. It would be imprudent not to respond to the offers (so far predominantly in the form of
revolt and conflict) made by youth to devote its energy to altering the quality of education. Relating school to life means, above all, relating it to youth.

We can imagine how young people must feel in a school where instruction is carried out in a foreign language, which is still the case in some countries. From that viewpoint, school is alienated from life, and Komensky in his time related school to life by learning not only about things but also by introducing the mother tongue as the educational language. Today, many schools still speak to their pupils in a 'foreign language' because they do not treat them as persons, they do not engage enough of their cognitive abilities, emotional life, social inclinations and working energy. These qualities are not attained only through teaching and instruction but also through the participation of youth in the social life of the school, through the communication of young people among themselves and with adults in common work and in the administration of school affairs.

Today's schools are in need of developed and organized communication with youth, science, the economy, cultural life, and the citizens who support them and whom, in the final analysis, they serve. This communication must permit stimulus and response to come from both sides. Traditionally, school is an institution with a one-sided effect on pupils, public life and citizens, which is hardly strange considering that it has always been an instrument of someone who was 'above society'. We can take as an example the manner in which educational plans and programmes, the examinations system and the relations towards the results of work in school are carried out. Regarding this last aspect, there are few schools which follow their finished pupils through further education or in their occupations, yet it is on the basis of such feedback that schools could correct their work.

Today, a particularly critical question is posed in communications between the school and science and technology, i.e. the timely absorption of the latest scientific results and technical achievements into the content of education, on the one hand, and the influence on the development of science and technology of better-trained personnel, on the other. Schools, in general, do not have suitable 'channels' for communication of this kind. They obtain, from time to time, information on the advancement of science and technology through new educational plans and programmes which reach them from higher authorities. In the meantime they trail behind the latest scientific achievements. A better solution would be to have teachers or teams of teachers from the same subject in direct contact with science and technology, following scientific journals and major works in their field as, for example, the best teachers of literature constantly follow and read new literary works and criticism. It is quite fair to observe, however, that many teachers are not in a position to do this because they do not have a sufficient amount of leisure time. In that case, communication can pass through professional associations, centres for documentation and information or institutions for promoting the work of schools which would distribute bulletins, organize consultations and seminars, and offer help to schools and teachers.

It would be entirely normal for elementary schools to be in constant contact with secondary schools in which their pupils have registered, or for secondary schools to maintain the same kind of contact with the universities, economic enterprises, the army, etc. This is particularly important considering the rapid changes in technology and in the qualification requirements of trained personnel. Faster changes in educational plans and programmes are unavoidable.

There are cases where communal professional bodies are created to this effect, composed of representatives of the schools and representatives of a particular company or economic branch. Collaboration, on this basis, is possible regarding the planning and financing of education on both the level of one school and one enterprise, and on several levels of association.
In practice, solutions can be found regarding the relation of the school to the economy and to social activities within the framework of so-called regional planning, where schools and working organizations absorb in a planned manner the demographic surplus and thereby prevent too large an element of the population from leaving agricultural areas for the cities.

The tie between life and school is very often arbitrarily reduced to a tie between the school and the economy, so that this link assumes a certain economic and technocratic colouring. This, in turn, provokes criticism and resistance on the part of the humanistically oriented segment of the teachers and the public, who rightly point to the increasing need for humanizing the education of all citizens, and most especially that of technical personnel.

There is no doubt that this humanization of education is important because economic needs put schools under direct pressure to change, while wider cultural needs are less 'aggressive'. That is why almost all reforms of secondary and higher education dedicate more attention to general educational subjects and arts and the sum of these subjects is increasing in educational plans and programmes. In our opinion this is not enough, because these subjects are usually treated as disciplines and are learned in a traditional manner. It would be much better for schools to relate to life through special channels of communication which would assure the participation of pupils in the social and cultural life of the local environment and participation of workers and artists in the programmes of the schools.

It is a great shortcoming in schools as institutions that they tend to enclose every activity of the pupil within the framework of a school subject, while extra-curricula and out-of-school activities, more freely organized, are treated as less valuable. Experience shows that the social and artistic activities of pupils are indeed valuable because they are closer to life and to the psychology of the young, because they enable individuality to find expression, encourage initiative and give opportunities for deeper experiencing and stronger formation of personalities than does the formal educational system. This latter has other advantages, largely in the area of intellectual development.

The social activities of pupils, in bringing them into direct contact with a wider environment, results in a more rapid development of social maturity. This is particularly important to keep in mind today when so many students are dissatisfied with their passive role, on the one hand, and with the number of unresolved problems in society as a whole, on the other. Today's young people are very critical of their elders—of the 'Establishment'— and they often present exaggerated demands because they do not understand the essence of the problem, nor do they know the real possibilities for resolving them. Removed from practice, youth judges society on the basis of books and its own limited experience. Having no opportunity to come to grips with the problems of life which they see and the results of which they do not approve, young people either become passive or they rebel—sometimes making the problems even more difficult to deal with. It would be rational to conclude that engaging youth in the resolution of educational and social problems is a better path than denouncing the young as apolitical or destructive. It is not a question of tactics here, but rather one of instructing youth on the basis of its own experience.

Modern technology puts effective means of communication between school and life at the disposal of the schools themselves, in the form of the press (popular-science newspapers, professional journals, bibliographical bulletins, daily newspapers, school papers and journals), the radio (school radio, other radio-emissions, discussions of current questions recorded on tape), film (documentary, educational and artistic, films made by the pupils themselves) and, of course, television (school television, closed-circuit television, programmes on current events) so that no school is limited to its local environment.
but can be in contact with the entire world. If we add to this learning through computers, then we can truly speak about the technical revolution in school.

Thanks to modern advances in science, technology and the arts, the development of new social relations, the linking of the entire world through communications (and no less thanks to the linking of mankind faced with the danger of war and atomic catastrophe) progressive social forces in the world are gaining strength and a common awareness is growing as to our responsibility for the future. This awareness is expressed in the Declaration of Human Rights as well as in the political and social programmes of the international workers' movement and in professional and international organizations such as Unesco. One can see in all these endeavours support for the democratic development of society—a society in which every man would be assured the free development of his abilities and a happy life.

This humanism, based on the new possibilities offered by science and technology and on the general responsibility of all peoples for their common destiny, can serve as a criterium for selecting the contents of education and for deciding on the contacts between school and life. School should be linked with those social forces which can stimulate and develop the will in youth to engage itself in determining the kind of future they will have.

This kind of relationship to life will not permit schools to remain institutions with traditional characteristics, either as regards educational content, or as regards organization and methods. School must transform itself into an institution of a changing society, into an organic part of a democratic society in which it carries out its role as mediator between the past and the future.

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After two years of study and research, the Ivory Coast has drawn up a far-reaching, ambitious programme for televised education. The aim is to ensure that all children receive primary schooling, to achieve this in fifteen years, and to use the national network of schools equipped with television to provide education for children and adults alike all over the country.

This is an ambitious project, calling for an exceptional effort on the part of a national community to raise, once and for all, the educational level of an entire population and to cut through the tangle of obstacles which developing countries encounter in their struggle against ignorance.

This undertaking is a good example of a country and its government becoming aware of the close relationship between its economic development and its educational system. It reveals the essential links between the community and the school and the results of their interaction on a nation-wide scale and, of course, at the local level. It is an example, too, of the modernization of an educational system which is based alike on genuine national cultural values and on the use of the most up-to-date teaching methods and techniques—two principles which combine quite naturally, as I shall try to show here.

At present, the general facts concerning the extent to which basic education has penetrated the population of the Ivory Coast are as follows.

Literacy in the rural areas is generally very limited, less than 4 per cent of the population being able to read and write French; in this respect, the women are well behind the men: the proportion of literates is thirteen men to one woman. The North of the Ivory Coast is very backward compared with the forest regions; and lastly, even in rural areas, the literacy rate among the farmers and planters is much lower than in the other professions.

Progress has certainly been made during the last ten years, since the 1955-58 surveys revealed a 5 per cent rate of literacy for men, while in 1963 it had risen to 8 per cent. Yet this progress seems too slow: it could be speeded up only if young people who have finished their primary schooling settled in rural areas. For the time being, however, the great majority of them do not appear inclined to do so.1

The population forecasts for 1970 and 1975 would suggest that this exodus will continue.

The schools have been accused in recent years, in the Ivory Coast as in many other countries, of encouraging young people to abandon the countryside. As already mentioned, a growing number of school-leavers are migrating to the towns, where they swell the ranks of the unemployed; and it would seem inevitable that this situation should worsen in the years to come.

In order to avoid this, some planners have no scruples about curbing the spread of primary education; others, backed by educators, advocate the 'ruralization of education', which means that they even contemplate—whether or not they realize it or say so in so many words—the simultaneous development within one and the same country of two types of schools, one to promote progress in rural areas, and the other to promote urban and industrial progress. If an agricultural slant were given to primary education, the vast majority of young people would stay in the villages.

Surveys made in the Ivory Coast on the basis of this assumption have led to a number of reliable conclusions.

The first is that the swift reversal of the relationship between town and country populations is a universal and irreversible phenomenon. Whatever the level of development of the country concerned, rural areas will depend more and more on the town or at least on a small urban centre, because agricultural products will be consumed less and less in their natural state without industrial processing, and because the production of goods and the presence of facilities necessary to rural life tend to be found in an urban environment. This is also true because a growing percentage of the people, even those who do not live in a real town, are inclined to adopt an urban way of life in their professional work, their leisure and their accommodation. Finally, the urban environment represents power—administrative, industrial, commercial, scientific and cultural. Those who hold this power belong more and more commonly to an urban or semi-urban environment.

The second conclusion is that these phenomena—the irreversibility of urban development and the increasingly predominant role of towns in national life—are characteristics of society as a whole and are not the direct consequence of the kind of education given. The migration to the towns of school-leavers from the villages may be due, without any encouragement by the school, to the prestige of the town as a centre of power and wealth. As has already been said, it is the ability of a group to use school certificate holders which determines the various ways in which the latter participate in the country's development. The school with its ideals, objectives, curricula and methods, is determined by society as a whole just as much as it determines that society.

The third conclusion is that the problems of education in rural areas and of the use which rural communities make of the school are closely linked with economic, technical and social factors over which the Ministry of Education has no control: the land tenure system and use of land, commercialization methods, and various traditions. Attention has been drawn to the importance of land structures in Africa as well as in other parts of the world. A number of studies on development, some of which have been conducted in the Ivory Coast, reveal the difficulties experienced by young people who wish to procure land for cultivation, to marry and obtain, early on, a satisfactory status in the village society: the older generations which have at their command all the resources of 'magic', do not hesitate to use them to 'destroy' those who...
dare to discredit their occult science or, still worse, to deny them their rightful place at the head of the society. Under these circumstances, the only way to escape such 'evil spells'—at least for the young people—is to leave the region.

It may be deduced from the three points mentioned above that, in the Ivory Coast as in other countries, it is often thought that migration from rural zones to urban zones is due to errors or deficiencies in rural primary education. In fact it is the result of economic and social forces over which the school has no control.

This situation, which the Ivory Coast has to face during the ten-year period 1970-80, has been the subject of many studies, carried out as part of the preparation of a plan for 1971-75 and with a view to a subsequent five-year plan. The Ministry of Planning has estimated that in 1980 the urban population will be over 2.5 million inhabitants, as against 3,620,000 inhabitants of rural areas, and the working population in towns will be over 1.5 out of 3.3 million. There will be more children from 6 to 14 years old in the towns than in the country.

On this basis and on that of certain economic forecasts, an education strategy linked to a national development strategy has been laid down. The government has defined the four main principles governing both the strategy of education and that of economic development: further modernization in agriculture and promotion of rural areas; nationalization of the economy; transformation of the educational system in order to give everyone the possibility of communicating with others and to train men according to economic demands; and, lastly, organization of a campaign to secure general support for the objectives of development by wide dissemination of information among the political authorities, leaders in the various walks of life and the population as a whole.

A draft basic law which deals with education and training for the period covered by the next plan (1971-75), and which is an integral part of this plan, has defined the relations to be established between the various educational objectives and these basic trends in economic development.

In view of the practically unlimited theoretical requirements in education, the insufficiency of available staff and funds and the inefficiency observed in the present educational system, the Government of the Ivory Coast considered it essential to make certain clear-cut choices concerning the types of teaching to be encouraged and their qualitative improvement in terms of economic needs. The government decided, for instance, on the dimensions to be given by 1980 to secondary and higher education, in order to enable an increasing number of Ivory Coast nationals to find jobs as teachers through an improvement in the quality and efficiency of their training.

As an extension of this, the government considered the need to give the population as a whole a means of communication: this means can only be a common language, both written and spoken, which would bring about the cultural unification and the integration of the 'archipelago economy' (i.e. the development of rural areas which are still isolated from one another, which is still to be seen in the Ivory Coast) by encouraging increased participation by everyone in the national effort to change the people's living conditions, outlook and modes of action.

If it has seemed possible thus to reconcile, in the Ivory Coast, the demands of a school and vocational training programme clearly defined in terms of requirements and means, with the

Jean-Claude Pauvert

A moral and social obligation to spread basic education (which is in turn linked with the need for collective participation in economic development) it is because this country possesses a particularly good infrastructure for the dissemination of information in the form of a television network which, in 1971, will open up practically the whole of the Ivory Coast territory.

It has been realized that this is a means of ensuring sufficiently rapid progress in primary education and speeding up the organization of out-of-school education for the benefit of adolescents who cannot go on to a secondary school (general or technical) because there are too few of such schools in relation to the known requirements of the labour market. Lastly, television will mean that all the other active age groups will be able to benefit by this post-primary education. This is a 'must' for any educational programme aimed at integrating primary school leavers into the local communities (especially rural), since it is on the latter that such integration depends. This is the main advantage of a mass communication medium like television; the supporting services which it needs are all the more justifiable and certain to be productive in that they are part of a policy of life-long education and of a national cultural policy, and not of a sectoral educational programme limited, for example, to primary education.

The use of television in the Ivory Coast therefore forms part of an over-all educational strategy which is, in turn, integrated in the strategy of development.

This is one of the basic characteristics of the Ivory Coast televised education programme, which thus meets the requirements, in terms of quantity and quality, of education for development and the need to consider the educational system as a whole, in its relations with development and within the limits of the available resources.

The system, which should exist by 1980, will consist of 16,500 classes equipped with television, of which the first 636 are due to start in October 1971. These receivers will cover: (a) primary school classes; (b) educational activities for young people from 13 to 17 years; and (c) cultural activities, lifelong education and information designed for the whole of the adult population.

According to the programme as it stands, the number of pupils in primary schools will rise from 302,000 in 1967/68 to 720,000 in 1980, when the increase in new enrolments will tally with the population growth (5,000 children more every year reaching the age of 6). Schooling for the whole of the 6 to 11 year age groups will thus be achieved towards 1986, and the children will then all receive televised education.

The basic working hypothesis is that, through the use of television coupled with better qualified teachers, it will be possible to make the automatic promotion system general, and in this way the number of actual pupil-years provided per child completing its primary education will be more than halved. Hence a reduction in costs greater than the differential costs entailed by the introduction of television and the employment of more highly qualified teachers, as well as by the systematic use of all new teaching methods and techniques (including programmed instruction).

As things now stand, a pupil of the CM2 (cours moyen 2, i.e. the sixth primary school year), given the repeaters and drop-outs, costs 16.1 pupil-years, i.e. 13,500 francs per year, or 217,350 francs CFA. If the automatic promotion system can be established along with better-adapted teaching, the cost per pupil in CM2 will be reduced to 81,000 francs CFA; and even with the additional expense of 930 francs for television (the cost of television for more than 500,000 pupils) and of 3,000 francs for the training of teachers, making 23,580 francs CFA for six years of schooling, this cost will only reach 104,580 francs CFA—i.e. less than half the present cost.

It is on the basis of this argument that the concept of differential cost is considered better than that of additional cost.
It has been agreed in principle that each class will receive twenty minutes of television four times a day, every day during the first four years and twenty minutes twice a day during the last two years of the six-year course. Although this is an intensive routine, it leaves forty minutes out of every hour for contributions from the teacher and the pupils and for moments of relaxation.

