Qualitative aspects of educational planning

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Time for a change of strategy

The expansionist strategy of educational development which nations everywhere have been pursuing pell-mell for more than a decade has now run into serious trouble. The time has clearly come for a major change of strategy and for corresponding changes in educational planning. Just what form these changes should take has yet to be discovered and agreed upon, but some useful clues are offered by the new insistence of educational leaders - voiced increasingly in recent international meetings - that 'more attention should be given to the qualitative aspects of educational planning'.

One's instinctive reaction is to agree wholeheartedly with this proposition, for the word 'qualitative' has a tranquillizing effect on anyone worried about things going wrong with educational development. But the effect wears off quickly when certain mischievous questions intrude. What exactly are the qualitative aspects of educational planning? Are they separate and opposite from the quantitative aspects, or do the two co-exist as different dimensions of the same thing? Whatever went wrong with the old strategy which had such strong support and seemed to be doing so well? In any event, what is it that educational planning should do to set things straight? What new sort of strategy of educational development should planning serve?

There are as yet no clear and agreed answers to the foregoing questions, one reason being that 'qualitative' means quite different things to different people, depending on each one's particular background and vantage point. From inside the educational system the classroom teacher sees it one way and the administrator another; from outside, the economist, the sociologist, the editor and the political leader each see something different in the same situation. Conceivably they are all correct; perhaps each one's particular conception and appraisal has its own validity and relevance. But like the fabled blind men who tried to describe an elephant, each observer may be clutching different limb of the truth but no one of them is seeing it whole.

If we are to perceive the qualitative aspects of educational development in full and clear perspective, these various meanings must obviously be sorted out, clarified and placed in meaningful relationship. Otherwise there
can be no rational discussion of the subject and no intelligent reordering of the strategy and planning of educational development.

It was precisely this task of sorting things out and putting them in perspective that was entrusted to the eminent educators and social scientists who participated in IIEP's symposium on 'the qualitative aspects of educational planning with particular reference to developing countries'. They were not expected to invent solutions to all the problems they came across, or to give birth to a brilliant new doctrine of educational planning. They were not even asked to reach agreement on a set of conclusions which could be enshrined in a 'final report'. They were simply invited to discuss the matter and to bring the light of reason to bear on this dark side of educational planning, in the hope that, by so doing, they and others might be helped to think more clearly about the matter and thereby to act more effectively in dealing with it.

Not surprisingly - since the participants were purposely drawn from a diversity of professional and cultural backgrounds - the symposium got off to a stormy start. In a matter of minutes an eminent educator and a renowned economist were (figuratively) at each other's throats, staring through quite different lenses and thrusting with different vocabularies. But as the dialogue evolved, taking its own spontaneous twists and turns and occasionally doubling back on itself, light replaced heat and positions which earlier seemed flatly contradictory emerged as complementary. In the end a series of fresh insights and areas of agreement were achieved - though it would be stretching the truth to imply that agreement was total on all scores. Ironically, such genuine differences as still lingered at the end seemed to be mainly among the educators themselves. One of them observed whimsically at the close: 'I came here fearing the economists; I leave fearing some of my fellow educationists.'

Later chapters of this book will trace the course of the debate and will present, along with the various discussion papers, a verbatim record of the freely expressed personal views of the participants, here and there revealing how contending ideas, striking like steel against flint, produced flashes of light and deeper understanding of the 'qualitative' aspects of educational planning.

This introductory chapter makes no attempt to synthesize all the bright things said at the symposium - a nearly impossible task. Its modest purpose is to provide the reader with a preliminary overview of the subject as seen in retrospect by only one of the participants. Hopefully this overview will serve the reader as a useful guide to what follows and provoke him into joining and extending the explorations which the symposium began.

More specifically the present chapter deals - albeit sketchily - with three key questions. First, what is the problem? Why has this widespread concern
about the qualitative aspects of educational planning arisen at this time? Second, what does it mean? What conceptual and semantical distinctions must be made in order to talk sense about the qualitative aspects of educational planning? Third, what are the implications for planning? What conclusions may be drawn from the foregoing questions and their answers regarding the future challenges to educational strategy and the future tasks and character of educational planning?

**What is the problem?**

Let us begin with the man who voices concern about the 'qualitative aspects' of educational development. What does he really mean? Chances are he means that quality in the classroom, measured by traditional 'standards', has declined on a wide scale during the recent years of rapid educational expansion. More education has meant worse education, as he sees it: 'Youngsters are not getting as good an education as they used to.'

What is his evidence? It is mainly of two kinds: first, the apparently poorer average performance of today's students, measured especially by standard academic tests; and second, the evident decline in the quality and quantity of educational resource 'inputs' per student - reflected, for example, in the high proportion of poorly qualified teachers, overcrowded classrooms, and widespread shortages of textbooks and other teaching materials.

Though the facts may not bear him out in all cases, they surely will in many. But if this is the whole of the problem, or at least the heart of it, then the solution would seem straightforward. Classroom quality can be restored to former levels either by expanding the amount and quality of resources to match the increased number of students or, if this is not economically feasible, by reducing the number of students to match the available resources. In either way, the main task of educational planning would be simple: to get the arithmetic of students and resources back into the old balance.

But is this really the heart of the problem, or even the right way to look at it? Obviously not, for even a cursory glance at the vast changes taking place in education's world demonstrates that this two-dimensional view of the qualitative problem is far too narrow and too static to fit the realities of the situation. It implies, for one thing, that while everything else changes, academic quality and standards remain as absolutes, good for all times and places. It implies also that yesterday's educational content and pedagogical practices are the one best route to 'good' educational results for tomorrow, and hence that the job of educational planning is mainly to get things back to where they were in 'the good old days', only on a larger scale.

The thrust of this dubious argument, in brief, is that in the course of ex-
panding to meet increased demands, education should 'remain true to itself' -
meaning, it should cling to its familiar internal objectives, standards, content,
methods and logistics; it should follow a business-as-usual approach, even
while the world all around it is changing at unprecedented speed. This, it
would seem, is precisely the sort of doctrinaire, mechanistic approach which
thoughtful educators have always warned educational planners to avoid.

What then is the alternative? Obviously it is to find a broader and more
dynamic conception of the qualitative aspects of educational development -
one which views education as a living, moving thing, whose goodness resides
not only in its excellence relative to certain 'standards' but in its relevance
and fitness to the changing needs of the particular students and society it is
intended to serve. This more dynamic conception can perhaps best be distilled
from the turbulent record of educational development around the world over
the past two decades. Elsewhere the author has attempted, with the aid of his
IIEP colleagues, to review and analyze that record at length; it will suffice for
present purposes to note only a few of the highlights.¹

The main thesis, briefly stated, is that virtually all nations today, rich and
poor alike, find themselves in the clutches of a deepening educational crisis.
It is in essence a crisis of maladjustment - of disparities taking many forms -
between educational systems and their environment. The world around them
has lately been changing with unprecedented speed under the impetus of a
series of interacting revolutions which have swept the world in the past quar-
ter of a century - revolutions in science and technology; in political, econo-
mic and social affairs; and in consequence of these others, revolutions in
human demography and in human expectations. These great revolutionary
forces have generated explosive increases in educational demand and great
changes in the character of educational needs.