The Ivory Coast Plan is based on the experiments of other countries, with particular reference to El Salvador, Samoa and Niger, which all show that the improvement in educational efficiency and productivity is in fact due to the use of television. They show, too, that the systematic use of television should be combined with a complete modernization of curricula and teaching methods: a reform which has already been undertaken in the Ivory Coast, from the general angle of an association between primary and post-primary education and economic development, as well as the pedagogical aspects of the use of television.

Among the pedagogical advantages of this system, the Government of the Ivory Coast has considered:

The advantages of any audio-visual system: presentation of concrete elements in addition to verbal elements; the dissemination of good visual and sound models; an ‘opening on the world’; the dissemination of all kinds of documents; the process of keeping the contents and methods of teaching constantly up to date.

The advantages of any strongly centralized system: unification of education; integration of the different subjects into a more coherent over-all plan; making available to all teachers the work of specialized and highly qualified teachers.

The advantages of any modern telecommunication system: immediate communication; a number of reception points likely to grow very quickly and to be used for various purposes (especially for post-primary and adult education).

It should also be stressed that the regular use of television teaching induces strong incentives to learn, not only among the pupils but also among the teachers, who thus benefit by a kind of permanent training college.

Lastly, the use of television is really the only way to solve the problem of a form of post-primary education for the whole of the nation which would add to their training and prepare them for a working life; this would also ensure the full-time use of the medium (the broadcasting and reception network).

The development of the programme is based on the organization, from the 1969/70 school year onwards, of a system including: (a) a televised education complex, situated at Bouaké, and consisting of a pilot teacher-training college, responsible for training educational advisers and heads of primary schools; (b) a pilot CAFOP (Centre for Pedagogical Development and Training) responsible for training primary school teachers and their assistants (seven CAFOP exist already, but they must now be adapted to modernized primary education); (c) a production centre for television broadcasts to prepare the 1970 programmes, which will start going on the air in October 1971; and (d) one unit for evaluating the results of televised education (internal pedagogical evaluation in the strict sense of the term, as well as over-all evaluation of the results of this teaching from the angle of economic and social development).

This new system is to provide: (a) the training of teaching staff, and the setting up of a supervision system; (b) the retraining of the staff as a whole, both general training and preparation for using television; (c) the reorganization of primary school curricula, linked with televised educational programmes; (d) the attempt to make systematic use of all new teaching techniques, of which television is only one aspect.

This organization of teaching corresponds to a real man/machine system consisting of different sub-systems. This is true educational
Jean-Claude Pauvert

technology, using a number of sub-systems: programmed instruction, direct method, television and films, each of which has a specific function either for instruction, transmission of knowledge, or change of attitudes—complementary functions which fit together to form a whole, whose coherence should be maintained by each individual and by the groups in question: classes and schools, television clubs, the village community and the nation as a whole.

It should also include various feed-back methods, systematically selected, encouraged and adapted: for example, the organized criticism of television programmes by teachers and the pupils themselves, as well as by the parents, the television clubs, etc.

The above description of the main lines of the Ivory Coast programme for televised education shows that this is a case of a national community seeking to establish an organized system of communication through the use of television. The latter is regarded as a medium whereby the nation can carry on a dialogue with itself, produce its own culture and make this a means of progress: education thus returns to its true purpose as a process of communication, as a means not only of instruction but also of expression, of which the school is only one of the spheres of operation and one of the vehicles. Through television, the whole of the Ivory Coast society can go to school and can see itself as it is; inter-communication is established between children, young people, peasants and villagers. In this way the 'global village' will be achieved to which McLuhan refers when he says there is a man who speaks and tells stories, whom everyone sees and everyone talks about the next morning. The community is reintegrated in the triangle of televisual communication, whereas in the 'traditional' schools it can only be represented by the teacher. With the help of television, the teacher then assumes his role as a leader. For in this programme the teacher has a new part to play. He is trained as a group leader—a function he fulfils both in the school and in the local community—he is familiar with the use of various media of communication and with the processes of information and training. He is also trained to observe, analyse and classify the various aspects of his environment, to formulate the problems arising from it, and to establish relationships between them, also bringing to light the dynamic elements likely to favour satisfactory changes in this environment. In view of the foregoing, it is clear that the teacher's training is as far as possible interdisciplinary, because life itself is interdisciplinary.

Consequently, the training of educational advisers and headmasters at the training college in Bouaké, and that of primary school teachers in CAFOPI, is now directed towards group work, the pedagogy of team-work, social psychology, surveys on environment and their utilization, methods of cultural leadership; it includes systematic training in all forms of expression, in oral and written communication, drawing and painting, dancing and mime.

What is expected from the systematic use of television in the Ivory Coast, for school and post-school purposes, is thus the promotion of reciprocal relations between the national community and the education process, between the national community as a whole and the local communities; the establishment of a positive influence of the nation on its education system, of an introduction to national life and culture in every school, and of a reaction in every school towards this life and culture, thanks to all the feedback phenomena which are systematically encouraged, and thanks to the complementarity of primary education and post-school education which is likewise anticipated.

According to this conception, the primary school becomes a means of expression for the nation, and is open to all the influences of the Ivory Coast community, its cultural traditions and its projects. In the villages just as much as in the towns, the school television set becomes the vehicle of the national culture which is taking shape.
The ideas underlying the televisual education programme in the Ivory Coast may be summed up as follows:

1. School education is not the only type of education which is considered as the process whereby a national community can develop a means of expression, a mechanism for social participation available to all citizens.

2. The use of this mass communication medium—television—supported by all the other media (radio, books, newspapers, cinema), should make it possible to bring about a widespread cultural participation, and the school would then become one of the subsystems of an over-all man/machine system of communication, the operation of which would be linked with that of the political and economic structures—especially with those structures that allow of the conception and implementation of development projects.

3. The use of television in schools, in such a system, is only one of the aspects of the educational process as a whole, since on the one hand, television provides out-of-school education for young people and adults and, on the other, in-school television is used in conjunction with all the other teaching methods and techniques: programmed instruction and active methods in various forms.

4. The Ivory Coast's televisual education programme can thus be seen as an attempt to bring into being a cultural and educational process extending to the whole of the national community, associated with its development policy, and linking up coherently the various elements of a technology of education, i.e. the different aspects—concerning both organization and content—of the transformation of the entire education system, so that it may better serve the nation and hence at the same time each of its citizens. For this education system using a communication medium common to all will enable each person to become an active element in his country and its future.

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is obviously neither exhaustive nor typical of the whole country. The study aims, nevertheless, at showing to what extent in this limited setting pupils and teachers take part in the activities and interests of the community. In so doing the study gives some indication of the extent to which the school is meeting the community’s needs.

Communications are difficult, and villages somewhat isolated in West Cameroon. The State has a population of approximately 1.2 million but few towns of significant size. It is fortunate in not being vexed by the intractable problems of land inheritance so common in other parts of Africa. It has at present 760 English-medium primary schools where approximately 57 per cent of all children of school age now go to school.

For some years only 12 per cent of those completing primary school have received further education. The rest have been compelled to seek jobs with government or commercial firms, to learn a trade, or to stay on the land if they wish to be employed. The jobs in the first category are few. For the second, training is hard to get. Most primary school leavers must therefore work on the land or in the distribution of its products—or go hungry, a fact which is becoming increasingly clear. A survey carried out last year indicated that 6.9 per cent of primary school leavers go to town to hunt for jobs or further education, but after a time a good many apparently return to their villages, sadder but wiser.

Of the six schools visited for the purposes of this article, four were in rural areas and one each in the market towns of Mankon and Kumbo. The enrolments in these schools varied from 796 pupils in the largest to 165 in the smallest. The total enrolment was 2,872, but written questionnaires were only answered by the pupils in the highest class, whose total was 164. The survey was carried out without warning, and as the children had had no sort of preparation their remarks were often expressed with delightful frankness and spontaneity. In addition to the written replies of pupils, much information was supplied by teachers, parents and the community as a whole.

Of the 88 per cent of primary school leavers who cannot continue their education, 13 per cent are likely to get wage-earning jobs, and 60 per cent to remain on their family farms. We are dealing therefore with an environment where the production of crops, their distribution and sale provide almost all the outlets for employment of primary school leavers. The soil in this area, though not the richest in West Cameroon, gives a good return and the people are vigorous and hardworking.

What are the needs of people living in that environment, and to what extent are the pupils and teachers in their schools able to meet the community’s needs?

The seven main needs of such a community are perhaps the following: (a) to make farming more productive and help the farmer develop cash crops; (b) to conserve the community’s assets, such as soil, timber and game (e.g., measures to prevent erosion); (c) to raise the standard of health; (d) to avoid over-population; (e) to make life more pleasant and interesting; (f) to learn to adapt to a changing world; (g) to conserve what is good from the old culture.

The first need, to make farming more productive, is very important because it concerns so large a proportion of the population. In West Cameroon about 80 per cent of the population get their livelihood from farming. The part which education must play in raising productivity is almost universally recognized. It was tested in the survey by a number of questions.

To get some idea of how far primary education meets this and other needs, let us consider the replies given by pupils to our questionnaire.

Two questions put to pupils concerning farming were: ‘Would you like to do farming when you grow up?’ and ‘What have you learnt about farming at school?’

When asked whether they wished to be farmers, 81 per cent of the children said ‘Yes’. This seems to contradict the prevalent belief that once children go to school they will all want to become white-collar workers. This is further
supported by the reasons they gave for preferring the farmer's life. Some children described it as the best life in the world. Others wrote in more detail, for example: 'I would like to do farming because a farmer is ever rich and he cannot be in lack of money or food at any time'; or this—'I like to do farming when I grow up so that when I am very old and have no power to work, my hen, goat and sheep on my farm will produce young ones and by that I will keep up my life'.

When asked what they had learnt about farming at school, 99 per cent gave positive replies. Only 1 per cent said 'Nothing'. In detail the replies gave the following percentage results: How to take care of the soil and make it richer, 32.5 per cent. How to apply new farming methods, 23.8 per cent. How to apply systematic rotation of crops, 21.8 per cent. How important farming is for themselves and their country, 16.5 per cent. 'Yes, something', 4.4 per cent. 'No, nothing', 1 per cent.

These are condensations of children's individual replies, which were widely varied and covered such points as correct spacing of crops, keeping records and accounts, not burning off the grass, planting new types of crops, making ridges across the slope to prevent erosion, and joining co-operatives. The spread of such knowledge from children back into the adult community is particularly effective when it comes as a reinforcement within the family of what parents have already been told by officials of the Department of Agriculture.

Another question was: 'Is there anything you have learnt at school which you have been able to teach your parents?'

Some 16 per cent of the answers to this question mentioned new farming methods, while 29 per cent referred to matters of hygiene. This interplay of ideas between the educated and uneducated generations is likely to be of continuing importance.

It seems, therefore, that at least in the areas visited, the gap which certainly existed in the past between the community's need for educated farmers, and the wishes of those who received education, has now for the most part been closed.

With regard to our second need, the conservation of assets, there is a lively appreciation of keeping the land in good condition, but less understanding of the importance of protecting forests and planting trees, which is regarded as a duty at best or an interference by the government. There is also a long way to go before the indiscriminate pursuit of animals is checked. The people's point of view is that where there are wild animals in the bush, people should not be prevented from killing them. The first moves for correcting this view should begin in the classroom and spread from there through the community.

A third need of the community is an improved standard of health and better hygiene in villages. It was mentioned above that 29 per cent of the replies to one question concerned matters of hygiene. Children said they had been able to teach their parents the importance of having clean drinking water, of washing clothes, of making latrines, and so on. Whether the parents put their children's suggestions into effect is another matter. But by the time the present school children have become parents, the new ideas will be established.

The fourth need, to avoid over-population, is not being met or even properly understood. At present large families bring social prestige and a form of social insurance. Information on the dangers of a rapidly rising population is not yet available for schools, nor is it appreciated that even after the decision has been made to slow down the birth-rate, it requires some twenty-five years before the measures agreed on can have their full effect. Though there is probably no gap at present between the school and the community on this issue, there is a gap between the school and the community's needs, and sooner or later the school will have to play its part in filling it.
The fifth need in our previous list is that life in rural areas should be more pleasant and interesting. Pupils and teachers are certainly helping here. For instance, 13 per cent of the replies to our question on what pupils were able to teach their parents showed that girls teach better ways of cooking which they have learnt in domestic science classes. There is also some attempt by children in the evening to teach their parents how to read and write. Not infrequently school teachers organize pupils to put on a concert for the entertainment of the whole community. This is a welcome social occasion which comes perhaps two or three times a term. It must also be remembered that football matches—which are now a source of interest in most villages—derive from the sports element in the school curriculum.

A sixth need which affects the whole community is that of learning to adapt to a world which is changing rapidly and sometimes violently. The keenness of parents to send their children to school, and the questions which they ask their children about what they learn in school prove that adults are aware of this need. Until recently parents in West Cameroon sent few children to school and the education of girls was felt to be undesirable. In 1955 girls made up only 20 per cent of primary enrolment, but they now compose over 40 per cent. This tendency towards giving boys and girls equal opportunities in going to school stems from the fact that most parents now conceive education as a legacy which, unlike property left to a child, cannot be stolen.

Parents, however, not only wish their children to be well equipped to face the new world we are living in, but are also anxious themselves to have a clearer idea of the changes which have been taking place in their lifetime.

One of the surprising things which came out in the questionnaire was the number of children who tell their parents what they have learnt in history lessons, particularly about the two world wars and the part played by Cameroon during this period. It would appear that children, who now read clear and concise accounts of the wars in their history books, can help their parents at last to make sense of the confused events which were going on when their parents were young. As one girl wrote: ‘I have been able to teach them about the First and Second World Wars and the partitioning of Africa and Cameroon’.

Parents are also anxious to know about the shape of the earth, travel to the moon, discoveries and inventions of all sorts.

The children themselves are even more aware that they live in a world of rapid change. When asked what they would like to be taught in school which was not currently being taught, their answers were predominantly of a practical nature. Exactly 50 per cent of all replies stated that they wished to learn about machinery and drive cars. Since transport is a vital key to development, it would seem that these children are well oriented. There was also an interest in foreign languages; 15 per cent of the replies expressed a desire to learn French.

The last need listed above was to maintain what is best in the traditional culture. All the schools visited during the survey possess xylophones and other instruments for traditional dancing, and some have masks. In addition, the telling of traditional stories is encouraged by the school story-telling period, when children are required to tell their companions a story they have learnt from older people at home.

If a school is to be thoroughly integrated in the life of the community, extra-curricular activities are of the highest importance. Two such activities should be mentioned here.

I found a keen interest among the villagers in constructing roads, because the people have understood the importance to their livelihood of road transport. It has become a regular feature each year to extend and maintain the village roads. In this work the whole community takes part. It would be easy for school teachers who felt dissociated from their community to avoid this obligation and stick to academic
routines. But on the contrary, it is a regular practice for the older pupils, supervised by their teachers, to join in the community project during a period of the school schedule which lends itself to this type of work, such as the periods usually spent on gardening or other out-door activities.

Other projects of this nature concerned the improvement of sources for obtaining clean water, the construction of school buildings, and the clearing of villages and compounds when the owner is felt to deserve help. It is also the practice for a school to help old people with their farming—for instance with the coffee or corn harvest. Sometimes this work is paid for, and the money earned is used to buy school equipment.

The community has also become involved in the provision of education through the education rating scheme. This scheme offers 'free' education to children in the first four grades of the primary school. Not having to pay fees during these years lightens the burden for parents. The result of the introduction of the scheme was the immediate doubling of enrolments in the first primary class in 1965. Education has ceased to be the privilege of the well-to-do and become more democratic. This undoubtedly influences the attitude of the community to the school and has helped its integration, at the same time giving a bias to the practical side of school life. In former times when education was for an élite who hoped to become administrators, it was natural that the élite should prefer an academic curriculum; now that education is becoming universal, it is obvious that all the children cannot become part of that élite and a useful and practical education is therefore better appreciated.

From what has been said above it is clear that in the part of West Cameroon which was the subject of my survey, the school has already gone a long way towards meeting the needs of the community. Among effective measures have been: (a) the introduction of the education rating scheme; (b) the practice of teachers and pupils joining in community development projects; and (c) educational meetings and concerts organized for the entertainment of the whole community.

The closer the school curriculum is to the practical needs of the community and its pupils, the more harmonious will be the relations between the community and the school, and between children and their parents. In all countries there is a gap between the generations, but in developing countries it is particularly marked because children are taught things which their parents know little about. When schools follow a properly adapted curriculum this gap will tend to be minimized.

What is meant by such a curriculum? A curriculum adapted to the needs of developing countries must satisfy the following conditions:

1. It must not isolate rural children from those who live in towns. This would merely make a fresh division comparable to that which formerly existed between rich and poor.
2. It must be based on the children's interests and the practical needs of the community.
3. It must help to bind together the different generations, and encourage the free flow of ideas between them, so that parents can help in the education of their children, and not feel that it should be left to others.
4. It must break away from the shackles of the old terminology which predisposes teachers and pupils to old-fashioned concepts. Instead, there should be a regrouping of topics to form new subjects better adapted to the community's present needs.

How can the worn-out terminology of former educational practice be replaced, and new subjects created which will satisfy the four requirements listed above? Here are some suggestions.

One subject should form a basis for rural technology. An ability to make, repair and handle the tools and equipment needed in the countryside is as useful a training for town children as for those who live in rural areas. This subject should aim at developing a 'do-it-yourself' mentality. It should be a practical subject that includes handicrafts, tool-making, experience with all sorts of materials and solving
practical problems with the hands. It might be labelled *Making and Mending*.

A second subject would aim to teach children to observe, measure and record. It would embrace reading, writing and numbers, but would be closely related to children's observation of things around them and to the beginnings of science. It could be called *Keeping Records*.

A third subject which also embraces reading, writing and numbers, but for a different purpose, would be called *Running a Farm* or *Running a Shop*, according to where the school was situated. This subject would stress mental arithmetic, money sums, buying and selling, and the beginnings of geography in tracing where products come from, and how they are distributed. It would include outdoor work such as gardening and visits to farms and distributing centres. In its later stages it would cater for the interest in machinery which was so strong a feature of the children's replies referred to above.

The fourth subject may be summed up as *Self-expression*. This would include expression and appreciation not only of speech and writing, but of music, painting, handicrafts and foreign languages.

A fifth and very important subject would be designed to help all generations to get a better understanding of the world we live in. This subject would be based on the interests of parents as well as of children, and would cover some aspects of history, such as the world wars and events within living memory; it would include the exploration of this world and of space, new forms of transport and communication, customs, tradition and religion, scientific method, superstition, experiment, and invention. It might be labelled, *New World View*.

Finally, there should be a subject which deals with moral and civic training. It might be called *Helping Others*. It would show children how to be of service in the family and the community, and would teach them such useful arts as cooking, carpentry, sewing and first-aid, and would give them a knowledge of hygiene, civics, and national and rural development.

The reader may object at this point that such a curriculum is impossible without a great deal of money and highly trained teachers. It is our view that if teachers in West Cameroon have already achieved considerable success with a curriculum which was not specially designed for current needs, they will find a new curriculum specially designed for local conditions very much easier to teach, because it will be about things that they understand and which interest their pupils.

This does not mean that re-orientation of teachers would be unnecessary. On the contrary, training courses would be essential for those who are already teaching, while new teachers would be trained along new lines. Such problems are neither new nor insoluble, but the more relevant the new curriculum the quicker and more effective the training will be.

As regards money, the whole point of the curriculum would be based on self-help, use of local materials and making ends meet, and not on the extravagant requirements of a curriculum deriving from a highly industrialized country. In the preparation of the new curriculum, the fullest advantage should nevertheless be taken of programmed instruction and audio-visual aids whenever they are practical and help to reduce expense.

One other objection which might be raised by those who oppose innovation is that it would be impossible to select pupils for secondary education by the usual examination methods. On the contrary, there is nothing in existing selection examinations which would not be covered by this new type of curriculum, but in achieving this selection the interests of the majority would not be sacrificed.

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Preparation for lifelong education

by Frank W. Jessup

Although a controversial concept and often badly understood, lifelong education, with its broad perspective and as a new field of research, seems to offer a way to bring the school and life closer together.

This article illustrates how academic training may—or may not—predispose the student towards lifelong education.

Soon after receiving the invitation to contribute a paper to this issue of Prospects in Education I was travelling to Oxford by 'bus and sat next to a man of about 45 or 50 who looked as though he was probably a worker at a nearby motor-car factory. After we had commented in the usual way on the weather and the shortcomings of politicians, I steered the conversation round to the topic of 'lifelong learning', to see what he thought about it. His reaction was instantaneous and hostile; he thought it a repulsive idea. He had left school at 14, and, thank you, that was all he wanted to do with education. Having once escaped the prison-house he had not the least wish to put his head inside it again. No doubt I ought at once to have embarked on his conversion to the merits of lifelong education, but the time and place seemed inconvenient, so we moved on to the less explosive topic of the local football team.

The idea (little though it has affected practice) that learning is not to be confined to childhood and adolescence, but ought to be carried into, and through, adult life, is not a new one. Aristotle held such a view, as did Confucius. Much more recently, in the eighteenth and nineteenth centuries, a number of English philanthropists were troubled that so many of their fellow countrymen were denied, through illiteracy, the opportunity of reading the holy scriptures, and thousands of artisans and labourers—and some of their wives—were encouraged to learn to read, and even to write. In England before universal, compulsory, elementary education was introduced in the 1870s, such organized education for adults as then existed was largely elementary, the remedying of deficiencies resulting from the lack of any public educational system.

In some countries the remedial is still the most important aspect of education undertaken by adults, and it is never likely to become altogether superfluous in any society, however good its school arrangements may be. But the contemporary need for the acceptance, and implementation, of the concept of lifelong learning is not based on the importance of giving adults a chance of correcting educational deficiencies due to inadequate schooling. It is based on other factors.

First, there is the growth in knowledge, especially in the natural sciences and in technology. This has so often been incisively expressed—by Margaret Mead, for example, and by Professor Sir George Pickering—that it is useless to search for some novel phrase to emphasize the rapidity of the growth. Men and women whose work is based on science or technology must go on learning continuously if they are to remain...
effective and worthy practitioners of their profes­sions. The economic consequences to the nation if the engineers, for instance, or the industrial chemists, went through life with no more than the knowledge which they had acquired at school and university would be disastrous. Nor would any of us willingly put ourselves into the hands of a middle-aged doctor who had learned nothing, except by trial and error, since he left medical school. Computers, automation, new machinery, mean that tens and hundreds of thousands of men and women in factories and offices must constantly be learning new skills. In such fields the economic price of ignorance is too harsh to contemplate. On economic grounds the need for the continuing education of those engaged in professions where new knowledge is constantly impinging on practices is overwhelming and conspicuous.

It is less obvious, but nonetheless true, that scientific and technological advance make necessary the continuing education of men and women whose work may not be immediately and directly affected by the new knowledge, for although their work may not be affected, they—and their relationships with their fellows—certainly are. In this respect the need for continuing education rests not upon economic but on social factors. Consider, for example, the way in which, because of technological developments in transport and communications, men encounter those to whom only a generation ago they would have remained strangers. The range of our encounters, and therefore of new relationships which we establish, whether friendly or hostile, is so extended that the process of socialization, which once could be left mainly to the schools, must continue throughout life. Particularly in a country which strives to operate as a democracy, it is essential that the citizens should know enough about the nature of scientific discoveries and technological developments to be capable of making informed and critical judgements about their social consequences. The very existence of democracy, as was said fifty years ago in the still relevant report of the Ministry of Reconstruction Committee on adult education, is dependent upon ‘... a body of intelligent public opinion ... [which] can only be created gradually by a long, thorough, universal process of education continued into and throughout the life of the adult’.1

Economic, social, and political needs all point to the necessity for lifelong education. Yet this is to adopt a utilitarian—albeit a creditably utilitarian—attitude towards education. Education is not just a means to an end; it is an end in itself, and a society which fails to encourage and enable its members to pursue education throughout life falls short of the highest standards. This is particularly true of societies in which for many men and women leisure is the most important part of their lives (as it was for the ancient Greeks), not a mere intermission from toil, but a part of life wherein a man is his own master, wherein he can pursue his own interests and derive his deepest satisfactions. ‘A god gave us this leisure’, as Virgil said, and the gift becomes increasingly abundant and more evenly distributed. How is a man to ‘live at the height of his times’, in Ortega’s phrase, unless he uses his leisure with creative imagination and educational purpose?

In England, Sir Richard Livingstone, a generation ago, drew attention, in eloquent and humane fashion, to the absurdity of a so-called educational system from which the adult sector was omitted. ‘What lovers of paradox we British are!’ he wrote, ‘Youth studies but cannot act; the adult must act but has no opportunity of study; and we accept the divorce complacently. ... We behave like people who should try to give their children in a week all the food they require for a year; a method which might seem to save time and trouble, but would not improve digestion, efficiency, or health.’2 More-

over, as he pointed out, some subjects need experience of life for full and fruitful study. Mathematics, the natural sciences, and languages may need no experience of life for their full comprehension, but literature, philosophy, history, except at a superficial level, are beyond the schoolboy; he may know them but he does not really understand them, for they largely deal with things of which he has no experience.

The case for lifelong education, whether on grounds of expediency, social concern, or educational principle, seems so patent that some apology seems necessary for arguing it even at this length and for restating the obvious. But, as yet, it is far from being the central idea around which national educational arrangements are planned, and to the man on the 'bus (and to many like him) it is a repellent notion. The failure to see the significance of lifelong education as an organizing principle results from a failure to see education as a continuum. So often we think of it as a process, which begins when the child starts school, at the age of 5, 6, or 7, and is finished at 15 or 16, when he leaves school, or at latest at 21 or 22, when he graduates from college or university. Teachers do not need to be told that children begin to learn long before they come to school, that home and environment are powerful, educative (or dyseducative) influences, varying infinitely in force and direction from one child to another, and that the pupils in the first year are not little tabulae rasa waiting for the teacher to inscribe her precepts. It is customary and convenient to disregard the importance of the pre-school period, because it raises awkward questions and potential conflicts between parental rights and the proper interests of society, but it is in this period that lifelong education begins.\(^1\)

However, it is the school experience which in most cases determines whether education is to be a lifelong process, or to be truncated and end when formal education is terminated. The Newsom Report, *Half our Future*,\(^2\) poses the relevant questions in its opening paragraph: ‘Boredom with everything school stands for, or enthusiasm? Conflict between school and home, or mutual support? Tongue-tied inadequacy, or social competence? What is the true picture of the educational situation of hundreds of thousands of young people today?’ Let the Beatles, the authoritative voice of recent, if not contemporary, youth, answer the questions:

‘I used to get mad at my school,
The teachers who taught me weren’t cool.’\(^3\)

And my neighbour on the 'bus more prosaically gave the same answer: boredom, frustration, mutual rejection.

Of course things have changed a great deal in the thirty years or so since he was at school, and even since the Beatles left their Alma Mater. The public image of the school is always out-of-date, frozen in the shape of our own individual school experiences; we all know what school is like for, after all, we have all been to school. And it must be admitted that it is possible to find, here and there, specimens which bear a close resemblance to the public image of the school as an institution irrelevant to, and out of touch with, the important aspects of life, in which a number of discrete subjects, irrelevant to the pupils’ interests and unrelated to each other, are taught by unconvincing and bored teachers to invincibly ignorant and bored children. Early specialization, the rigidity of many examination systems, the remoteness of school from the affairs of everyday life, all create an ambience which is calculated to stifle any half-formed desire to continue education as a lifelong activity.

Further, too many schools and colleges and universities have allowed their graduates to

depart with an implicit belief that this was, and was designed to be, the terminal phase of their education, that they are being sent out into the world as 'finished and finite clods'.

An authoritarian, de haut en bas, attitude on the part of the teacher not only makes school an unattractive place, but also conceals from the pupil all idea of what education really is. Of course school cannot be a wholly permissive institution without any norms or rules, and in endeavouring to find the golden mean between absolutism and anarchy the teacher cannot stand outside the mores of the society of which he and his pupils and the school form part. The extent to which heuristic have replaced didactic methods in the schools during recent years must surely mean that the next generation will reach adulthood with intellectual curiosity whetted instead of stifled, and with attitudes based on their own school experience which will predispose them towards lifelong education, even though they may never think of it in those terms.

It is tempting to consider how the whole-hearted acceptance of the concept of lifelong learning would affect the work of the schools. Curricula are overloaded; what could be omitted, because it is not relevant to the pupils' present condition in life, and could be studied more effectively later? What education is better undertaken post-experience? Is the school's function to teach how to learn, not to transmit a corpus of knowledge? Relieved of the pressure to impart a certain amount of information within a limited time, would not schools seize the opportunity of strengthening their links with the community, encouraging their pupils (perhaps they should be thought of rather as students) to explore their community and find ways and means by which they could be active in enhancing the quality of the society to which they, too, belong?

Although the concept of lifelong learning leads to recasting the function of the school, the continuation of post-school education is, of course, voluntary—a matter for individual decision, and in a democracy it is impossible to imagine compulsion being applied in a sphere wherein individual responsibility and freedom are of the essence. Schools cannot assume—not for that matter do universities—that their pupils are embarked on a career of lifelong education, that whatever has been omitted at school can be learned later. Any such assumption would, as things now stand, usually be unjustified and irresponsible. But teachers need constantly to bear in mind that whether or not their pupils become lifelong educands, or go through life with stunted imagination and intellect, will largely depend on their experiences at school. A student's attitude towards continued education is profoundly and permanently affected by that teacher who makes no pretence at pantopragmatism, but is himself seen to be a student who is continuing to learn; the exemplary influence of such teachers will be gratefully remembered by many readers.

It is in indirect ways, such as the teachers' attitudes, that schools can point their pupils in the direction of lifelong learning. Of course teachers need to be able to advise their pupils and ex-pupils about ways in which they can continue their education, a subject on which many adult members of the community would also welcome help and guidance, but it is a mistake to think of the school's function as 'the preparation of its pupils for life'. After all, the pupils are already living, they are people, not embryos. It is open to question whether any specific preparation for lifelong education is possible; what is not open to question is that a man or woman whose schooldays were enjoyable and interesting, whose intellectual curiosity was fostered and not stifled, who was treated as a person and not as a nonentity, who received encouragement from his teachers and was not given a sense of habitual and preordained failure, has had the best possible general preparation and is most likely to be found amongst those who consciously continue their education.

Does this amount to anything more than saying that schools need good teachers? I think it does;
I think that teachers need to be more conscious of the continuum in education, to see their work as part of a larger whole, to think about the implications of *Total Education*, to borrow the title of M. L. Jacks's book published nearly twenty-five years ago. They need to be encouraged to embark on this line of speculation in their professional training course, for it is then that professional attitudes are formed. Thus the concept of lifelong learning presents a challenge—or should one say an invitation?—to the institutions which have the main responsibility for the education of teachers.

One of the defects of our educational systems, at least in the majority of Western European countries, and perhaps elsewhere also, is that few teachers, from nursery school to university, have much knowledge of the work of other educational institutions than the one in which they happen to teach. Educational thinking proceeds on the basis of isolated blocks; a general dialogue across the board is almost unknown—as the Senior Chief Inspector of the English Department of Education and Science has said, '... there is a scandalous failure in communications between a number of educational institutions which ought to see themselves as partners in a cooperative enterprise'.

It should be an important function of institutions engaged in the preparation of teachers to encourage their students to have a synoptic, a comprehensive, a 'holist' view of education.

The idea of lifelong education presents a challenge also to those of us who are especially concerned with post-school and post-university aspects of lifelong education. We know too little of the current work of the schools, of the way in which, in the best schools, experiment, discovery, and participation have taken the place of didacticism. Too rarely is the question asked whether methodological developments in adult education have kept pace with those in the schools. Livingstone's aphorism, 'Without theory practice is unintelligent, without practice theory is not understood' has been little heeded in the United Kingdom where the analytical are sharply separated from the creative aspects of adult educational activity. Because, to those who direct education, the intellectual is the normal approach to any subject, we tend to overlook the interests and needs of those whose approach is essentially creative and practical, of those whom, to adapt the title of the Newsom Report, we might term *Half our Present*.

Finally, the dreariness of the environment in which a good deal of adult education has still to be conducted—a dreariness which only too easily spreads to the educators and the students—compares badly with the elegant gaiety of the best modern schools.