The main response of educational systems to these challenging new cir-
cumstances has been to expand themselves as rapidly as possible - by and
large in their old image - in a desperate effort to keep even with the expan-
ding demands upon them. Accordingly, most nations have followed what
might be called a strategy of linear expansion of their existing educational
systems, aimed at enrolling a larger number and proportion of the youth
population at each educational level.

¹ See Philip H. Coombs, The world educational crisis—a systems
analysis, New York, London and Toronto, Oxford University Press,
1968; see also: Unesco, International conference on educational planning.
Paris, 6-14 August 1968 (Final report), Paris, 1968. (ED/ICEP/5.);
and: George Z. F. Bereday, Essays on world education: the crisis of
supply and demand, New York and London, Oxford University Press,
1969
Judged by the indicators of progress appropriate to this kind of strategy - namely, the statistics of student enrolments and their ratio to the corresponding age groups in the population ('participation rates'), plus the global statistics of national educational expenditures and their ratio to total public budgets and to the gross national product - judged by these measures, the strategy of linear expansion has achieved dramatic results. In the great majority of nations, gross enrolments have more than doubled at every level in the past ten to fifteen years (save at the lower educational echelons in developed nations where near maximum participation rates had already been attained before the great expansion began). In similar fashion, educational expenditures have mounted rapidly, not only in absolute amount but as a proportion of total public budgets and of the gross national product. In developing and developed nations alike, the proportion of the gross national product devoted to formal education has risen in many instances from under 2 per cent prior to 1955 to 4 per cent or more at present, while in the same period the share of total public funds going to education has risen from under 10 per cent to 20 per cent or more.

Whatever else may be said of it, this dramatic record of educational growth is a great tribute to the devotion of all who brought it about, and is living evidence of the great faith which peoples and governments everywhere have come to place in education as a prime mover of individual and national development. There are, however, some other things that must be said of this remarkable expansion, less encouraging things having to do with serious imbalances and maladjustments that have evolved along the way, sapping the effort of part of its vast potential effectiveness. Five of these maladjustments especially merit brief attention here, because of their heavy bearing upon the qualitative aspects of educational development. They are: (a) the gap between educational demand and supply; (b) the imbalance between educational output and the economy's manpower needs; (c) the misfit between the content of education and the real educational needs of students and society; (d) the anachronistic provisions for staffing and managing educational systems; and (e) the menacing gap between education's resource requirements and the resources available.

The educational demand/supply gap

Despite the valiant efforts of educational systems to expand (and partly because of this) most of them have been unable to narrow the gap between the steadily rising popular demand for their services and their capacity to admit more students and give them a satisfactory education. This is basically because education breeds its own demand, independently of the eco-
nomy’s ability to support it. The youngster of illiterate parents who gets through primary school then wants to go to secondary school (though in Africa, for example, he has only a one-in-ten chance of making it). The dream of those who do get into secondary school is to go on to the university. The process everywhere works like a series of flood-gates; when the first gate is opened the flood soon washes against the second, and so on until the whole system is inundated. The developing nations that are striving today to achieve universal primary education are unleashing a flood of popular demand that will soon engulf their secondary schools and universities.

The size and force of this flood is compounded by the extraordinary growth of the youth population. This factor alone is requiring primary schools in many developing countries to expand their enrolments by 30 per cent or more per decade just to keep their participation rates from falling. Urban schools in the same countries are flooded additionally by the migration from rural areas. This population multiplier was neglected by many governments five to ten years ago when they were setting their enrolment expansion targets for the sixties and seventies. Because they set these targets in terms of percentages of the youth population attending school rather than as absolute numbers, they have ended up shooting at moving targets - much harder to hit than expected.

The typical response to this overwhelming pressure of popular demand has been to spread sparse resources - classrooms, teachers, books and the like - thinner and thinner over more students, until in many situations education became a caricature of itself and a travesty.

In all candour we must here modify what was said earlier about the impressive picture of recent educational progress sketched by the rising curves of gross enrolment statistics. These statistics, especially in developing nations, are often highly misleading; they are ‘padded’ with shockingly high numbers of drop-outs and repeaters and conceal a tragic decline in educational quality and effectiveness to the point sometimes where education becomes disinvestment. When these statistics seem to say, for example, that 50 per cent of the school-age youngsters in country X are getting a primary education, the actual truth of the matter may be that something over half of all children get registered in the first grade, but only two or three out of every ten of these actually complete the primary school, with the majority of them taking an extra year or two to make it. Most of the other youngsters are condemned to a life of illiteracy, unless they are later rescued by an adult literacy programme. Thus an astonishing proportion of precious educational resources are being poured into, not educating youngsters, but producing high statistics of drop-outs and repeaters. To continue on this same track, still inspired by a simplistic strategy of linear expansion, could prove disastrous. A better way must be found.
Time for a change of strategy

What has been said about the educational demand/supply gap in developing nations applies also to many developed countries, mainly at the secondary and post-secondary levels. In these countries the post-war policy of 'democratizing' education, combined with the 'baby boom', has put their educational systems under severe stress, causing some of them to part at the seams.

The misfit between education and jobs

The troubles we have just discussed on the input side of educational systems are matched by troubles on their output side, taking the form of discrepancies between education and the employment market.

The time was when educators did not have to worry much about what would happen to their students when they graduated. The educational system, the economy and the number of jobs available were growing roughly in parity; the variety of jobs was smaller then than now and fewer of them required special educational qualifications. Sooner or later the student could be expected to find a job for which he was qualified. But even if he did not, he was not inclined to blame the school or the government, since neither had promised him a job in the first place.

Things have since changed drastically. Educational systems and their outputs, especially in developing countries, have in recent years been growing two to three times as fast as the economy, hence faster than the number of new jobs available (especially of the type most students aspire to). As recently as the early sixties there was great concern about the shortage of educated manpower to fill crucial economic and governmental needs in the newly independent nations. These shortages were very real. But faster than most manpower experts expected, educational systems have been catching up with these manpower shortages. They could have caught up even faster if the 'mix' of their graduates, by field of specialization, had been better suited to the pattern of the economy's manpower requirements and employment offerings. As it was, the educational systems typically were over-producing some types of graduates (e.g., lawyers and liberal arts majors) and under-producing others (e.g., engineers, technicians and nurses). This is still the case in many countries; manpower 'surpluses' coexist with manpower 'deficits' which continue to hobble economic growth and social development. As time passes, however, these selective manpower shortages somehow get taken care of and the problem becomes increasingly one of a growing pool of 'educated unemployed'. This pool tends to accumulate in urban centres, breeding frustrations and resentments and presenting a growing threat to social and economic stability.
The causes and the solutions of this maladjustment between educational output and jobs are less evident than the human consequences. There is great danger, therefore, that the actions taken to cure it - such as cutting back educational output - may be precisely the wrong thing to do. Actually the causes probably lie more outside than inside the educational system, though it must be said that a major aggravating factor is the ill-advised educational choices that students and their parents make, based on obsolete assumptions about the job market. The problem centres even more, however, in the structural defects of the economy and job market - in the rigidities in job classifications and hiring practices, in distorted wage structures, and in the inefficient mechanisms for allocating and utilizing educated manpower. These create a wide distance between the actual demands of the employment market and the amount of educated manpower which the economy could theoretically use with profit if it were functioning more efficiently.