In the last resort the practical manifestation of the concept of lifelong learning is dependent not upon educators and educational institutions, but upon the *mores* of the society of which they form a part. The educators cannot transform society, but they can help to prod it towards the ideal which they believe it should seek; the appreciation of education is itself a product of education, and it is by furthering the appreciation of education that we move in the direction of the good society, that is to say, the Educative Society.
Changes in general education

by A. M. Arsenyev

In recent years the tendency in schools of general education has been towards a broadening of academic education (defined by Soviet educationists as the study of systematic courses in basic scientific principles) by lowering the age at which pupils complete their elementary education and transferring specialized (or vocational) subjects from the general education school to the systems of specialized educational establishments. This trend has led to an increase in the duration of compulsory general education to 8-10 years, to a closer similarity of education in junior and senior secondary schools, and to a fuller reflection in education of the latest developments in science, technology and culture.

This process stems from the realization by wide sections of the community of the present-day importance of science and technology in social and productive life and a consequent desire to give children as complete a general education as possible. The fact that more and more children of school age are at present proceeding to the senior classes of secondary schools is an important, regular feature indicative of the cultural and technical progress of contemporary society.

Many countries have achieved outstanding success in this respect. In the academic year 1965/66 in Japan, for instance, 5 million pupils were attending senior secondary schools (16-19 years of age) and 69.1 per cent of the pupils completing the junior secondary course proceeded by competitive examination to grade 10 (the first class of the senior secondary school). It is typical that, in this examination, there were, on average, three candidates for every two places. In the United States of America in 1965/66, 2.7 million pupils, or 73 per cent of all 18 year-olds, completed a twelve-year course of secondary education. In many other countries, the number of pupils proceeding to senior secondary studies amounts to 60-80 per cent of those who have completed the preceding course. In the U.S.S.R. this has led to the establishment of a system of complete secondary education for all.

Psychological research and experimental teaching in primary classes in many countries have demonstrated convincingly that education can begin at an earlier age (as shown by experience with 5-year-olds in the United Kingdom, by the introduction to school work of pre-school-age children under the ‘Head Start’ programme in kindergartens and elementary schools of the United States, by the educational programmes carried out among older infants in kindergartens, and by the preparation of children for school work at home and in preparatory groups at Soviet schools) and that primary education can be conducted at a higher level of generalization and at greater speed.

A new role for primary education in the over-all educational system was essential in solving this problem. When education for the majority of children was limited to primary school, after which they took up productive activities, it was in the interest of parents and society as a whole to provide them with as
broad and prolonged a course of primary instruction as possible; in such circumstances, a 5-6-year primary course was better than a 3-4-year course. When 8-9 years of compulsory general education was introduced, the purpose of primary education radically changed. It became a preparation for the study of systematic courses on basic scientific principles (learning to learn), and every extra year of primary education meant one year less of academic study. It should be mentioned in passing that an unnecessarily simplified and prolonged primary course has an adverse effect on the child's attitude to education and on the development of his cognitive faculties. For this reason, many countries are taking steps to make primary education more intensive and to curtail its duration within the over-all system.

Although the variety of educational conditions for young children in different countries makes a single universal solution possible, the general trend we have described must be regarded as correct. The relationship between the academic and the specialized items in general education has been substantially influenced by the change in the nature of the industrial activity of citizens in a modern society, which is tending to do away with heavy physical labour, and consequently with all forms of unskilled work, to upgrade skilled workers to the level of engineer-technicians, and considerably to increase the proportion of intellectual workers in the over-all working population.

The tendency for the functions of skilled workers to approach the level of those of engineer-technicians can be clearly seen in the change in the correlation between traditional and automatic machine-setters, whose work requires a high level of general education and specialized technical training, and the operators responsible for running the machines. An examination of the changes in the correlation between these two categories of workers as the automation of production proceeds shows that, with non-automated equipment, one setter is needed for 12-15 operators; with partly automated equipment, the ratio is 1 to 8; with semi-automatic machinery, 1 to 2 or 3; on automatic machinery, 1 to 1; while on many automatic assembly lines setters only are required. In other words, automated production is serviced by workers who are essentially engineer-technicians. It is typical that the work benches in a number of automated plants are manned by hundreds of engineers and technicians. It can, therefore, be said that modern production tends to combine physical and brain work in industrial activity.

The society of the future will represent a combination of science and labour in productive activity, with science advancing in direct contact with production, and labour in its turn becoming—in the words of Marx—a materially creative, object-producing experimental science. At this very moment, science and labour are developing in this direction. Consequently, a study of the fundamentals of science is basic to the training of all categories of employees, from manual workers to scientists. New relations are developing on this basis between the various levels of general and specialized education.

In addition to the existing links between primary education and industrial trade schools, between the incomplete secondary course and specialized secondary educational establish-
changes in general education

ments, and between secondary schools and higher educational establishments, a system of primary and specialized secondary education based on a complete secondary course has arisen and is now developing. This does not mean that individual variations in the inclinations and capacities of particular children are ignored. After completing a single (though not uniform, as we shall later show) secondary course, pupils proceed in accordance with their wishes and capabilities: to technical institutions to train as skilled workers; to specialized secondary educational establishments to become technicians; to specialized higher educational establishments to become engineers, teachers, agronomists or doctors; and to universities to become scientists.

This trend can be seen in the recognition by a widening circle of national educationists of the concept of a single school, in the broader selection and intake of pupils attending academic schools and the inclusion of all-round instruction in specialized courses and schools (schools with differentiated instruction), and in the greater importance accorded to academic subjects in junior secondary schools, etc. This trend is countered by the following considerations: many countries still limit the selection and intake of students for senior secondary courses to the strict requirements of the higher educational establishments for trained entrants; a distinction is maintained between junior secondary schools whose principal task is to train pupils for practical (mainly physical) work, and senior secondary schools which prepare pupils for further education; sections of the senior secondary classes are vocationally orientated, mainly towards craft occupations; admission to senior courses is by selection; and even academic instruction for senior classes is narrowly specialized.

All these factors, combined with the varying circumstances of economic development and educational traditions in different countries, mean that school education reflects to differing degrees the latest advances in science, technology and culture. They do not, however, reverse the basic trend towards the development of the secondary school as a single, general education school.

The review of the content of education being carried out in many countries in the light of recent scientific progress is of enormous importance for unifying the instruction given in junior and senior secondary schools. Nevertheless, no really sound answer has yet been found to the question of the implications for schools science teaching of the fact that the basic tendency in scientific development has been to penetrate further and further into the laws of the structure of matter and into the mechanics of physical, chemical and biological processes which cannot be studied on the basis of sense experience or visual representation but require sound theoretical knowledge and a capacity for abstract thought. This does not mean that all school-age children should study the physics of elementary particles, the physics of the cosmos, cybernetics, molecular biology or other contemporary branches of knowledge. The secondary school should, however, equip young people to understand the latest scientific ideas and achievements which are now passing rapidly into everyday life and practice. Unless this is done, a rift may develop between the secondary school and the pursuit of further education or self-education by secondary-school leavers; in many cases, such a rift has in fact developed. Junior secondary (called in some countries incomplete secondary) curricula are heavily over-burdened with standard statements and information which must be learnt by heart without any adequate or scientific explanation, or with out-of-date explanations. Theoretical material is crammed into the last two or three years of secondary schooling, is covered hurriedly, superficially, and frequently at a level already outstripped by science, and sometimes even in contradiction with its latest findings.

The changes introduced into the curriculum consist in a greater degree of theoretical explanation at all levels (depending, of course, on the grounding already received by the students), the study of material at a higher level of
generalization at an earlier stage than was previously customary, the use of the deductive method in the presentation of material, and greater attention to the development of independent thinking on the part of pupils, to their training in the technical skills of individual work and to the fostering of their sense of the need to go on studying by themselves and to raise their cultural standard (not only in the performance of set work). This last is extremely important in training pupils for self-education upon completion of secondary schooling, which in view of the rate of contemporary scientific and technical development is becoming a vital necessity for every educated man.

A higher level of theoretical science teaching increases the importance of the secondary course as general education, thereby meeting not only the requirements of scientific and technical progress but the genuinely humanist ideal of the free, all-round development of all members of society, the service of which is the school's main function. To ensure true social welfare and free cultural, scientific and technical progress, the secondary school must be further developed as a general education school. General education for school-age children is the only way of discovering and developing their inclinations and capacities so that subsequently, in accordance with the rising level of science, technology and culture, and taking into account the needs of society and their own wishes and capabilities, they may make a well-advised choice of a specialized subject for further study and practical activity.

To deprive even some children of general education, or to transfer them to special education before their natural inclinations and the results of their development are revealed during the educational progress, constitutes a breach of the fundamental right of every member of contemporary society to the all-round development of his gifts and abilities. Furthermore, general education is essential for the cultural development of modern society. Culture cannot develop if each member of society is confined, as in a watertight compartment, to his own speciality, even if he has the high qualifications of an engineer, doctor or agronomist.

The combination of a many-sided general education with mastery of a special subject at the level of contemporary scientific and technological achievement is the distinctive feature of education for the second half of the twentieth century. Both aims can be achieved by teaching the fundamentals of science at school.

One of the basic problems in the theory of secondary school curricula is the relation of the liberal arts and the natural science courses. There are two sides to this problem: considering the increasing role of mathematics, physics, chemistry and biology in the development of science and technology, it is quite obvious that the natural science-mathematics side has to be strengthened. The secondary schools of many states have recently moved substantially in this direction. Just as the non-classical secondary schools and grammar schools (lyceums and gymnasias) of pre-revolutionary times arose and gained full recognition, so natural science and mathematics schools are now developing at a rapid pace. In all kinds of secondary schools, the study of physics, chemistry and biology has considerably expanded.

In its very first year, the Soviet school liquidated by revolutionary methods the medieval survivals of the pre-revolutionary Russian grammar school (gymnasium): the passion for classical languages and the influence of the Church on the school. In this connexion, the first Soviet school curriculum (1918 and 1920) devoted practically five times more time than the grammar schools, and over twice as much as the non-classical secondary schools (lyceums), to the study of natural sciences (physics, chemistry and biology). This was one of the foundations for the subsequent achievements of the Soviet Union in scientific and technical progress. Events in recent decades and the prospects for an even more vigorous development of science and technology in the future confirm the need for an all-out effort to perfect natural science teaching.
The strengthening of natural science teaching, however, comes up against many obstacles connected with the tenacity of old traditions. This can be most plainly seen in the fact that the teaching of such subjects as biology, physics and chemistry is very often combined to form a single 'natural science' course. As a rule these subjects are taught separately and systematically only in senior classes (i.e. after 8 or 9 years of instruction). This arrangement was justified when the majority of pupils did not proceed to the senior secondary course after completing their compulsory general education, but went to vocational schools or took up employment. In the general secondary school, a composite course in 'natural science' is necessary only in the introductory phase, i.e. the preliminary instruction given during the first three or four years, while the following classes should provide systematic courses in physics, chemistry, biology and other natural science disciplines.

It is worth pointing out that, in many countries, the natural sciences do not yet occupy the place they should have in view of the importance of physics, chemistry and biology in contemporary life. Although the position has improved somewhat in recent years, the average time allotted to all natural science subjects (including the general natural science course) is as follows: in United Kingdom grammar schools 11 per cent of the entire course of compulsory studies; in Italian classical secondary schools 5.6 per cent, and in non-classical secondary schools 7 per cent; in French lycées 9.6 per cent; in the classical secondary schools (Gymnasien) of the Federal Republic of Germany 6 per cent, in modern-language secondary schools 6.6 per cent and in natural science and mathematics secondary schools 9.4 per cent; in United States secondary schools 10-12 per cent; and in Japanese secondary schools 12 per cent.

The current Soviet school curriculum allots 14.5 per cent of the whole time spent on compulsory study to the natural science disciplines. The 1966 curriculum, which U.S.S.R. secondary schools are now adopting, increases this allocation to 18.5 per cent of all compulsory studies. In addition, natural science subjects are strongly represented among the optional subjects and subjects chosen by the pupils themselves. In our view, this treatment of natural science subjects in the secondary school curriculum is more appropriate to modern education.

The second major element in the problem of the relations between the liberal arts and natural science courses is the recognition of the importance of the study of social sciences for the all-round development of young people. The idea, held by certain technologists, that the social sciences are of importance only for propaganda purposes and have merely to explain and comment on existing social relations is profoundly mistaken. It is our firm conviction that the study of the social sciences and the practical application of their findings are no less important than the use of the achievements of the natural sciences in material production.

This attitude is a direct reflection of contemporary trends in social development. Progress in all fields of social and personal life depends on active participation by ever-wider sections of the community. The most advanced States have set themselves the task of achieving progress in the future with the active participation of the entire population. One of the basic propositions of progressive thought on social development, which is also—to quote Lenin—'the simplest and clearest', is that the more radical the change we wish to bring about, the more important it is to arouse interest and awareness, and to convince more and more millions of people of the need for the change.

The task of moulding the social outlook of young people consists in helping them to understand the process and prospects of world development, to interpret events correctly at national level and in the international context, and consciously to shape their own lives by integrating their convictions and their actual behaviour. The supreme importance of this educational task is clear for all to see. All
subjects of study have a part to play in discharging it, but the decisive role belongs to the social sciences. We, therefore, consider that there are good reasons for keeping liberal arts subjects in an important place in the secondary school curriculum. Under present arrangements, they take up 37 per cent of all study time in Soviet schools. In the new curriculum, this percentage rises to 40 (in the national schools of Union Republics other than the R.S.F.S.R., and in those of the autonomous republics of the R.S.F.S.R., this figure is as high as 47 per cent). But the problem is not simply one of the number of hours allotted to the study of the social sciences. For example, the social sciences proper (i.e. history, social science, economic geography) occupy a relatively minor place in Soviet schools to judge by the number of class hours devoted to them (874 hours or 8.8 per cent of the total time, whereas the corresponding figures for secondary schools in other countries are: United States 15 per cent; France 14.5 per cent; Japan 13.4 per cent; and Federal Republic of Germany 11.5 per cent).

In the Soviet school curriculum 334 hours are allocated to the history of the U.S.S.R. and 336 hours to the history of other countries.

The shortcomings in the shaping of social attitudes among young people at school can often be imputed to the fact that an excessive degree of utilitarianism or random improvisations on current affairs and contemporary social problems, not founded on a knowledge of the over-all historical experience of mankind, take the place of scientific explanations of social phenomena. Subjective and tendentious treatment very often creeps into the study of social events. In many schools, the value of natural science subjects and art in fostering high idealistic convictions among young people is underestimated.

Whether teachers recognize it or not, all subjects studied at school have a part to play in shaping the ethical and socio-political views of young people. There is no science or branch of art which does not bear some relation to the notions of progressive social development. The educational value of literature which—as Gorky said—‘acts simultaneously and with equal force on thought and feeling', is exceptionally high. Consequently, today's secondary school has not only to strengthen the role of the natural sciences in education, but to develop young people's interest in social phenomena by all possible means, to consolidate their understanding of the orderly evolution of the social and economic structures governing the role of the masses in the creation of material and spiritual culture and to develop in every young person an understanding of his own personal role in the progressive development of society.

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Teacher education in the United States of America

by Dr. Robert J. Schaefer

Teacher education in the United States, and undoubtedly in other countries as well, is more profoundly affected by shifts and developments in the wider intellectual and social world than by any changes, no matter what their magnitude, in educational theory and teaching techniques. Current practices in the preparation of teachers, therefore, cannot be understood without references to such external influences as, to cite only a few, the teacher shortage of the fifties and early sixties, the post-sputnik anxiety about how well our schools were doing, the efflorescence in the behavioural sciences, the so-called explosion of knowledge in all fields, and the concentration of educationally disadvantaged children in the central cities. Once it is assumed that teacher preparation reflects changes in the broader world, any attempt to outline recent trends and developments inevitably becomes arbitrary and partial. However, the factors enumerated and discussed below are, at least, germane to the problem.

A major factor which has already begun to affect teacher education in America, and which promises to have a profound influence in the future, has been the spectacular growth of the behavioural sciences since the Second World War. Economics, political science, psychology, psycho-linguistics, social psychology, sociology, and social anthropology, all fields directly relevant to the study of education, have developed more powerful conceptual schemes, more technically proficient instruments for handling data, and greatly increased capacity for prediction. Each of these disciplines, moreover, either singly or in concert, has been used with considerable success in the investigation of applied problems, i.e. voting behaviour, marketing analysis, language learning, attitude formation, leadership behaviour, etc.