In any event, this maladjustment between educational output and jobs promises to get worse in many countries before it gets better. The day is gone when educators could afford to ignore its likely repercussions upon future educational budgets and policies. One important service they can render to education is to press for more effective economic policies and reforms favourable to increased employment.

Misfitting contents and methods

So much has been said and written by troubled educators about the moribund condition of the curriculum and pedagogical methods that we need not belabour the point here. Yet it may be worth distinguishing three different aspects of the problem, relating respectively to obsolescence, irrelevance, and inappropriateness.

With knowledge, technology and job characteristics all changing very rapidly, there is today a universal problem of keeping the content of education up to date - of giving students an education that will fit them for the different world they will live in tomorrow. Teachers and textbooks - the two major conduits by which the 'stuff of learning' gets piped into the classroom - have a high rate of obsolescence in this rapidly changing world. No satisfactory measures have yet been found, or at least widely applied, for keeping teachers and textbooks regularly up to date.

In addition to obsolescence there is the problem of relevance - giving the particular student in the particular place the right sort of education for him. The developing nations especially suffer from this syndrome, because most of them originally imported their present educational models - content and all - from distant metropolitan nations whose economic and social conditions
and cultural heritage were very different from their own. It is not surprising that the imported curriculum and methods did not fit their needs well even then, but under the changed conditions of independence and national development they have rapidly become even more irrelevant.

The third problem, *appropriateness*, relates to obsolescence and relevance but goes beyond them. It arises in all those nations that until recently had an 'elite' educational system which they are now trying to convert into a 'mass' educational system. The educational methods, structures, curriculum and logistics, not to mention the attitudes and prestige patterns, which once worked quite well for the elite system, are proving to be seriously inappropriate for the mass system. The reasons are basically pedagogical. The mass system must accommodate a much wider spectrum of individual differences and needs than the highly selective elite system had to - a much greater diversity, for example, in academic intelligence and motivation and in the kinds of vocabularies and career aspirations that students bring from home.

Many countries have tried to meet this problem of diversity mainly by 'structural reforms' of their educational systems. In practice this has often meant tacking some new channels and programmes onto the old system with a view to accommodating the 'less able', the 'culturally handicapped', the 'under-motivated' and the 'manually-inclined', while keeping the old elite system substantially intact. Not surprisingly this has usually not worked well. The elitist core of the amended system has continued to enjoy prime prestige and thus to attract the lion's share of the best teachers, the best students, the best of everything, while the new components of the system have gained the reputation of being 'second class'. More serious than this, however, the traditional methods of the elitist system - the chronological academic lockstep, the teaching methods, the examinations and all the other pedagogical practices that once worked reasonably well when applied to a highly selected and relatively homogeneous student body - have been carried over and applied with little modification to a far more heterogeneous student body for which they are ill-adapted and inappropriate.

Much of the success of the old elite system was based on the education which students got at home, and on the ruthless process of selection by which the 'fittest' survived while the 'less fit' fell by the wayside, unmourned. The pedagogical challenges involved in opening wide the doors of formal education to the less privileged and the less talented are by comparison very much greater. Unhappily, educational research has provided few answers for meeting this situation. Meanwhile, curriculum revision, teacher training, the adaptation of teaching methods and materials, and the allocation of educational resources have gone little distance toward coping with the new pedagogical challenges engendered by the policy of democratizing educational opportunity. This failure of educational systems to adapt their inner
life to the changing needs of their students and society has been one root cause of the recent epidemic of student unrest and protest.

Archaic methods of management and staffing

The sluggishness of educational systems in adapting to new conditions is partly explained by their outmoded administrative arrangements, their anachronistic ways of recruiting, training and utilizing professional personnel, and their lack of adequate means for self-criticism and self-renewal. To say this is not to condemn the individuals involved - a large portion of whom are dedicated, able and hard-working people. It is rather to say that the institutional forms and practices of educational systems, largely carried over from the past, are simply not capable of handling present-day tasks and problems.

In a single generation, education in many countries has grown from a comparatively small enterprise into the largest local industry, the biggest employer and spender, engaged in the supremely difficult and vital mission of developing the potential of the nation's most precious resources, its youth. If there is one place more than any other where any society's future is being shaped today, it is in its schools. But to fulfil this awesome responsibility well would clearly require a fair share of any nation's finest human talent, utilized with maximum effectiveness; the best in professional training and life-long career development; the most advanced tools and techniques of management; and the strong support of modern research and development methods, applied to the continuous self-renewal and improvement of the educational enterprise. Unhappily, however, these conditions are nowhere more than fractionally being met, not because the need is unrecognized but because it is extremely difficult to change old educational habits. Moreover, those who are best equipped to lead the necessary innovations have been too busy trying to expand the old system to have much time left for trying to change it. - Almost everywhere, the methods and style of educational administration, including the ways of recruiting, developing and rewarding administrators, have been carried over from earlier and simpler times. The same is true of the most important managers and operators of educational systems - the teachers. The way they are typically recruited and trained, and the tradition-bound manner in which they are utilized, rewarded and promoted, are poorly suited to producing the kind of results needed. The irony is that the same educational institutions - the universities in particular - that have contributed so much to producing the great technological and managerial breakthroughs in other sectors of society (such as industry, agriculture, medicine,
communications and transportation) have paid so little attention to innovating in their own bailiwick.

Without delving further into these matters here, we can say with confidence that any serious effort to strengthen the qualitative aspects of educational development must give priority to modernizing educational management, to new ways of recruiting, training, utilizing and rewarding teachers and administrative personnel, and to the creative application of modern methods of research and development to the affairs of education itself.

The crisis in the economics of education

To reduce the maladjustments thus far mentioned, by adapting educational systems more quickly and adequately to things on the move all around them, will require large additional resources. But here is the blistering rub. Educational systems everywhere today are trapped in an economic squeeze which promises to get progressively worse. This squeeze is coming in one direction from the inevitable slow-down in the rapid rate at which educational expenditures have been rising in recent years, and in the other direction from an inexorable rise in the internal unit costs of education.

In the large majority of nations, as noted earlier, over-all educational expenditures have for some years been growing much more rapidly than the economy itself and total public revenues. In other words, education's percentage share of total national income has increased markedly. But in view of the competing financial demands of other important public needs, this trend cannot continue. A slow-down in the growth of education budgets is already observable in many countries - in fact, in many of them education's percentage share of national resources has stopped rising altogether and in extreme cases has even begun to shrink.

The net effect of this slow-down is to lessen the size of education's annual budgetary increases from a typical earlier norm of, say, 10 to 15 per cent per year to only 3 to 5 per cent. This smaller increment is likely to be absorbed straightaway by automatic salary rises and other built-in cost increases, leaving little or no room for educational expansion or improvement. Yet the social demand for more education can be expected to keep right on rising, while cries for 'better education' grow in intensity.

If somehow the unit costs of education could be reduced without impairing quality, this revenue squeeze could be lived with, but unfortunately the prospects are for quite the opposite. Even apart from the usual inflationary trends which victimize educational budgets, the unit costs of education - measured in constant prices - promise to rise steadily, even while quality stagnates. The basic reason for this is that education is a 'labour-intensive in
dustry' with a very high wage bill and a relatively static technology, close to the handicraft stage. The pace-setters for real wage increases in the economy are the less labour-intensive industries with dynamically improving technologies that undergird rising labour productivity. Even though education's own labour productivity does not rise, it is forced to follow the leader and periodically to raise teacher salaries - or else lose out in the competition for well-qualified manpower.

In either way education is in trouble; if it does raise salaries in order to get enough good teachers, its real costs per student will rise almost in the same proportion; if it fails to do so its quality will disintegrate.

The only real escape from this economic squeeze is for educational systems to find ways to get more and better education from the resources they already have - in other words, to improve their efficiency and productivity. But to do this on the grand scale that is needed will require much more than mere tinkering with familiar arrangements. It will require far-reaching innovations and drastic changes in the customary ways of doing things. It will require an educational revolution, comparable to the revolutions that made modern industry and agriculture more efficient and productive.

In the past several pages I have sketched in several of the critical problems currently confronting educational development throughout the world in order to establish a realistic context for exploring and defining the qualitative aspects of educational planning. This much is already clear: these qualitative aspects involve a good deal more than 'classroom quality' as traditionally conceived. The qualitative aspects of educational planning must be concerned with a host of things - with who is taught, what is taught, and how it is taught; with who are the learners and how they learn; with the fitness of educational content to the real needs of students and society; with the efficiency, effectiveness and productivity of the educational process, including how it is organized, planned and managed; and above all with educational change and innovation aimed at adapting education to the changing world around it.

What do the key words mean?

To move from this background toward a better understanding of the qualitative aspects of education requires that we first dispel various semantical confusions which often becloud this subject, and sharpen several conceptio- nal distinctions that are essential to any rational discussion of it. Participants
in the symposium found it useful to distinguish, for example, between the descriptive and the evaluative meanings of 'quality' and 'qualitative'; between the 'quantitative aspects' of educational planning and simply using numbers and statistics for various purposes; between educational 'standards' viewed as absolutes and as relatives; between evaluating an educational system's performance from the inside and from the outside; and between the standards and criteria appropriate to judging educational systems at different stages of their development. These distinctions, as later chapters will show, ran like dominant strands through the whole fabric of the symposium's discussions.

The meanings of 'qualitative' and 'quantitative'

The key words 'quality' and 'qualitative' are among the most honourable - but also the slipperiest - terms in the lexicon of education. Sometimes these words are used in a neutral and purely descriptive sense, as when one says, for example, that medical and engineering education are qualitatively different - meaning simply that they have different distinguishing characteristics. In the same sense it can be said that an educational system is undergoing qualitative changes (for example in the characteristics of its curriculum, methods, student body or teaching staff), without implying that the changes are necessarily either 'good' or 'bad'.

At other times 'quality' and 'qualitative' are used, especially by educators, in an evaluative sense, implying a 'scale of goodness' against which a teacher or student or a whole school may be measured and rated. Thus we hear it said, for example, that a certain school is of 'high quality' or is 'qualitatively excellent' - because it has 'well-qualified' teachers, 'good' facilities, a 'favourable' pupil-teacher ratio, and 'selected' students who perform 'well' in examinations and get admitted to the 'best' universities.

When these different meanings become unconsciously mixed in a discussion about educational planning, people are likely to end up talking at cross purposes without even realizing it and the discussion gets nowhere. They may think they have reached agreement, or else an impasse, whereas in fact their ideas have simply passed like ships in the night. There have been no genuine confrontation and dialogue.

The confusion is compounded when the notion creeps into the discussion that the 'quantitative' aspects of educational planning are somehow the opposite of the qualitative aspects and therefore the natural enemy of 'good quality'. The climax is reached when some of the discussants, making a final semantical leap in defiance of all laws of gravity and logic, equate the quantitative aspects of educational planning with any use of numbers and statistics.
for any planning purpose whatsoever. The stage is then set for a drama of irreconcilable conflict. The scenario reads that the planners are the 'bad guys' because they play games with numbers which imperil educational quality. The accusers are the 'good guys' (allergic to numbers) because they alone have a genuine concern for quality and a true appreciation of the real aims and values of education. By the time this point is reached all key terms have been drained of any useful meaning for educational planning.

There is a simple way to avoid such fruitless encounters and to give these terms utility for educational planning. This can be done by stripping the term 'qualitative aspects' of all evaluative connotations and using it only in its neutral, descriptive sense - to describe changes of any kind in an educational system, other than a change in size alone. The 'quantitative' aspects, on the other hand, should be used to connote changes in size, pure and simple (and should not be equated with numbers per se, which often have application to the qualitative aspects as well).

The above distinction between 'quantitative' and 'qualitative' is admittedly somewhat artificial because no educational system can change very much in size without undergoing simultaneous changes in some of its other characteristics, whether by design or by the force of circumstances. But this is precisely the merit of the distinction; it recognizes that the qualitative and quantitative aspects of educational planning are not separate and distinct things, that they are different interacting aspects of the same integral process of growth and change. It emphasizes the importance of keeping an eye on both aspects through the same wide-angle lens. If this view were always taken there would be no myopic planners who see an educational system only as something to be made bigger but not different. Instead, all planners and indeed all educators would view an educational system in multi-dimensional terms, as a dynamic, living organism with an inherent potential not only for growing but for renewing and improving itself and for adapting its ways to changing conditions.

When one looks at an educational system in this perspective he is constantly forced to ask not simply: How much has it grown? How many more students are enrolled? but, How well is it performing? This is an extremely crucial question for educational planning, to which we now turn.

Judging an educational system's performance

How does one appraise the performance of an educational system, or any of its sub-systems? Simple logic suggests that the way to begin is by asking what the system is supposed to do - what its objectives and priorities are. The next logical step is to establish some criteria of performance relevant
to these objectives and priorities, and the third step is to gather and analyze evidence in relation to these criteria which will reveal how well or poorly the system is actually doing in terms of its objectives.

Logical as this may seem, it is not how the matter is usually handled. For one reason, educational objectives are seldom clearly and specifically enough defined, or sufficiently agreed, to provide a clear framework for evaluation. Another reason is that the 'outputs' of an educational system are much harder to identify and measure in any meaningful way than its 'inputs'; hence, in practice, it is extremely difficult to compare the one with the other in order to assess the efficiency of the system. It is even more difficult to assess the full longer-run benefits of education accruing to individuals and to all society over time, in order to compare these aggregate benefits with the costs of achieving them and to calculate the 'rate of return' on the educational investment.