Many young scholars from these fields have been attracted to faculties of education and, as professors, contribute to the preparation of teachers. Possibly of greater long-term significance is the stimulus their success in investigation has provided to scholars trained in some specialized aspect of educational practice. There is a new surge of optimism both in the potential of educational research and in learning more about how children learn in actual class-rooms.

With funds in the main provided by agencies of the federal government, and also by private foundations, there has been a veritable research boom in schools and colleges of education. The membership of the American Educational Research Association has expanded fivefold. The association has itself sponsored an excellently conceived and edited Handbook of Research on Teaching. The Co-operative Research Bureau of the United States Office of Education has supported hundreds of individual studies in institutions throughout the land. Programmes for training new investigators have been liberally financed in these institutions staffed by professors who are themselves engaged in productive research. The great private schools of education and several education faculties of the public State universities have developed a research
capacity comparable in depth and sophistication to that enjoyed by their colleagues in the arts and sciences.

Research and development centres, closely attached to university faculties, have been established, again by federal funds, in every section of the country. A network of Regional Educational Laboratories, intended both to conduct basic research and to disseminate research findings to schools and educational agencies, has been initiated; it is anticipated that there will eventually be forty such laboratories basically financed by public funds (at the level of from 2 to 5 million dollars per year) but also able and free to attract important private moneys.

Particularly relevant to teacher preparation has been the renewed interest in the serious analysis of teaching. Research has not progressed to the point of developing viable theories of teaching, but there has been sufficiently varied and promising work to exert an important influence upon the teacher preparatory curricula of many institutions.

Behavioural science, of course, has no monopoly on the function of providing fresh perspectives on teaching. There are many modes of analysis which can be applied to the class-room. Verbal discourse among teachers and students has been studied through linguistics, general semantics, content analysis, and analytic philosophy. The 'Proposal for the Revision of Pre-Service Professional Component of a Programme of Teacher Education', prepared by the Teacher Education and Media Project of the American Association of Colleges for Teacher Education, provides a provocative outline of numerous means, not all of which derive from the behavioural sciences, of analysing learning and teaching in the class-room. On several occasions John Fischer has suggested the development of a criticism of teaching comparable to established traditions in literature and the arts—an esthetics of the art, so to speak. Many scholars in the field of curriculum have been attempting to utilize existential philosophy and literary insights in systematic reflection on teaching.

The commonality of all these approaches is their dependence upon rational thought and analysis. They emphasize the systematic study of what teaching is. Individual preparing institutions, depending upon the nature and special talents of their faculties, have chosen to develop alternative approaches to the analysis of teaching. What has seemed crucial is not that a particular mode be adopted but that the art of teaching be subject to vigorous continuing inquiry.

Paralleling, and in part dependent upon, the development of increased research sophistication has been the growth of educational technology and the emergence of the so-called education industry. While the teaching machine was invented in the twenties and the computer and television prototypes in the years before the Second World War, their broad-scale application to education was not envisaged until the present period. Grounded in neo-behaviouristic psychology and energized by the impressive power of electronics, educational technology promises a veritable revolution in teaching. Every teacher is to be afforded a steady flow of ingeniously designed learning materials and every child is to be guaranteed access to experts in every field of the curriculum. The teacher is to be freed at last, it is claimed, of the adverse routines of his craft. He will be able to assign to machines the burden of dispensing information, of supervising drill activities, of evaluating informational learning, and of providing diagnostic cues about individual difficulties.

How can the degree of realism in these lovely visions of educational technology be assessed? Those convinced of an imminent electronic magic have been somewhat taken aback by the boredom children have expressed towards

educational television, by the rejection of early teaching machines as mere mechanical page turners, and by the inability, to date, to demonstrate any pedagogical advantage of computer-assisted instruction over plain ordinary teachers. In the main, however, the enthusiasm of the converts has hardly been damped, and educational literature continues to abound with rosette promises.

To some degree, current evidence of this educational industrial revolution may be found in schools and teacher preparatory institutions throughout the nation. The performances of teachers in training in micro-teaching situations or in live class-rooms are recorded on videotape for later analysis. Language laboratories, replete with all manner of feedback devices, operate in thousands of schools. No self-respecting school system, at least those in the relatively well-financed suburbs, is without its full quota of gadgets—tape-recorders, overhead projectors, transparencies, television receivers and cameras, 8-millimetre film loops, automated self-learning devices, access to, if not always ownership of, a computer, etc. In a handful of actual schools, computers are in daily use in important areas of the curriculum. Few teacher preparatory programmes fail to make at least passing reference to the ‘xeroxed’ world of tomorrow.

Essentially, however, we in teacher education have simply made token acknowledgement of the possibilities of educational technology. We have played with the new electronic toys, but we have not systematically examined what they may eventually mean. The technological revolution has not yet forced our action, because, to date, the development of gadetry far outstrips the necessary concurrent manufacture of curricular materials—the information and concepts to be fed into the machines. This production imbalance, referred to with irritating frequency as the gap between ‘hardware’ and ‘software’, allows most schools to continue operations in the old familiar style.

Until production schedules are smoothed out, then, there is still opportunity to plan alterations in teacher education and, perhaps more important, to reconsider aspects of the teacher’s role in the class-room. There is little evidence, however, that this lead time is being profitably used for such planning purposes.

While the increased power and precision of the behavioural sciences and the concurrent efflorescence of educational research have created quite a stir in the general academic community, prospective and practising teachers in the lower schools have rarely participated in the excitement. In the first place, as many observers have pointed out, teaching normally attracts persons of humanistic and literary as opposed to scientific outlook. ‘One of the great hazards of the teaching profession,’ Judson Shaplin, for example, has contended, ‘is the selection into teaching, by the culture, of non-quantitatively oriented people. Graduates of liberal arts colleges coming into teaching pride themselves on their humanistic, non-quantitative, non-behavioural aesthetic values. And if typical student fear of and distaste for measurement and statistics, a familiar phenomenon on many campuses, is recalled, his admonition seems well founded.

In addition to this presumed dislike for quantitative thinking, prospective teachers, interested in the here and now problems of the class-room, discover that study in the behavioural sciences often deals with questions and with settings which lie outside the direct concerns of educators. Usually, it is not the already-discovered information reported in particular courses that is important, but rather the concepts and theories of the social sciences which afford valuable ways of viewing the world of the school. Or, as Ralph Tyler has expressed it, ‘the behavioural sciences contribute less in the nature of research findings than they do to the development of

conceptualizations useful in thinking about problems of education and in conducting inquiries about these problems, and to the invention of techniques useful in conducting educational inquiries'.

1 Teachers are best trained, as W. W. Charters has pointed out, not in the 'meager technology drawn from research findings but in the rich and varying perspectives offered by social science concepts'.

But the most impenetrable barrier to teachers sharing in the university enthusiasm for educational research is the nature of the school itself. Schools exist as places of instruction for the immature and not as laboratories where adults may investigate problems of pedagogy. Teachers are expected to teach all day—to disseminate information and skills which society deems desirable—and not to raise questions about how their work might be more efficiently and successfully undertaken. Schools are organized to provide intellectual training for children and not to afford continuing intellectual experience for adults. Teachers are conceived as attendants servicing educational distribution centres and not as producers of new knowledge.

The very isolation of teachers in walled-off class-room cubicles encourages the conception of the replaceable cog in a massive bureaucracy. Because of the spatial circumstances which govern practice of their craft, teachers are in fact all sergeants in the same army, equal in power and in influence, each sovereign in his classroom kingdom, and each carrying essentially equal responsibilities. On the one hand, the physical separation of one teacher from the other, together with the inordinate fullness of the teaching schedule, preclude the development of real collegial relationships and of productive professional discourse. At the same time, the privacy of the teacher's world, especially when there is reason to suspect the adequacy of his instructional decisions, goads the administration into seeking to ensure some modicum level of performance. Hence, detailed regulations, myriad forms, standardized texts, and frequent supervisory visits become routine.

It is primarily in colleges and universities, not in the schools themselves, that interest in scientific investigations of teaching has dramatically increased. The publication of a number of reviews of educational research, the spectacularly increased if still modest budget of the Co-operative Research Bureau, the push for systematic class-room analysis among curriculum specialists, and even the appearance of well-financed research and development centres have created little interest among practitioners. The language, tools of inquiry, and the conceptualizations employed in investigations of teaching are professionally shared by psychologists, social psychologists, and specialists in educational research and almost not at all by teachers.

Instructors in the lower schools ordinarily do not possess a working technical vocabulary or a set of concepts and propositions on teaching sufficiently precise to be shared in professional association. The absence of codified knowledge shared by teachers robs them of the psychic rewards associated with expertise in the advancement of knowledge. A practitioner feels removed from the activities of educational research and rarely perceives himself as having any stake in its development. Fully occupied with the daily business of keeping school, he is effectively deprived of the opportunity to reflect systematically upon his experience. And unless typical organizational patterns are radically restructured and school objectives broadened, there is little possibility that the situation can be improved.

As of this date it must be recognized that the efflorescence of educational research has more profoundly affected collegiate faculties of teacher

education than prospective or practising teachers. To some degree, of course, the new professional attitudes have been adapted by teachers in training. In similar fashion, there are schools scattered throughout the country which begin to encourage teachers to investigate and to test their own pedagogical behaviour. The potential importance of educational inquiry to teacher education is tremendous; the realized significance is as yet trivial.

Cutting across all other developments in teacher education is the yet unresolved dilemma as to whether the teacher is properly conceived as a technician or as an autonomous professional. If effectiveness in teaching is based upon essentially static knowledge, the various pedagogical skills required are best learned by apprenticeship under a master teacher. As long as the aim of professional (to be more accurate, vocational) studies in teacher education is simply to ready a neophyte for the immediate problems of the class-room, direct involvement in practice promises to be more instructive than didactic discussion of ‘desirable’ procedures. A particular preparing institution, if it wished to cater even further to the vocational motivations of its students, might also provide an orientation to the job through a historical or sociological look at the school as a social institution, a ‘practical’ review of human development and of learning principles, and a repertoire of techniques and procedures proved useful by experience.

If, on the other hand, pre-service teacher education is intended to provide a foundation for career-long development as an inquiring scholar-teacher, initial training must emphasize ways of knowing. There must be less concern for job information already discovered and far more interest in the strategies for acquiring new knowledge. Philosophy of education would include epistemology and an introduction to the philosophy of science. Studies in psychology might furnish a working knowledge of research methodology and of experimental design, observational categories for observing and recording the behaviour of children, and an introduction to the complex problems of measurement and evaluation. Advanced studies would provide supervised research experience. Courses in educational sociology would develop analytical tools for understanding student subcultures and the characteristics of pupils in a particular school. Courses in methods of teaching would eschew talk about techniques and procedures —laboratory experience in apprenticeships would be relied upon to develop these skills—and would focus upon the critical analysis of teaching behaviour and a beginning approach to the logic of pedagogical strategies. In short, teacher education would seek to prepare teachers not as complete and polished practitioners but as beginning professionals who possess the trained capacity and the attitudes requisite to lifelong learning.

There are several current developments which derive from the first conception—the idea of the teacher as a reasonably intelligent and well-trained technician. As was indicated earlier, the dominant drift of educational technology is to provide such elegant and tamper-proof materials and pupil-controlled machinery that not even the most ill-prepared teacher could interfere with learning. While there have been those who decry this drift, there is yet no assurance that machine-tending will not become the major activity of teachers. Similarly, the new national curriculum makers appear to think of teachers as mere technicians. Their hope, too, is to devise materials which can make their desired impact upon children irrespective of the ignorance or sophistication of a particular instructor.

James Conant’s widely read The Education of American Teachers has similarly conceived of teachers as technicians, who, while they must be reasonably well prepared in the substantive materials they teach, can easily learn the necessary pedagogical skills through apprenticeship. Essentially, it will be recalled, Conant recommended that the power of the Establishment be broken by eliminating prescriptive licensing
requirements and restoring substantial autonomy to colleges and universities in teacher preparation. Certification would primarily require, in addition to a baccalaureate and over-all institutional support for a candidate, evidence of successful performance as a 'student teacher under the direction of college and school personnel in whom the State (Education) Department has confidence and in a practice-teaching situation in which the State (Education) Department approves'.

Behind such a recommendation, if one accepts the explicit logic of Conant's argument, is the faith that were it not for the restrictive power of the Establishment, individual colleges and universities would devise exciting experimental programmes for the preparation of teachers. Institutions need only to be freed from the repressive control of the National Education Association and its counterparts at the State level in order to think and act creatively about the substantive problems of teacher preparation.

Behind such a recommendation, if one follows the implicit logic of Conant's argument, is the assumption that the serious, systematic study of educational processes is an impractical dream. Conant goes to great lengths to avoid offending educationists, but it is obvious that he does not recognize the possibility of their learning to control their craft. He would tolerate the academic study of teaching—if a particular college or university wished to be indulgent towards its professors of education—but essentially, he bases his hopes for reasonable teacher preparation on the apprenticeship system.

For the past several years, teaching has been attracting a larger number of exceptionally able young men and women who are challenged by both the social importance and the complexity of contemporary educational issues. The flow of able persons into teaching can hardly be maintained, let alone increased, if their preparation were to consist of mastering merely imitative skills rather than developing the intellectual tools for pedagogical analysis.

And, most important, the very moment in our history when society seems finally to be taking education seriously hardly seems the time to be satisfied with ancient arrangements for tending school. The need for a more effective, more intellectually demanding, and more abstract education is obvious to all. Many educators feel that now is the opportunity to attempt the preparation of teachers capable not only of manning classrooms but also of discovering more about the yet unrevealed mysteries of their craft.

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Viewpoints and perspectives
Lenin and public education

by F. F. Korolev
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During 1970, the year which marks the centenary of the birth of V. I. Lenin, many periodicals are devoting articles and studies to the career of the founder of the Soviet State. Although Lenin’s work in the political sphere is widely known, little is known outside the U.S.S.R. about the influence he had on the cultural—and the educational—development of his country. The following text outlines Lenin’s contribution in these areas and helps to explain, in part, the rapid and widespread expansion of public education in the Soviet Union to which he gave impetus.

Vladimir Ilyich Lenin created and launched a scientifically based programme of world-wide social renovation—a programme for the transformation of society in accordance with socialist principles.

Throughout his life, his many-sided activities—political and scientific, theoretical and practical—were dedicated to improving the condition of the masses: educating them, developing their awareness and stimulating them to creative activity in the construction of a new life worthy of mankind.

Describing the state of education in Russia under Tsarism, Lenin wrote in 1913: ‘There is no other country so barbarous and in which the masses of the people are robbed to such an extent of education, light and knowledge—no other such country has remained in Europe; Russia is the exception.’ Accordingly, in formulating the aims of the Communist Party and the strategy of the Soviet régime in the field of education shortly after the Great October Socialist Revolution, he proclaimed, in an address to the third All-Russian Congress of the Soviets of Workers’, Soldiers’, and Peasants’ Deputies: ‘In the old days, human genius, the brain of man, created only to give some the benefits of technology and culture, and to deprive others of the bare necessities, education and development. From now on all the marvels of science and the gains of culture belong to the nation as a whole, and never again will man’s brain and human genius be used for oppression and exploitation.’

Under the influence of the social ideas inherent in the October Revolution, the role of the school and of educational theory underwent a radical change in the course of the construction of socialism. From an instrument of class domination, the school became an instrument of profound social transformations and the spiritual renewal of the individual—an active and powerful force for social progress.

The formulation and solution of educational questions was inseparably connected with Lenin’s broad, all-embracing programme of social transformation. His concept of education was firmly based on the principle that radical social changes and the education of the new man by whom such changes in society and man himself were to be brought about were part of a single process, and were interconnected. This explains the fact that, whatever the social process Lenin was analysing, whatever the political and economic problems he was investigating, he never lost sight of educational questions, which remained constantly within his field of vision.

The Great October Revolution paved the way for the cultural revolution and was an important factor in bringing it about. In Lenin’s view the cultural revolution was destined not only to raise the educational and cultural level of the people, but to enrich their spiritual life with new values, bring about a transformation in the consciousness of the masses and develop in them a new social attitude, new motives and aspirations.