All these difficulties notwithstanding, it is essential to find some workable means - even if far from perfect - for evaluating an educational system's performance. Otherwise all talk of improving education and of making more effective use of educational resources is utterly without meaning.

In discussing this problem, members of the symposium found it useful to recognize that an educational system may be judged either from the inside, in terms of familiar academic standards, norms and criteria, or from the outside in terms of broader social and economic criteria. The verdict reached from these different vantage points, and the planning and policy implications of these verdicts, may differ greatly.

Let us take a particular case in which the administrators and teachers are convinced that their educational system is performing reasonably well - that its 'quality' (in the evaluative sense) and its efficiency are on the whole quite satisfactory (though 'there is always room, of course, for improvement'). On what is their judgement based? To a considerable extent it is based on the system's inputs rather than its outputs - on such things as the pupil-teacher ratio, the qualifications structure of the teaching staff, the ratio of space, equipment and instructional materials to the number of students and, of course, the over-all expenditure per student. If all these conform to the commonly accepted norms of what is required to produce good educational results, the system is said to meet 'good standards' (the hidden premise being that if the inputs are 'good', the outputs must ipso facto be good). This conclusion is reinforced if it can also be shown that this educational system enforces 'high standards' in what it demands of its students and that they in turn perform well in national examinations (which are presumed to reflect and implement such standards).

Looking at the same situation, however, some economists, sociologists and politicians might reach quite different conclusions. The economists
might say, for example, that even though the students may be learning certain things very efficiently, everyone's time and society's scarce resources are being wasted on teaching and learning things that are irrelevant and obsolete in terms of the state of knowledge and the real needs of the situation. They might also point out that the educational system's 'output mix', by levels and types of specialization, is seriously out of balance with the economy's manpower needs; hence resources are being wasted and the economy's growth inhibited by producing surpluses of some types of manpower and deficits of other types. The sociologists might observe that, far from implementing the nation's stated goal of breaking down class barriers and attaining a more mobile society, the educational system's traditional standards of student evaluation and selection are actually having quite the opposite effect. Meanwhile the political leader may complain from his vantage point that the educators have their priorities all wrong: 'improving quality is certainly an important long-run goal, but right now the most important social goal and political need is to get far more youngsters into the educational system, even at some sacrifice of quality'.

As we observed earlier in this chapter, each of these different observers may have a legitimate point, but each is viewing the same situation from a different - and limited- angle of vision. Unless this fact is recognized there is likely to be no ground for reconciliation among these different points of view and no basis for arriving at broad-visioned educational plans which give appropriate weight to all of them and enjoy their collective support.

What are educational 'standards'?  

No discussions of educational performance can proceed very far, as we have just seen, without encountering the word 'standards' - which is as revered and as slippery as 'quality' and 'qualitative'. That does 'standards' really mean? In some contexts it has a very specific, tangible meaning. This is the case, for example, with school-building standards or staffing standards, which are arbitrarily established norms considered to be appropriate and feasible of attainment in a given place at a particular time. No one seriously considers these to be in the nature of revealed truth, appropriate in all circumstances and fixed for all time. It would be patently absurd, for example, to hold that identical school-building standards and specifications and identical staffing standards should apply alike in an under-developed tropical country and in a highly industrialized temperate country, or that in either of these countries the standards for school buildings and for staffing should be the same tomorrow as yesterday.

It is when the term 'standards' is applied to educational performance and
linked to the notion of quality that difficulties arise. Then the term tends to acquire a metaphysical aura, implying the existence of a set of absolute values by which the performance and the very essence of an educational system may be judged and ranked. By this route educators and politicians come to speak in all seriousness about 'international standards' which should define the goals and guide the development of their educational system.

After exploring this matter at some length, members of the symposium came unanimously to the conclusion that the notion of educational standards as a set of absolutes is a dangerous intellectual and emotional trap. In a world in which knowledge and other circumstances are constantly changing, and in which conditions vary widely from one area to another, educational standards must be seen as intrinsically relative, differing from place to place and in the same place from time to time. This is not to deny the distinction between good education and poor education; it is simply to insist that the criteria for distinguishing the two should be relevant to the particular place and time.

What constitutes excellence in the study of physics today is quite different from that in the last century. What constitutes a high standard for agricultural training in a rice-growing country of south-east Asia is different from that in a wheat-growing country of North America. And what constitutes good performance for an educational system in a newly independent nation, ridden with poverty and illiteracy and trying to make a good start on its economic and social development, should not be gauged by the standards currently in vogue in the more developed nation from which the poor one recently gained its political independence. In short, every nation can and should have its own relevant standards of excellence, suited to its own conditions and needs. But these are like moving targets, for as knowledge, technology and the country itself advance, standards of educational performance must be constantly readjusted.

When this view is extended to the notion of 'international standards', they are seen to be largely, though not entirely, a figment of the imagination. To be sure, as one participant in the symposium pointed out, it is rather vital that each country observe prevailing international standards for the training of air-line pilots and maintenance personnel (though it should also be noted that training standards in this case are anything but fixed and absolute; they underwent great revision, for example, when the jet air liner came into use). Similarly, a country desiring to train advanced research physicists would waste its resources unless it endeavoured to make them as good as the world's best, for such researchers must compete in a world-wide intellectual market (yet probably in no field have the standards of educational excellence undergone more rapid change in the past generation than in Physics).
These exceptional cases aside, the term 'international educational standards' as typically used in developing countries, is closely identified with national pride and prestige, and with curriculum and examination conditions prevailing in the nation with which it was earlier associated as a colony. Reverence for 'international standards' in this sense can be a powerful force for perpetuating an irrelevant and obsolete curriculum in a developing country - to the dubious advantage of a handful of bright (and usually privileged) young people who gain admission to a university in the metropolitan nation, at great sacrifice to all their peers at home who were obliged to suffer through a replica of the latter nation's curriculum.

Implications for planning

The needed shift of emphasis in educational development strategy from linear expansion to change and adaptation and the concepts and distinctions just discussed, all hold far-reaching implications for the nature and tasks of educational planning in the future.

The newer concepts and methodologies of educational planning which have evolved and received so much attention in recent years (seeking to relate educational development to social demand, manpower requirements, financial flows, economic growth and future benefits) will surely continue to be important. But they will be far from sufficient to cope with the planning problems dealt with here because they are confined largely to the outer shell and broad aggregate dimensions of an education system; they do not get at its inner life. It is all too easy when applying these broader planning concepts and methodologies to take the existing educational arrangements for granted, to assume implicitly that they are working satisfactorily on the whole (or if not then the appropriate pedagogical experts and authorities should fix them), and thus to conclude that what the system mainly needs is to be made larger, and that this can be done without serious repercussions upon its qualitative features.

The above assumptions are obviously false. No educational system these days can be assumed to be functioning satisfactorily. But the moment one concedes that educational planning should pay close attention not simply to growth but to educational change, to the qualitative and not merely the quantitative aspects of educational development, one has accepted the necessity for a kind of educational planning which penetrates deeply beneath the outer surface and aggregate dimensions of the system. The central issue then becomes: how does one plan for educational change and not simply for educational growth?
To pose this question is to define today's main frontier of educational planning, where the pressing questions are far more numerous than the answers.

The heart of the matter quite obviously is that educational planning must more and more become involved with the redesign of educational processes - not merely with patching up the present arrangements and expanding them, but with inventing new learning systems and sub-systems, testing them out, modifying them as needed, and then promoting their wider application.

In this respect educational planning can learn some important lessons from modern design engineering as applied to other fields. The process begins with a clear definition of 'functional specifications' - that is, the tasks to be performed within prescribed economic and other limitations. The object then is to examine various alternative 'systems' for accomplishing the desired result, to select the optimum one and develop it to fruition.

When the prescribed task, for example, was to put men into orbit in outer space, the designers did not begin with the aeroplane and ask how it might be patched up to do the job. They began by determining the critical characteristics that a new system would require in order to perform the desired feat, then drew upon knowledge and experience from a wide range of specialized fields to create a new combination of things - a new 'system' - calculated to achieve the specified purpose. New educational designs, on the contrary, are usually patch-work versions of the old ones and therefore rarely if ever get into orbit.

Successful new educational designs cannot be made at a desk out of pure imagination - though they do require creative ingenuity. They must be based on relevant and penetrating research, experimentation and evaluation, of which there is far too little at the moment. If educational planning for change is to proceed at a satisfactory pace, one of the first requirements is to strengthen the intellectual and institutional processes of educational research and development, not simply by investing more resources and talent in this realm but by orienting them toward the right questions.

One of the necessary steps toward identifying the right questions - and thus the priority opportunities for educational improvement - is to develop better instruments for assessing the performance of educational systems and their various parts, viewed both from the inside and the outside. Here again educational planning might get some useful clues from other fields, this time from the field of medicine and more particularly from what a doctor does when he gives his patient an annual 'checkup'. The doctor cannot know everything about the patient, nor does he need to. He employs a series of critical indicators - heartbeat, blood-pressure, urine analysis, blood count, etc., depending upon the particular case - and from these he makes a diag-
agnosis as to how well or poorly the patient's 'system' is performing. If need be he then prescribes appropriate measures to improve its performance. This analogy, like the earlier ones, should not, of course, be pushed too far; but it is worth asking what sorts of 'indicator' an educational system would need to give itself an annual checkup. Without a battery of indicators of an appropriate sort, educational planners and policy-makers have little to go on except hunch and prejudice.

Summary

In this introductory chapter I have attempted to set the stage for the discussion which follows by offering a few basic propositions regarding the qualitative aspects of educational planning. These can now be summarized briefly.

The first proposition is that the simple strategy of linear expansion which most educational systems have been following is no longer appropriate or viable, if it ever was. To pursue it further will simply intensify the crisis of maladjustment in which educational systems already find themselves. What is needed instead is a strategy of change which seeks not merely to enlarge educational systems but to adapt them to the changing world around them and to improve their general efficiency and productivity.

The second proposition, which follows from the first, is that it makes no sense to conceive of the qualitative aspects of educational planning simply in terms of the quality of classroom instruction in the narrow, traditional meaning, and particularly so if one's notion of 'good quality' is defined by previous academic norms and standards which in some respects have become as obsolete and irrelevant as the horse and buggy. To be meaningful and useful for educational planning in today's world, the qualitative aspects should be defined to embrace all significant changes in an educational system, other than changes in size alone - irrespective of whether such changes are 'good' or 'bad' (which is a further matter to be judged on the basis of appropriate criteria and evidence in each situation).

The third proposition is that if one takes seriously the proposal for an educational strategy of change and adaptation, and if one accepts the foregoing concept of the qualitative aspects of the matter, then one is forced to acknowledge the need for far-reaching changes in education, and in the nature and practice of educational planning itself. Viewed in this context, educational planning must break through the outer crust of aggregate dimensions of an educational system and come to grips with the planning of change in its specific educational processes and institutions. This means that educa-
tional planning must increasingly move into the creation and testing-out of new educational designs involving fundamentally new 'systems' of teaching and learning designed to achieve well-defined performance specifications with greatest effectiveness at least cost. This in turn will require a massive strengthening and sweeping reorientation of educational research.

All this will surely take time, but to say that it cannot be done at all would be a counsel of despair unsupported by the recent history of educational development. It is true that there has always been great resistance to educational innovations. But it is perhaps equally true that the past ten years have witnessed more significant educational experimentation and more departures from past custom than any previous fifty years. There has also been a striking change of attitude on the part of most educational leaders toward the need for drastic educational changes, based in part on a new recognition that there is no alternative. If education is to help change the world and to help brighten the lives of more and more people, it must begin by changing and brightening itself. This is the essence of the growing interest in the qualitative aspects of educational planning and the central challenge to a new strategy of educational development.
In helping to prepare for this symposium I took comfort from the fact that most of the writers of the working papers professed to find the topic as elusive as I did. Very little had previously been written on theories of quality of education in developing countries, and every man had to find a starting-place for himself, as will be obvious from the sample of papers in this volume. After months of brooding and talking about the subject - or more frequently around it - I came to the symposium with a set of ideas that were just beginning to take a connected form. So did the other participants, but their forms were different from mine, and from one another. This made for a stimulating meeting, but, when it was over, I had partially abandoned my own tentative formulation of ideas on quality without having completely accepted anyone else's. As a result, when it was suggested that I write a statement on what the symposium had done to my thinking on quality, a kind of personal evaluation of the meeting, I found myself in difficulty. I had come to the end of a line of thought that no longer satisfied me and could not be expected to satisfy anyone else, and I knew it would take more than a few weeks for my ideas to settle in to a new shape. For the moment I could take no more theorizing.

The obvious alternative was to see what practical significance the discussions might have had for developing countries, but here again there were difficulties. The countries roughly classed as 'developing' differ so much that anyone writing about them in practical terms finds it almost impossible to make any statement that is not false about some of them. Nor, when one writes for an international organization, is it wise to choose a particular member state to expose the weaknesses of a type of educational system. So, with a blend of diplomacy and cowardice, I invented a country and invented, too, its minister of education, who sat in on our deliberations; the conclusions he drew from them make up the rest of this chapter. The facts, however, I have not invented. The minister makes no statement of fact or opinion that has not been true for some country I have personally known. The result of this eclecticism, I fear, is that the poor fellow finds himself loaded with more than his fair share of educational problems, and
the picture he paints is more gloomy than the average for developing countries. On the other hand, being a graduate of Harvard University and of the London School of Economics, he is rather above the educational average of ministers of education in such countries, though he is by no means unique.

Having invented the minister, I must, I suppose, take responsibility for what he has written, but I would not necessarily go all the way with him on some of his statements. In a sense, he speaks for himself and for other practical men like him.