The term ‘cultural revolution’ denotes a complex and many-sided process of radical transformation affecting every aspect of social and intellectual life, during which the masses familiarize themselves with the achievements of world science and enter into contact with the accumulated treasures of civilization and the conquests of technology.

Lenin related the purpose of education to the radical demands of the new social order. He summarized it as consisting in the training of active and fully and harmoniously developed builders of the new society.

He regarded education as a vital channel for the transmission and acquisition of social experience.

The transmission and acquisition of social experience does not mean merely the transmission and acquisition of workaday, industrial experience and of those relationships that arise in the sphere of labour and material production. In the course of man’s historical development, his intellectual culture has attained a high level and been enriched by the loftiest achievements of human thought. Its principal constituents are science and art.

The individual’s principal source of social experience is the actual process of living. However, purpose-designed and specially organized forms and techniques for the transmission and acquisition of social experience also have an important part to play, and this is especially true of education. Thus, schools and other educational establishments fulfil a vital social function. General education acquaints the pupil with the basic principles of science and art, lays the foundations of a scientific world-outlook, inculcates the necessary moral traits and qualities, and imparts essential practical know-how and skills. Education develops the mental faculties, arouses the individual’s social awareness and encourages independence and a creative approach to intellectual and physical work.

It was precisely in this broad sense that Lenin understood educational questions.

Lenin also thought that it was part of education’s job to help the masses to understand and grasp the significance and role of revolutionary changes. For this it was necessary to equip them with knowledge, help them to enter into possession of the rich intellectual and cultural heritage accumulated by mankind and make culture and science the property of the people as a whole, with the aim of building a new society. In other words, it was necessary to overcome the cultural backwardness bequeathed to Russia by the old order.

Russia had entered the twentieth century with an illiteracy rate of roughly 80 per cent among persons aged from 9 to 50. For women the figure was 88 per cent. The indigenous population of the so-called ‘border lands’, especially in Central Asia and the extreme North, was almost completely illiterate. Among the Tadjiks, Kirghizes, Turkmens and Uzbek the total literacy figures were, respectively, 0.5, 0.6, 0.7 and 1.6 per cent.

Russia had given the world great scholars and scientists—Lomonosov and Lobachevsky, Mendeleev and Lebedev, Sechenov and Pavlov, Tsiołkovsky and Zhukovsky; Timiryazev and Michurin; writers of genius such as Pushkin, Gogol, Tolstoy, Chekhov and Gorky; and world-famous composers such as Glinka and Tchaïkovsky. But while the foremost representatives of the peoples of Russia attained the highest pinnacles of culture, the masses were almost completely illiterate.

In the years immediately following the October Revolution, when the immediate problem was that of consolidating the new Soviet régime and restoring an economy ruined by the First World War and the Civil War, it was impossible to solve in their entirety the immense cultural problems which the Revolution had raised. Universal secondary education and a highly developed network of higher schools could not be introduced by a single stroke of the pen. All these things needed money and qualified personnel and Soviet Russia at that time was short of both.
Accordingly, the principal target at the first stage was the elimination of illiteracy among the adult population and the introduction of universal primary education.

In Lenin’s opinion, the basic and at the same time most important task was to spread literacy, eliminate the backwardness of the so-called ‘national borderlands’ and introduce universal, free education. At the first All-Russian Congress on Out-of-School Education (19 May 1919), Lenin stated that it was necessary to come to grips with the simple, essential problem of mobilizing the literate for the struggle against illiteracy.

Literacy centres began to be established as early as 1918. In Lenin’s decree of 26 December 1919, which identified the elimination of illiteracy as a major political task, it was laid down that all citizens between the ages of 8 and 50 who were unable to read and write must acquire basic literacy, either in Russian or in their own mother tongue as preferred. A Sovnarkom (Council of People’s Commissars) decree of 19 June 1920 established, as a special organ of Narkompros (People’s Commissariat of Education), the All-Russian Extraordinary Commission for the Elimination of Illiteracy. Our country’s experience in the elimination of illiteracy, as was admitted at the Tashkent Symposium, will be of widespread use wherever this problem exists.

Indeed, this acute social problem is even now a source of grave concern to a great many countries. According to Unesco’s statistics, there are at present more than 700 million men and women over the age of 15 who are unable to read and write. Moreover, at a rough calculation, the number of illiterates increases by 20-25 million each year. The elimination of illiteracy in some African, Asian and Latin American countries is one of the most vital social problems. Under certain social conditions and with the help of the highly developed countries, it is a problem that can be solved in a very short time. The contemporary world cannot possibly reconcile itself to this social deprivation.

Lenin enunciated the principles which formed the foundation of the social and pedagogical aspects of educational theory. His guiding ideas and statements regarding democracy and humanism in education and the inadmissibility of any sort of privilege in this field; his basic convictions with respect to the scientific nature of education, the many-sided and harmonious development of the personality, the connexion between education on the one hand and life and the practical task of socialist construction on the other, and the unity of theory and practice: all these pivotal ideas and convictions, based on principles, provided the philosophical and theoretical foundation for a new pedagogical conception of education in the conditions of a socialist society. One of the cornerstones of the Soviet theory of general education was the principle of the single school providing a general education for all children of a given age. This democratic principle required all children to receive a general education and to be able to progress unhindered from the bottom to the highest rung of the educational ladder. The socialist revolution eliminated privilege of every kind in the field of education and created a truly popular school for the universal instruction and all-round development of the rising generation.

Lenin’s speech to the third Komsomol Congress put forward a comprehensive programme for the training and education of the young: acquisition of basic scientific knowledge, polytechnical education, the shaping of a scientific world outlook, and the inculcation of new moral qualities on a basis of active participation in the socialist transformation of life and an intimate connexion between education and the labour of the workers and peasants.

One of the principal distinguishing characteristics of the Soviet system of education, which has been built up on Leninist principles, consists in the fact that from kindergarten to high school it serves the interests of the entire people, and not of particular classes or social groups. It decisively rejects dualism and the élitist system of education whereby some schools are intended
for the people and others for a selected élite.

Everyone in the U.S.S.R. enjoys an equal right to education. But the application of the principle of socialist democracy does not stop there. It permeates the whole fabric of our secondary and higher schools. It is reflected in teacher and student organizations, in teacher-pupil relationships, and in all aspects of education.

Another distinguishing characteristic of the Soviet system of education is that it is directed towards the elimination of any fundamental distinction between physical and intellectual work. It is for this reason that every effort is made, in secondary and higher schools, to link instruction with productive labour and to endow physical work with an intellectual content.

Another distinguishing mark of the Soviet educational system is its secular character. This is one of the most important achievements of the Soviet system. Because of it, the education that our children and young people receive at school is genuinely scientific and provides a basis on which they can form a scientific view of the world. That is why the younger generation in the Soviet Union has a profound understanding of the transforming power of science; it respects science, familiarizes itself with great scientific achievements and successfully applies scientific information to the construction of a new life both in the sphere of production and in that of intellectual culture.

The Soviet system of education consistently and firmly implements the political principles laid down by Lenin in the matter of nationalities—principles which open up for all the peoples of the U.S.S.R. a path towards social progress and the creation of a culture of their own that shall be national in form and socialist in content. Lenin's nationalities policy as applied to education means the right of all peoples to establish schools and other educational establishments using their mother tongue as the medium of instruction, and to compile textbooks, educational literature and children's books in the mother tongue. It does not allow any language to occupy a privileged position.

By putting Lenin's policy on nationalities into effect, the October Revolution gave the workers of all nations, peoples and ethnographical groups every opportunity to develop their personalities to the full, not just in theory but in actual fact. It firmly dethroned the ideology and practice of colonialism and helped the peoples of the national borderlands of the former Tsarist Russia, the peoples of Central Asia, Kazakhstan and Siberia, who were still at a nomadic, semi-patriarchal, semi-feudal and even tribal stage of existence, to utilize the benefits of contemporary education and raise themselves to the pinnacles of socialist culture.

Lenin's policy on nationalities, which continues to be unswervingly implemented by the Soviet régime, has helped the most deprived representatives of backward nations and peoples—their womenfolk—to achieve freedom and human dignity and to participate in creative socialist work. The importance of the part played by education in this chapter in the social emancipation of women can hardly be exaggerated.

The development of socialist, international foundations for their respective cultures is bringing the peoples of the U.S.S.R. ever closer together, thus helping to overcome insularity and nationalistic prejudice. The expansion of cultural intercourse between them as their education advances by leaps and bounds is eliminating their national insularity, raising their ideological and political level and enriching them all with knowledge and understanding of the prospects of national development and harmony and of the international unity of all the peoples of the Soviet Union.

The educational principles enunciated by Lenin are valid to this day. Basing themselves on these principles and developing them in the light of the profound social changes that have taken place in the world, the leaders of the Soviet State and Communist Party formulate
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educational strategy and draw up both long-term and current plans for the universal development of all branches and levels of education. The broad aim is to make the educational system reflect the fundamental demands of contemporary society and of social, scientific and technological progress.

The scientific and technological revolution is making new and greater demands on the education and training imparted to the rising generation and investing general and polytechnical education with increased importance.

In our century, any underestimation of education, any depreciation of its role and significance, can only be regarded as a failure to see the true state of affairs.

As a result of the cultural transformations that have occurred, our country now possesses an enormous network of kindergartens, schools, colleges, courses, universities, institutes, scientific research institutions, out-of-school establishments for children and cultural and educational establishments for adults, libraries, theatres, clubs, cinematographic projection facilities, associations and studios for independent artistic activity, etc.

In accordance with Lenin’s precepts, the Soviet people has created a genuinely democratic system of education and trained an impressive army of teachers. The Soviet school of today leads the world in respect of range of instruction, the level of knowledge it imparts and the ideological and moral orientation of the education it provides. Our entire country, our entire life, is in itself a unique sort of school—a school in which people, and above all the younger generation, are educated or re-educated in the spirit of the great social ideals. One person in four in the U.S.S.R. is a student.

Here are some figures that reflect our achievements in the field of education: before the Revolution, pupils in general educational schools of every type totalled 9,656,000; in 1968 they totalled more than 49 million.

In Tsarist Russia there were 127,000 students in higher educational institutions; for the U.S.S.R. the figure in 1968 was 4.5 million.

Soviet scientific organizations employ more than 700,000 scientific workers. This represents one-quarter of all the scientific workers in the world.

Before the Revolution, the children of the workers could hope at best for a primary school education. Under the Soviet régime, they enjoy unfettered access to secondary, secondary-special and higher educational institutions.

Free instruction in all educational institutions throughout the country and the provision of scholarships for students at secondary-special and higher educational institutions ensure that all children can reap the benefit of their right to education up to the very highest level.

The unexampled improvement in the level of education in the Soviet Union is an expression of the colossal successes achieved by the cultural revolution. According to the 1897 census, the number of persons in the whole of Tsarist Russia who had received any post-primary education totalled 1.4 million—and these were mainly landowners, government officials, capitalists and clerics. Among the workers there were not as many people with even three or four years’ elementary education. According to the 1959 census of the population of the U.S.S.R., there were 71.2 million persons with post-primary education. What a tremendous leap forward! It should also be noted that in 1959 there were 11.6 million persons with higher and secondary-special education, whereas in 1913 the number of persons with such an education totalled only 190,000. The number of manual workers with secondary or higher education has also grown. Whereas before the October Revolution there neither were nor could be workers or peasants with a secondary—and still less with a higher—education, the picture is now completely different. According to the 1959 census, 32 per cent of all manual workers had had a secondary and higher education (39 per cent of industrial workers and 21 per cent of kolkhoz
workers). These are the impressive fruits of the cultural revolution, the tangible achievements already mentioned in the drive to eliminate any fundamental distinction between manual and intellectual work.

The enormous improvement in the level of education is one of the most important results of the cultural revolution. But its most significant achievement of all has been the training of a new man, possessing high moral qualities which find their expression in creative work for the welfare of his country.

Now more than ever as our country proceeds to introduce universal secondary education, the social importance of the Soviet school is on the increase, and it is acquiring a still broader and deeper influence on the rising generation, which it seeks to educate in a spirit of international peace, democracy and socialism.

The reform of curricula

by Ricardo Nassif

Unesco expert in teacher training, Guatemala

The framing of school curricula and syllabi is a basic stage in the complex process of educational development. It may be said to be the clearest and most concrete 'scholastic' and 'didactic' expression of a task that begins with the taxing problem of defining objectives, continues with the establishment of the structures appropriate to aims and such objectives considered desirable and practicable, and ends with the evaluation of their present efficacy and possibilities for the future.

From the broad viewpoint which educational planning represents today, the formulation and revision of curricula and syllabi emerges as charged with meeting not only the permanent needs of education's internal organization, but also the new and far-ranging demands of planning itself in the sense of 'over-all' planning. Thus our theme has two dimensions, one which might, for the purpose of situating it, warrant the description of intrinsic inasmuch as it relates to the 'internal' planning of the institutionalized educational process (the actual educational system) and another which, given its broader purview and by comparison with the first, might be called extrinsic. In the latter, the criterion is the harmony of curricula and syllabi with larger plans, in which schooling sustains an ordered development of human life in its most diverse manifestations (social, political, economic, cultural, etc.).

This distinction is made simply to help to a better understanding of the limits of this study, whose terms of reference are exclusively to primary and middle-level school curricula and syllabi. At the same time, however, it backs up the argument which makes 'planning' in the fullness of its present meaning one of the ineluctable starting points for appreciation and action as regards the new needs served and the new forms taken—or that should be taken—by the process of elaborating school curricula and syllabi.

'Intrinsic' planning dates back further than 'extrinsic' planning, as is natural enough, since it is inherent in the 'systematic', 'methodical' and 'deliberate' character of school education. This is not to claim that the planning task was performed from the start according to the canons now deemed valid. From its empirical beginnings, it gradually acquired a degree of rationality, but conceived in terms of a logical and psychological ordering of content and activities (curricula), transferred to the unfolding of the parts (syllabi), and stopping short in most cases at a didacticism bounded by the walls of the school. Consequently, and the practice has still not been entirely abandoned, curricula and syllabi did not get beyond the state of a table of courses, activities and subjects established on the basis of the pupil's assumed learning capacity. This was undoubtedly justified in the frame of reference of a pedagogics that did not seek—or require—supports other than those
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provided by the logical and epistemological structure of the disciplines and the possibilities postulated for children and young people in a world in which social mobility was very slight. With no transposition of the scholastic ambit, not only the content of curricula and syllabi but also the methodology for elaborating them remained geared to a general notion of education which had struck at the concept of didactic instruction, because this was permitted by a type of society that had no reason to require anything else of its scholastic institutions.

The present gearing of things educational—or more accurately, the urgency of gearing them—to new social forms and needs, harnesses them directly to the needs of life, not only individual but collective, both present and future, with new conceptions of content and planning and the conversion of education into a powerful instrument of development. These new imperatives operate on the totality of educational theory and practice of education and, logically enough, extend to the specific process of designing and revising school curricula and syllabi, compelling a constant refinement of its style and methodology.

The concept and the techniques of planning, which impregnate all contemporary human activities, and particularly their ‘globalizing’ trend, founded on the interdependence of those activities, have done no more than accentuate the plan-making disposition which systematized institutional education has had since its first beginnings. They have done this by transforming the work of preparing curricula and syllabi into a scientific and technical process aiming at ever-increasing rigour. It is a task which can no longer be carried out effectively unless it starts from a clear appreciation of its premises and objectives and its connexions with the most varied areas of human existence and of the multifariousness of the knowledge and methods that this has given rise to.

Thus a comprehensive look at the history of preparing curricula and syllabi permits the assertion that it has moved on from an empirical and even technically restricted approach to a scientific conception and methodology that do not stop short at the ‘scholastic’ and ‘pedagogical’ but are moving towards integration in a far-reaching interdisciplinary network. Hence the effort to go beyond the mere ‘table’ of courses of study and activities, or the simple development, more or less complete and rational, of particular subjects, to seek a way of incorporating this level of planning in a more ample process which marries heterogeneous kinds of thought and knowledge, diverse social sectors and more refined methodologies for research and marshalling the elements.

The old-style (though still extant) time-tables, or the very widely used programme schedules, can say little henceforward except in explicit relation to the goals, needs, realities, solutions and possibilities provided for in the over-all planning which, instead of eliminating school planning properly so-called, transforms it into an ampler and more complex process. Thus, for this special department of pedagogical science and technology, there is no longer any way out but acceptance of the ever-extending field of the contemporary pedagogical disciplines. And here afresh the pedagogue and the educator maintain their right to assert their viewpoint, central from their angle, which is simply that of raising the human being as perfectly as possible.

Leaving aside other extremely important aspects of our theme, I wish to confine myself for the moment to the comparative and critical study of curriculum and syllabus reform, without seeking to do more than plot certain bases for the process. The comparison cannot but be objective, since it takes the elements established beforehand and combines them in a single set. The critical study cannot be equally so, with the putting forward of interpretations which as such are always open to challenge even though they may be justified by the purpose of detecting general trends and prospects.
Nevertheless, this final section will not be without some descriptive elements, as for example descriptions of the priority points in reformist projects and of future curricula. Their inclusion here is due to certain gaps in the information, but above all because they are more readily usable than the rest for the postulation of interpretative outlines.

A rapid survey of the reforms of primary and secondary school curricula and syllabi produced during the 1957-67 decade reveals far more than the existence of a movement towards the reform of didactic systems in the Latin American countries.

The reform of curricula and syllabi and the importance attached to it is the reflection of a generalized need for far more radical transformations relating to the very concept of education and the social and economic conditions in which it has to develop and which it must subserve. However, for reasons which are already common knowledge, the basic transformations are not taking place as rapidly as peoples and governments desire. On the other hand, the reform of curricula and syllabi is being intensified, perhaps because it is simpler to carry out or, concomitantly, because it is considered to be one of the ways for bringing about more radical changes.

The conclusion is in some sort suggested by the choices of priority matters which the various countries have presented or are presenting to establish the necessity of the reforms: harmonious development of the juvenile and adolescent personality; amendment of curricula and syllabi to fit our new knowledge about childhood and adolescence; adjustment of the phases of the formative process to the stages of individual development; provision of training to match the present requirements of the society through a co-ordinated system of general and vocational education; diversification and democratization of the educational system to ensure the effective implementation of the right to education and of the principle of equality of opportunity; interlocking of the several educational levels; development of practical courses; expansion of school enrolments and consolidation of the different types of primary schooling; break-away from the classical academicism of secondary education; elimination of polymathic ideas from curricula and syllabi; improvement of educational systems to fit the exigencies of each country, attaching special importance to the requirements of regional development; adjustment of the system to the currents of pedagogic renewal; raising the living standards of the people; possibility of agreements between nations for the improvement of educational systems; improvement of teacher-training methods; constant updating of curricula and above all of syllabi in view of the accelerated rate of contemporary cultural advance; increase of basic research as the first step towards the reform and evaluation of educational didactic structures.

All these subjects—commonly presented as objectives to be attained—are cited as grounds or motives, to a greater or lesser extent, for the reform of curricula and syllabi. It can readily be perceived that all of them, save two highly specific, concrete items, transcend the limit of the mere planning of instruction.

A second conclusion arising from the number and quality of the reforms effected or to be effected in the curricula and syllabi of primary and secondary schools is that, whereas the renovations at primary level—once full primary schooling is achieved—are predominantly focused upon the syllabi and their updating, the reforms at secondary level are focused more particularly on the curricula and the creation of new lines of study. Most countries in tackling the readjustment and updating of primary school syllabi, are confining themselves to partial changes only in the teaching given. By contrast, at the secondary level the approach in favour is a root-and-branch reform, which aims at replacing the old propaedeutic and academic conception (embodied in the bachilleratos) and reinforcing technical education for an upgrading
of the quality of manpower indefeasible for
development.

In every one of the countries under consi-
deration the decision to reform or revise primary
and middle-school curricula and syllabi comes
from the government. In general it is the min-
istries of education, councils of education (when
they enjoy a certain autarchy or autonomy) or
similar bodies, which, under delegated powers,
arrange for the elaboration of curricula and
syllabi and prescribe, at least, their bases and
general objects. Concurrently, the same authori-
ties decide as to the approbation of the drafts
and order their adoption, with the sole variant
that in some instances trial applications are
accepted previous to general adoption.

If the position with regard to curricula and
syllabi respectively is compared, it is observable
that political authority is exercised more forcibly
in the former case than in the latter, the syllabi
being planned and put into effect with more
scope left for initiative from educational science
or teaching sources.

Also observable is a growing tendency towards
centralization in decisions to reform or revise
curricula and syllabi. In almost all the Latin
American countries, the federal authorities are
gaining power—executive in some, normative
in others—even though the maintenance of the
education system, particularly at primary level,
may lie with the States or provinces. This move
towards centralization has a natural basis and
conforms to a trend very common today and
set by the fact of the federal authorities’ super-
ior resources, not only financial but technical.

In this connexion, it is also observable that in
the Latin American countries reform decisions
are more a reflection of doctrinal or intuitional
considerations or of the pressures of different
social sectors, including the teaching profes-
sion, than of a scientific critique of the didactic
structures yielded by a scientific process of eva-
luation. This shortcoming seems to be the result
not only of incomplete acceptance of evaluation
as an important foundation element for any
reform, but also of a still unsatisfactory devel-
opment of these procedures in Latin American
educational affairs. Nevertheless, concern to ex-
and or introduce evaluative systems does exist
and is in itself an extremely positive sign. In an
ideal situation, the sound answer would be to
marry the doctrinal and political considerations
for drafting curricula and syllabi with the diag-
nosis of social needs and the results of rigorous
investigations of the real shortcomings and pos-
sibilities of the educational system. One factor
that might influence the situation—subject to
all reservations according to the case—would
be to step up the training of education experts,
with all the breadth the avocation requires,
and to give them their proper place in the
analysis and solution of the problems of devel-
opment.

There are wide variations in the structure,
administrative affiliation and terms of refer-
ce of the agencies responsible for elaborating
curricula and syllabi for primary and middle
education in Latin America.

Inasmuch as we are discussing vital cogs in
the process of framing didactic structures, it
will be useful to provide a tabulation of pos-
sible types of drafting agency within which
those developed in Latin America can be situa-
ted. This of course is without prejudice to the
possibility of amplifying this ‘typology’, includ-
ing its extension to other sectors of the technical
direction of education.

In general, the drafting entities appear to be
of three major types: permanent agencies,
working parties, and mixtures of the first two.

The permanent entities are those incorporated
in the actual structure of the pedagogic or
politico-pedagogic directing mechanism, accord-
ing to the diversity of its jurisdictions (nation-
al or federal; province or state; regional;
municipal, communal or local) and levels
(primary, middle level, or both). The class of
permanent agencies comprises single-purpose
entities, i.e. bodies specializing in the drafting
and revision of curricula and syllabi, of varying
designation and status (division, department,
section, office, centre, laboratory, etc.) and multipurpose entities whose functions include the preparation of curricula and syllabi, equally varied in their status and designation (Board of Education, Technical Directorate, etc.). Either sub-type may be alternatively a departmental entity (under the aegis of a single branch of government, e.g., the Ministry of Education) or interdepartmental (i.e. with responsibilities to several branches of government, e.g., the Ministries of Education, Social Welfare, Labour, Planning and Development, etc.).

The working parties are simply special commissions, generally ephemeral (formed for a particular reform of curricula and syllabi) although this does not mean that there are not also permanent committees frequently operating within the framework of a permanent multipurpose entity (e.g., the Comisión Permanente de Planes y Programas of the Argentine Consejo Nacional de Educación). The working parties may be of intradepartmental membership (consisting of representatives of a single one of the sectors concerned with curricula and syllabi, generally teaching or pedagogics) or of interdepartmental membership (comprising representatives of two or more sectors with an interest in the planning of instruction, i.e. of different branches of the administration and/or of employers’, workers’, cultural and family organizations, etc., in addition to teachers and education specialists).

The mixed types are formed by combining permanent entities with the working parties or committees, and associating the latter with the work of the former when a specific redrafting of curricula and syllabi is ordered.

From a synoptic look at the composition and affiliations of the Latin American agencies responsible for the planning of instruction in the light of the tabulation suggested above, it emerges that, though they are all in favour of having specialized groups and sectors, the creation of the latter has not been possible in every case. Thus, we get the situation that in the eleven countries under consideration there are multi-purpose permanent entities that operate at the level of general academic direction and, naturally, look after the business of drafting curricula and syllabi, but only some of the countries have succeeded in establishing, within those entities, permanent curriculum sections and these with the ‘mixed’ drafting bodies which are the most common. The rest make do with special commissions or temporary working parties.

In this same connexion it needs to be pointed out that membership of these entities, whatever their type, is by direct appointment by the political and politico-educational authorities, the suitability of the members remaining subject to the judgement of the pertinent authorities.

Another aspect of interest is revealed by analysis of the composition of the planning bodies. In almost all countries they are found in the ‘intradepartmental’ form, i.e. manned almost entirely from the teaching and pedagogics sector. The fact is significant and deserves to be dealt with specially in the following section.

Taking them together, it can be said that all the countries covered by this report observe the different stages desirable for the thorough execution of the process of elaborating curricula and syllabi. There is, above all, evidence of growing scrupulousness to create the conditions for the process to be pursued in accordance with the canons laid down by the latest curriculum theory.

Evidence of this advance is provided by the intention evinced to ground the process more scientifically, to give it an appropriate methodology, to organize the evaluation systems, to generalize the preliminary testing of schemes and to step up the production of the material, the aspect which so far seems to have left most to be desired.

Once more, however, the synoptic picture makes it necessary to stress that, in most of the countries reviewed, the process of elaboration, like the entities operating it, remains the preserve of the teaching and pedagogics sector,
without its having been possible as yet to achieve the effective association in it of the many non-teaching and non-pedagogic sectors to which it is of concern and which are aspects of the over-all development of the societies of Latin America. A contradictory situation thus arises: on the one hand there is the intention of reforming didactic structures with a view to the modification of educational structures and concepts to serve the cause of development and, on the other, the isolation of education from the social forces which, in practice, like education are producing this development.

This discontinuity is to be seen not only in the lack of effective, organic participation by the non-pedagogic sectors but also in the non-incorporation of representatives of other disciplines. With this organic incorporation not brought about we get an impediment of the new indispensable theoretical and technical processing of curricula and syllabi on the broadest interdisciplinary basis. However, another development discernible is a promising opening-up by the entities doing didactic planning, which are beginning to draw closer to those responsible for over-all planning and the co-ordination of development.

A critical analysis of replies obtained with regard to future plans, in conjunction with certain of the tendencies discussed earlier, warrants that the prospects with regard to the belief that the future evolution of curriculum and syllabus drafting must be envisioned in the very special perspective of the reformist drive. It is logical to think that, if Latin American educational systems are in process of reform, virtual or actual, the sector concerned with the elaboration of didactic structures will necessarily benefit.

Thus the majority of the concerned countries are creating special machinery for drafting curricula and syllabi, envisage its creation, or are strengthening the existing machinery, in particular by establishing specific organs for the job. Examples are many: Argentina has its new Oficina Sectorial de Educación; Brazil locates the task of formulating curricula and syllabi within its ‘strategic’ development programme; Colombia is progressing towards the establishment of an Instituto de Investigaciones en Programación Educativa; Ecuador is taking steps to enlarge its Departamento de Planeamiento Integral de la Educación; Guatemala is seeking to start new technical organs within its Consejo de Educación and its Directorates General for the different levels of education; Haiti already boasts a permanent Council of Education and a national research council; Honduras is in process of introducing a permanent organ to be responsible for the planning, administration, co-ordination and evaluation of curricula and syllabi at all levels; Paraguay is in the course of laying the foundation of a survey for the investigation of teaching at all levels; Peru, whose División de Currículo is to set up curriculum centres responsible for the special areas of primary education, has formed a Comisión Nacional Permanente de Reforma de la Educación Secundaria with regional branches, and is planning to restructure secondary technical education, its curricula and syllabi, on the basis of the ‘Plan Sectorial de Educación’; the Dominican Republic’s Departamento de Planes y Programas de Estudios is getting ready to carry out the studies for a root-and-branch reform of the didactic structure of the primary and middle schools; Venezuela, on completion of the experimental phase in 1970, will then embark upon a second phase of horizontal extension of the programme establishing regional control, evaluation and follow-up zones, selecting experimental schools for each zone, stabilizing syllabi which will no longer be subjected to the present annual updating and pursuing intensive programmes for the improvement and organization of the teacher training centres in conformity with the orientation of the curriculum.

All this effort is, of course, conditioned, generally speaking, to the possibility of development and expansion of the educational system itself within a harmonious social context, more particularly by raising the scientific and professional quality of teaching work.
Youth and society

Educators in many parts of the world are aware of a new spirit of revolt among students. Some of the older generation see it as mere anarchy and call for stricter discipline. Others hope that this new dynamism can be directed towards constructive ends by the students themselves. Either point of view is based on the assumption that profound changes are needed in the educational systems of today and that teachers at every level should be involved in planning the schools of tomorrow.

The following are excerpts from radio interviews with several leaders in the world of education who are, themselves, 'students' of the current spirit motivating young people.

Interviewer: 'The young people are becoming more different, and even more remote from the adults every day. . . . This revolt is more or less general throughout the world. . . . It has taken the form of an outright challenge not only to the university but also to society.' These were the words of Unesco's Director-General, René Maheu. We now present the views of other leading figures concerned with the attitudes of young people towards world society. First, Lord Ritchie-Calder, Professor of International Relations at Edinburgh University.

Ritchie-Calder: I think that we are completely misunderstanding this generation. We are paying a great deal of attention now to them when they do actually protest and demonstrate. But in point of fact we are out of touch with them, we are not on the same wave-length. The fact is that this is a completely new generation. What we are really talking about is a generation which has grown into a world of complete change. This is what we can't grasp. You see, in each generation we have been moving progressively from one situation to another. We might quarrel. With my father, I could say, 'You let me in for the First World War', or my elder son can say, 'You let me in for the Second World War'. But my students in Edinburgh believe literally that history began in 1945. If you talk to them about the origin of the First World War, it's like talking about the Peloponnesian War. It's just as remote as that. They believe that the world changed completely in 1945 and, in a sense, they are right. In 1945 it wasn't the end of a war, it was the end of an epoch. We made a quantum jump in history—a quantum jump—and from there on we are talking to a generation which was, remember, born into the atom age; programmed in the computer age; rocketed into the space age; and now dithering on the edge of the bio-engineering age which is, in many ways, more portentous because there we are really going to start manipulating, not only bodies of people, but the nature of people. And there you have four enormous epochs. If you compare them with the Bronze Age, the Stone Age, the Renaissance or the Industrial Revolution, they are just as determined as these—and they've all happened in the lifetime of a 23-year-old student of today.

Interviewer: Now S. N. Hashim, Pakistani Delegate to Unesco's General Conference. He takes the argument a stage further.

Hashim: Now in the days of advanced learning and technology, which is the very basis of advanced industrial society, youth asks searching questions of us. Asks us to reconcile our protestations with our performance. And we must admit that we have no answer because we do not have a clue to what moves youth today. I will here quote from a pamphlet recently brought out by the Young Fabians in the United Kingdom, entitled Argument. Tony Rogers, one of the participants in the youth movement, says: 'The prevailing ethic of the movement from the very start has been participation, a rejection of consensus politics and disgust with the feeling of being manipulated by uncontrolled concentrations of power, both political and commercial, and ruled by a distant generation imprisoned in an irrelevant mythology.'
Disgust with the contrast between myth and reality and society. Violent action is not justified unless it is in response to violence.’ I will quote from a statement made way back in 1958 by Maurice Blanchot in a Paris journal entitled The 14th of July. I quote: ‘What we refuse is not without value or importance. Precisely because of that, the refusal is necessary. There is a reason which we no longer accept, there is an appearance of wisdom which horrifies us. There is a plea for agreement and conciliation which we will no longer heed. A break has occurred. We have been reduced to that frankness which no longer tolerates complicity.’ This is a terrible indictment of age proffered by rebellious youth.

Interviewer: Unhappily, this rejection by youth of society as it is, often seems to manifest itself through violence. At least in the developed countries. S. N. Hashim again.