Statement by the 'Minister of Education of Ruatoria'

My interest in this symposium is essentially practical. I came to find help with my own problems of raising the quality of education in Ruatoria. I realize, of course, that one of the most practical contributions the symposium can make might be to clarify the very concept of 'quality'. So I am by no means opposed to theory as such, though, as minister of education, I really have no time to deal with theories and verbal distinctions beyond the point where they promise to be of immediate practical value. It may be that the permanent secretary and specialists in my ministry are more happily placed, but, judging by the heaps of papers on their desks, I doubt it.

The problems

Let me first explain briefly the nature of the problems with which I need help. It is best that I state them in the terms I should have used when I came to the symposium and that I refrain, for the moment, from using the special vocabulary and concepts I picked up in the course of the meeting. Ruatoria, like most developing countries, is poor, perhaps even poorer than the average. The government is willing to tighten the national belt and squeeze out a somewhat bigger percentage of the national budget for education, but we cannot afford to see a dollar wasted. Hence my interest in planning. We get our share of external financial aid, but, useful though we find it, particularly in starting new projects, it is at best peripheral and cannot do much to help us attack such major problems as the miserable quality of most of our primary school buildings. We are grateful also for technical assistance from overseas, though this runs us into much heavier local expenditure than is often realized by the donors, and I cannot help wondering...
if foreign experts do not at times introduce practices for which the majority of our teachers are not ready and which we cannot hope to expand throughout the country.

In the first flush of the country's independence, when nothing seemed impossible, the government announced its intention to give seven years of compulsory education to every child by 1975. We are under constant political and parental pressure to carry out the promise, but, unless we sacrifice everything else to this end, we have no hope of reaching the goal, and, even if we did, we are so short of people qualified to teach that it would be a travesty of schooling. Already about 70 per cent of our children start school, but, for many reasons, of which the poor quality of the teaching is not the least, an appalling number fall out in the first couple of grades, and no more than a third of them ever reach grade 6. For lack of places, only 15 per cent of the successful primary school leavers go on to secondary school, and only a handful ever get to a university.

However, it was not for help with these brute questions of quantity that I came to the symposium, except in so far as they add to the difficulty of improving the quality of the work in the schools. As an old school teacher myself, I need no except to tell me that, by any standard, the quality of the work in most of our primary classrooms is poor. In the lower classes of the worst of the schools, fifty children squat on mats in a bare room, chanting tables they do not understand, or writing on slates or pieces of board letters and words that can have for them little meaning and less interest. In the upper classes we have managed to provide desks and forms, but the work consists of doing mechanical drill on arithmetic and grammar, writing lifeless essays on hackneyed themes, and learning by heart from a dog-eared textbook a few dreary facts that pass for history, geography and science. Here and there, an imaginative teacher breathes life into a class and a minor miracle occurs, but, for the most part, children, who came to school six or seven years before eager to learn, spend their days in bored and docile rote memorizing. And what else could one except? Two-thirds of the teachers are untrained, and half of them have no more than a primary schooling themselves. Their only way to get safely through the day without revealing the gaps in their knowledge is to stick to the textbook and encourage no one in the classroom, besides themselves, to ask questions. If, by any chance, a spark of curiosity or the flame of creation were aroused in a pupil, it is hard to see what he could do about it; there are no libraries, no equipment, and only two or three pages of paper each day for every child. It has been suggested to me that we use the new 'educational technology' to improve this sorry state of affairs, and I would welcome authoritative guidance on how this might be done; in the meantime I should be happy to know that we had a blackboard for every classroom.
As if these handicaps were not enough, the teachers in the upper classes in the primary school have to bend all their efforts to getting the proper proportion of their pupils through the examination that gives entrance to a coveted place in a secondary school. In the eyes of a community the percentage of passes justifies or condemns a school, and any experiment with new methods that reduced it for a year or two could bring the wrath of the parents on the teachers - and even on me. Personally, I think this primary school leaving examination is shockingly old-fashioned, and that it encourages the mechanical form of teaching one finds in the schools, but my inspectors tell me that, if a few rote facts and skills are all the children are given, that is all you can fairly test for. I suspect that some of the inspectors like the examination because it provides them with something they can measure; it gives them a spurious sense of exactitude and a genuine sense of authority. Yet I hesitate to abolish the examination. With the ill-educated and untrained teachers we now have, it does at least set some kind of standard to strive for. Without it, moreover, there could be no method of selecting for the public secondary schools. If I cannot get rid of the examination, I should at least like to be able to use it somehow to give the teachers more meaningful goals to aim for and so to improve the quality of the teaching, but, if I understood aright the discussions in the symposium, this is an area in which little research has been done in developing countries.

At the secondary stage the classes are smaller and the buildings less ramshackle, and a few maps and a cupboard of rather aged books will be found in many classrooms, but in most schools there is no library, no workshops, and the sketchiest of laboratories, if any exists at all. The teachers are better educated, but more than half of them are foreigners, who, whatever their scholastic abilities, come to us with their own ideas on education and can scarcely be expected to mesh easily into a school system created to cater for the youth of a culture very different from their own. The idea of education as rote memorizing, which began in the primary schools, tends to carry over into the secondary, and it is discouraging to see even the meagre science equipment we can afford to give them gathering dust while they learn the science book by heart. Here again, an external examination for the secondary school certificate dominates the teaching and reinforces the tendency to rely on mere memorizing. This examination, set by the universities, does measure, within the limits of a narrow academic syllabus, quality of a pretty routine kind, but it certainly does not measure, and may even kill, those livelier qualities of mind and character on which the future of this young country depends. Can anyone tell me how to measure these qualities and so give teachers the same credit for nurturing them that they now get for cramming minds with facts? One or two participants in
the symposium seemed to think this might be possible, but I sensed that others were sceptical.

The problem of reforming the secondary schools is complicated by the fact that two-thirds of them are not under the direct control of the ministry of education. The growing demand for education and the shortage of places in state secondary schools have encouraged the growth, over the past few years, of a crop of small private secondary schools, some started by associations of parents but others frankly profit-making. Most of them are run at a minimum cost, and there is no question of their offering anything but the low-level, routine, and verbal schooling of which we already have too much. We should like to close the worst of these schools and impose stiffer minimum standards on the rest, but it is politically impossible. Some of the pupils manage to scramble through the school certificate examination, and, in the eyes of the parents, this justifies their existence, although there are already signs of a group of so-called 'unemployed intellectuals' with this qualification.

A more subtle problem is posed by some of the older private schools, many of them established by the missions in the colonial era. They vary in quality, but the best of them have resisted the temptation to sacrifice quality to quantity, and have maintained fairly good standards. Their medium of instruction is English, whereas our state schools teach in the vernacular. This gives the graduates of these schools an advantage in the universities, where English, is, of necessity, the language of instruction, with the result that people who can afford the fees, even including, to my embarrassment, some of my Cabinet colleagues, send their children to such private schools rather than to state schools. But the private schools are traditionally academic in character, and, even if they could afford it - which they cannot they would be disinclined to add workshops and technical laboratories and develop the kinds of practical course the country so sorely needs. By throwing the weight of their social prestige and their reasonably high standards on the side of the traditionally academic courses, they reinforce the snobbishness about practical work of any kind that has always characterized our people.