Hashim: I might like to say that youth violence is a peculiar affliction of advanced industrial society. Our very under-advancement, which we all deplore, perhaps insulates us from the worst manifestations of youth violence. But this is at best a temporary phase, for as we pick up developmental speed we must, in the not too distant future, face this world-wide phenomenon even in the distant fastnesses of Asia and Africa. But for the moment we have the advantage of objective observers. It has been forcefully borne in upon me during this preoccupation of Unesco with youth problems that we, who are on the wrong side of 40, in our 50s and 60s are taking a self-righteous and smug attitude to troublesome youth which corresponds exactly to what the youth think of us. Most of us have talked in a vein which has undertones of strict censorial disapproval. But what of us? Have our private and public conduct been so exemplary that we can afford to be self-congratulatory? Between the two world wars hasn’t violence been the ultimate tool of settling our disputes and differences?

Interviewer: Where do the parents of these rebellious youngsters come in? Can they no longer discipline their children? The younger generation takes this world of rapid change for granted. But for adults it’s stretching human adaptability to the limit, so Dr. Maurice Carstairs, Professor of Psychiatry at Edinburgh University, maintains. Human beings, he says, have adapted to remarkably different ways of life, but in the past they’ve had generations in which to make that adaptation. Now, we’re compelled to do it in part of a single lifetime and, what’s more, we’re often expected to adapt again, in middle life, which is harder still.

Carstairs: The demoralizing influence, if you like, begins at home, begins in the family. After all, if we think about it for a moment, traditionally children look to their parents for the model of their own future behaviour. Nearly all children live through a period of hero-worship of their parents, making their parents perhaps unconsciously the model which they imitate. And certainly in traditional societies, it went further than that. The son aspired to follow the same occupation as his father, to learn the skills of his father, and the daughters in turn learned the household skills from their mothers. But we’re living in a time when the father’s skills are probably outmoded by the time the son is ready to take up his occupation, so that fathers can no longer serve as a model for their sons’ behaviour. Even the mother’s attitudes in conduct in the home may be superseded when their daughters are ready for marriage: they may be repudiating the way their mothers lived as old-fashioned and no longer relevant to their day.

Interviewer: Now Lord Ritchie-Calder on disciplining young people.

Ritchie-Calder: My reply to that is very simple. Who are we to discipline the young generation? We can’t even discipline ourselves. It is not they that are making the world upheaval of
Youth and society today. It's we. We've got to discipline ourselves before we can talk about slapping down the youngsters. The whole of the conspiracy of modern social life and all the urbanization and so on is depriving youngsters of their natural outlets, the puppy outlet, if you like. There's a tremendous sense of a dead end. And this is another thing which we in the older generation lose sight of; that we have educated these youngsters for a specific job, but they know that the whole trend of modern technology will make their job out of date in two or three years time. They know it. And therefore they are sort of marking time, waiting for the next change; in any intelligent society we'd be educating them for that change. I don't just mean training them in a technical college or something like that, but broadening their interests so that they can take their change in their stride, so that they can adapt themselves. Now this is something very serious and that is where our educational system will fail. That's why—coming back to the students—they know it because they can see it in their own university. They can see their teachers talking to them about things that no longer matter.

Interviewer: Ours is a technological age and will become increasingly so. Yet more and more of the brighter students are opting out of science and technology. This was one of the problems discussed in London at the inaugural meeting of the British Society for Social Responsibility in Science. Professor M. H. F. Wilkins, F.R.S., Nobel Prize Winner, blamed, among other things, the ivory-tower mentality of many research workers.

Wilkins: This overbearing interest in preoccupation with knowledge for its own sake, it's got little to do with human values. It's not a bad thing in itself, but if it is not balanced by proper concern for the effect of science on humanity then, I believe, it is a bad thing and gives rise to the great present dangers. And these great dangers of the misapplication of science now are causing considerable questioning about the value of science. Questioning by the whole of society, people generally, by scientists themselves and, in particular, by younger people. In my opinion it is not sufficient at all merely to say that we want science to be turned from bad applications to good applications, it is not sufficient to say this if we're thinking in terms only of the material benefits which science may bring man. This certainly is not sufficient for young people today. They are not very impressed by material benefits, except when one is dealing with under-developed countries where there are acute problems of starvation and medical problems. If one presents it like this, solely in terms of material benefits which one may, or may not, get, depending on how science is applied, I think the imaginative young people will turn away from science—and they're already doing this—and turn to art studies in the universities, or they'll opt out from a rational approach and join the artistic underground. So that the intelligent people who will be left and who will enter science itself will be more or less zombies lacking in social responsibilities, and these button-pushers and yes-men will be increasingly turning science into a juggernaut which could destroy man.

Interviewer: The last word is with Lord Ritchie-Calder.

Ritchie-Calder: I don't believe, I don't think you're going to find any solution to the youth problem simply by putting them on the committees of the Establishment. You've got to make them feel that this world-wide movement of theirs—and it is a world-wide movement—isn't just a series of rowdy demonstrations. This is a series of protests which stems from a complete and absolute discontent and disillusion about the way people are handling the great possibilities, the great scientific and technological and political opportunities involved in them. They're just impatient. I remember a very distinguished vice-chancellor of one of the
British universities saying to me when he was anticipating trouble in his university: ‘When two ships are on a collision course, look for the faults in both quarterdecks’. So you are not just criticizing the young people, you must examine what is wrong with your own system and here we’re going to have the real answer, not by mechanical artifices with artificial representation, but real involvement and I believe we can get it.

**Interviewer:** The rejection by youth of the way in which the older generation is handling, or ignoring, the immense problems confronting us today has taken the form of revolt. Here we have a protest movement which really is universal, not just local. How has it spread so rapidly?

**Ritchie-Calder:** This is because of communications. The biggest element in the youth protests is in fact communications—instant communications. So they can see what is happening on the other side of their world. They can see what students in California are doing, what the students in Tokyo are doing, what the students in Berlin are doing, what the students behind the barricades of Paris are doing, and they go and do it too. So you get a solidarity of communication. You say, this is the young all over the world, and once we have got to grips with that, if we can get to grips with it, we can begin to engage them to participate in the bigger sense.

**Interviewer:** Participation! Here’s what Terence Lawson, Secretary of the Council for Education in World Citizenship, in the United Kingdom, has to say about it.

**Lawson:** It isn’t that young people today reject the older generation. They merely want to be heard, they want their point of view to be considered by the older generation, they want a chance to share. The gap of knowledge between the old and the young is very much less now than it was in my time. When I was at school we liked certain teachers, or we disliked certain teachers, for perfectly ordinary, human reasons. But we respected all our teachers, whether we liked them personally or not, because we respected the greater knowledge that they possessed. Today, with mass communication, with radio and television, with communication satellites, etc., that gap of knowledge has decreased. The young today know almost as much in terms of information and facts as the older generation. They know, they think, and they rightly feel that their point of view and their ideas, based upon the greater information they have, should be listened to by the older people, because it may be of value to the one world of which they are more and more conscious. Very much more conscious than when I was young....

**Interviewer:** Let’s listen to Lawson again describing how youngsters in Britain give freely of their time to ease the lot of villagers in far-off regions of the less-developed world, where all too often poverty and hopelessness go hand in hand. They work through what is known as the Hundred Village Scheme.

**Lawson:** Pupils in schools will put on plays, they will clean staff cars, they will clean the windows of the school, they will do all sorts of jobs in order to raise money. Let us say they raise a hundred pounds. This is converted into Unesco Gift Coupons. Gift Coupons are a sort of international currency, they cut across all international currency problems, they’re a type of cheque. And the school in Britain will then send these coupons direct to the organization they want to help in another country, and that organization can then obtain supplies. And it is for this that the help of schools in the more developed countries, schools, adult groups, all types of groups, is so urgently required. And it is for this that the help of schools in the more developed countries, schools, adult groups, all types of groups, is so urgently required. And having seen, at the grass-roots as it were, the superb results that can be achieved by some assistance from outside, I’ve come back doubly eager to ensure that as many schools and groups
as I can make contact with shall have an opportunity to participate.

Interviewer: There you have it—participation, involvement. An abundance of intellectual and physical energy just waiting to be tapped. Fully in agreement is Lord Ritchie-Calder.

Ritchie-Calder: You know, all the time they feel they're being cheated out of something. And the younger generation—I say this quite categorically and I'm not talking now about the under-fed and the under-privileged in the developing countries, but in the better-off countries—this is the finest generation we have ever had, physically and mentally. Psychologically they're tangled at the moment, but physically and mentally they are the best generation we have ever had, and we are wasting them.

These interviews were conducted by Rex Keating, head of the English-language production unit, Unesco Radio.

Literacy campaign in Iran
by M. Borhanmanesh

Efforts to encourage adult illiterates to attend night classes began more than forty years ago in Iran. This early programme was one of the extensions of the adult education section of the Ministry of Education. Regular attendance, however, was not mandatory and classes were only held so that those adults who desired to learn reading and writing would have the opportunity to do so. The approach was a humanitarian one. We do not know how successful the programme was since no official evaluation was made at the time, and now it is almost impossible to make an accurate assessment of its effects. We can, however, infer that no striking success was achieved because according to the 1966 national census about half of the nation's primary-school-age children had no access to school and about 70 per cent of the population of 13 and over were still illiterate. This meant that the human resources represented by this segment of the nation were being wasted, and the innate talents and capabilities of a large proportion of the country's youth remained tragically undeveloped. Something had to be done if the country was to advance economically and socially.

The first step which was taken to remedy the situation was the institution of the Literacy Corps, or more literally the Army of Knowledge. His Imperial Majesty prescribed that young men of military age be given an intensive four-month course of instruction and then sent to all parts of the country to teach the unschooled and the illiterate the rudiments of reading and writing. Although the result of this programme has been encouraging, the percentage of those who remained untouched by the programme was still too high to be ignored. Therefore, in January 1965, His Imperial Majesty directed that a National Committee for Literacy be organized. This committee would have as its mandate: 'The expansion of basic education and the eradication of illiteracy in Iran, through the mobilization of all necessary resources—human and material—and the participation of Iran in the world-wide effort to promote literacy.'

In September 1965, at the invitation of His Imperial Majesty, an International Literacy Congress convened in Teheran. Representatives from all the Member States of Unesco and affiliated organizations took part in the study of illiteracy as a world-wide problem. From then on the Teheran-based National Committee for Literacy was renamed the National Committee of the World Literacy Campaign.

Following the experiences and insights gained from the work of the Iranian Literacy Corps, and the two pilot projects of the literacy campaign in Ghazvin and Shiraz where new
methods of teaching illiterates had been used, the literacy campaign gradually spread. Under the guidance of the National Committee of the World Literacy Campaign local literacy committees were formed in all the regions of the country.

At present there are more than one hundred and fifty local literacy committees all over the country. These committees are not official government organizations, although some government officials serve on them in an *ex officio* capacity. The members of the committee of every district are elected from among the people in that area.

The first task of the committee is to collect data of the extent of illiteracy for the 6 to 12 and 13-plus age groups in their district.

According to the previous recommendations laid down by Committee of the World Literacy Campaign, the field of activity of the committee should be restricted to the 13-plus age group, but since there are many primary-age schoolchildren who do not attend regular primary schools, a number of this age group attend the literacy classes. According to the latest royal message the 6 to 12 age group should be given special priority in the literacy classes as long as the Ministry of Education is unable to provide regular schooling for them.

The second function of the committee is teacher training. The applicants for teacher-training courses are required to be 18 and over and hold a high-school diploma. These applicants are taught methods of teaching adult illiterates. They are also given instruction on how to attract and recruit illiterates to the literacy programme, and how to help the students maintain an active interest in their studies. So far about 65,000 people have received certificates for the completion of the teacher-training courses. All of this number, however, are not currently teaching.

These teachers, when employed, are not given any fixed salaries. They are paid on the basis of the number of students who pass the examinations. The examinations are prepared not by the teachers but by the committee and administered by the teachers under supervision of the committee. It should be noted that for every ten teachers there is provided one trained and competent supervisor to guide them in their responsibilities.

The third function of the local literacy committees is the supervision of literacy classes. A complete course of literacy now consists of two six-month periods or terms. In order to be permitted to enrol in the second term of study, a pupil should have passed the final examinations of the first term. It is estimated that any pupil who completes successfully these two courses has in the areas of reading, writing, arithmetic, and general education gained the equivalent of a fourth-grade primary-school education.

In the first term every student completes six books—one basic reader and four supplementary texts plus an arithmetic book. During this term a student learns not only these basic skills but also gains a general knowledge of Iran and the fundamentals of better living.

In the second term the purpose is to have the pupils practise the skills they have acquired in the first term. The emphasis in this second section is on general education in the areas of the history and geography of Iran, more advanced arithmetic and basic personal and environmental sanitation. Apart from learning the written and symbolic forms of the usual business transactions of their daily lives, the pupils also learn the modern scales of measurements, and the use of saving and chequing accounts.

The fourth function of the local literacy committees is to instruct public or private organizations who employ illiterate manpower in an effort to secure their co-operation in the literacy campaign. Other organizations and individuals are encouraged to support the literacy work financially and morally.

Apart from guiding the local literacy committees, the main functions of the National Committee of the World Literacy Campaign are:
planning and evaluation; preparation of textbooks and other reading materials; and budget and finance.

The literacy campaign in Iran is very widespread. The number of students in literacy classes at some seasons of the year exceeds 1 million. A programme of this magnitude needs careful planning, and constant supervision and evaluation.

The supervision of the work of the local literacy committees is done by the inspectorate section of the National Committee. In addition, the National Committee also conducts a special annual evaluation.

One month a year specialists from the Research and Statistics Centre of the National Committee go to different parts of the country in order to conduct the annual evaluation. This evaluation focuses on two main areas: one, an assessment of the effectiveness of the programme which is being carried on by the local literacy committee plus an evaluation of the textbooks and other reading materials and the way they are used; second, an investigation of the problems which slow down the programme of literacy work. In the light of the results of continuous supervision and annual evaluations, the old programmes are modified and new programmes are devised by the National Committee and implemented by the local literacy committees.

The preparation of textbooks and other reading materials is carried out according to the special needs of the participants in literacy classes.

For the first period of instruction separate textbooks are in use in urban and rural areas. Special attention is given to the textbooks which are used in the Turkish-speaking regions since 40 per cent of the words of these books are chosen from the words common to both Turkish and Persian. The medium of instruction in literacy classes all over the country, however, is Persian.

For every book a teacher’s guide is prepared and made available to the teachers. Aside from the textbooks, easy reading books for particular vocational interests and stories for reading enjoyment are prepared and made available to the participants and new literates.

In order to make the participants, and especially the new literates, more interested and accustomed to reading, a bi-weekly newspaper entitled Rooze-no is published. One of Teheran’s two largest daily newspapers publishes this paper under the guidance and supervision of the National Committee. News events, articles specially prepared for the new literates, and advertisements are the main features of this newspaper. Rooze-no is priced at one rial (75 rials equal one United States dollar) so that all new literates can afford to buy copies.

The third function of the National Committee is to finance the programme. The National Committee derives its income from two sources. One consists of voluntary contributions received from organizations and individuals; the second is the Plan Organization, which is the committee’s major source of income. For every new literate the National Committee is provided an allowance of 2,000 rials by the Plan Organization.

Although many devoted and hard-working individuals have spent and are spending tremendous efforts in order to make the literacy campaign a success, there are still obstacles to be overcome. Plans are under way to increase existing efforts. One of the plans is a bill which has been submitted to the legislature. According to this bill, entitled the National Duty Law, it is obligatory for every adult literate to recruit and teach other, illiterate, adults and it is also mandatory that every adult illiterate attend literacy classes. After the passage of this bill, the National Duty Law shall be enforced gradually in different parts of the country, and in all parts within a prescribed period of time. Meanwhile, before any decisive measures are put into effect, the National Committee believes that the following measures
must be taken in order to eliminate illiteracy:

1. In order to prevent a new crop of illiterates, all school-age children should be given some form of primary education.

2. In literacy work, priority should be given to those areas of the country which are developing economically. This indeed is in line with the philosophy of functional literacy.

3. All the illiterates in the active age group (13-35) should be compelled to become literate.

To implement the measures mentioned above, closer and more intimate co-operation of all governmental and private organizations such as the Ministry of Education, Ministry of Labour and all large private corporations is required. Although some form of co-operation has already been evident, it is hoped that following the dictates of the recent imperial message this co-operation will become more permanently effective.
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