Every attempt we have so far made to introduce technical education of any kind at the secondary level has either failed or fallen far short of our expectations. Eighty per cent of the population gain their living from the land, and yet the agricultural high schools we have started have had so much difficulty in getting properly qualified entrants that some of them have either closed down or been converted into regular secondary schools. An institute I worked hard to establish to train fifty telecommunications technicians a year opened its doors to find only five candidates with the secondary school leaving certificate applying for entrance. The non-academic courses in a group of new comprehensive high schools were filled only by
the rejects from other courses, and even these hoped, on the strength of having gone to the school at all, to get a job in a government or commercial office. I must admit that the scale of salaries offered by the government for skilled manual workers compares badly with those for white-collar workers.

The universities have adopted a tougher policy than have the secondary schools and are struggling to maintain parity with the European universities on which they are modelled and from which a high proportion of the senior faculty come. Since the students are ill-prepared to enter and most of them still cling to the idea of education as being primarily a matter of memorizing, the rate of failure is high and the number of graduates is far below our needs. Indeed, at the higher levels and particularly in the sciences and all branches of technology, the facilities we have provided are not being fully used. The favourite courses are still law and the humanities, and even in engineering and agriculture the courses are not sufficiently practical to suit our conditions. My colleague, the minister of education in a neighbouring country, tells me that their universities have adopted a very different policy from ours. They have given up, for the present, the idea of achieving world standards, and have allowed a much higher percentage of students to graduate. He admits that the quality has dropped, but says that, for the most part, these humbler standards are adequate at the present stage of development of his country, and that they hope to raise the standards over a period of years in much the same way that the land-grant colleges of the United States of America have done so successfully. He urges me to press our universities to adopt a similar policy until our immediately urgent needs have been met, but I hesitate to do so, since standards, once lost, may never be regained.

If I have spent rather longer than I intended on the difficulties of my own country, it is only because I believe I share them, in greater or lesser, with ministers of education in many developing countries and because no discussion on the quality of education has much meaning for us if it does not throw light on problems such as these. I did not, I may say, come to the symposium expecting to be given detailed 'tips' on how to improve the quality of education in Ruatoria. If that had been the purpose of the meeting, it would have been constituted primarily of the appropriate specialists. What I could hope to get X as some help with such broad policy questions as: What are the goals of quality (whatever that may be) that we might reasonably aim for in our schools over the next ten years? Should economic and manpower considerations determine these goals more closely in a developing country than in a rich one? Have I the duty, in Cabinet, to fight for certain educational values that seem to me to transcend the claims of economic development? How are the claims of various sectors of society
for different kinds of educational quality to be resolved? How far, for example, am I justified in resisting popular pressure for more schools if they would result in a drop in quality? How precisely can quality be measured? Apart from the conventional examinations and tests of achievement are there other reliable indicators of the fitness of a school system to the society it serves? What is the relation of quality to cost? Does good education always cost more than bad? Are there any short cuts to quality in education, or must we, as a poor country, deliberately set ourselves goals over the next generation that are inferior to those of our richer neighbours? In other words, does the concept of what is an 'educated man' vary with the level of economic development of the country? Is there any recognized pattern of growth of an educational system that can give me an indication of the quality of product I have a right to demand of the schools and the teaching profession as they now exist? And what basis does all this give me for planning a strategy to improve the quality of education over the next decade?

Towards a solution

I cannot pretend that I got from the symposium complete answers to these or the host of similar questions that bedevil me as minister. What I did get was a method of asking them more precisely, and of seeing more clearly the relations between the problems that beset me. I am not even sure that I met many new ideas that had not occurred to me in some rough form in the course of my work, but I did learn new ways of looking at them and of expressing them. For me, the most useful thing of all - and this may sound curious coming from an essentially practical man - was a new vocabulary, that enabled me to pin down fugitive ideas, and that will make it possible for me to discuss them with other people with some assurance that we are all talking about the same thing when we use the same words.

During the discussions I was overwhelmed on occasions by the semantic complexities that lurk behind phrases I have always taken for granted, but on the other hand, I found, rather to my surprise, that some of the intellectual difficulties that puzzled my academic colleagues become relatively simple in an under-developed school system. A sophisticated analysis of the concept of quality is doubtless necessary to differentiate between degrees of education in a developed country, and at the upper levels of our own system it is not without significance, but it is all too obvious to even a casual observer that most of our primary schools fail to meet reasonable standards of any kind, and there is really no question as to the general direction in which we should move over the next few years to improve them. The real problem is to
decide the priorities and find the means. In an under-developed country the range of courses of action open to an administrator is often pitifully limited, and delicate distinctions between types of education, all of which are good in their own way, seem to him to be luxuries for the well-to-do. Planners, I feel, sometimes forget this in their more theoretical moments.

I can best explain my point of view by setting out the theoretical distinctions made in the symposium which seem to me to be of particular significance to an administrator and planner in a developing country. Although I shall deal with them under separate headings, the essence of what I want to say is that they constitute a set of interlocking concepts; the full meaning of each emerges only as one begins to see the whole.

Quality of the product versus quality of the process

The first distinction to which I want to refer is little more than a clarification of terms, but, without it, two people making a judgement of quality can be referring to quite different things even within the same school or system of schools. It is the distinction Peters draws between the quality of the product and the quality of the process of education. Measured by any kind of test, a selective school for an intellectual elite will almost certainly have a higher quality product than a slum school, but if one is concerned with the difference between the product of the slum school and the level of the same pupils, five years before, when they came straight from poor and semi-literate homes, the educational process in that school may be seen to be of a very high quality indeed. This difference over the five-year period corresponds, I suppose, to what the economist refers to as 'value added' in a factory process, and the 'efficiency' of a school in this sense would be the value added relative to the cost of the process. Unfortunately - or fortunately this is not a bit of arithmetic that can easily be done for a school system, because, as Lewis has shown, 'the market's answer is not decisive' on questions of value in education.

In dealing with the quality of education in developing countries it is most important to keep clear the distinction between product and process. Because so many of our pupils, by world standards, start behind scratch, it may be a generation or more before the average product of our schools compares with that in a developed country, but it would be unfair to both children and teachers to accept that as the sole criterion. Regrettably, the quality of the educational process is often poor as well, but that cannot be judged

1 Peters, pp. 153-159
2 Lewis, pp. 71-73
solely by the products without reference to the raw material with which the school begins.

My sole purpose in raising the distinction between quality of product and of process is to avoid ambiguity in what I have to say later, but, if all our plans go well in Ruatoria, it is probable that the distinction will have practical significance within a decade. At present our state secondary schools are highly selective, and, though the entrance examination is not of the best, it is certain that the intellectual ability of the pupils is well above the average; the majority of them, moreover, come from literate homes and so start with an advantage. As we widen the opportunities for secondary education and establish schools in areas that are now largely illiterate, it is inevitable that, no matter how efficient the process of education, the average product of the secondary schools, measured by academic tests, will decline in quality. From the experience of more developed countries that have passed through this stage, I know that it will be extremely difficult to convince employers of young secondary school graduates that this does not result from a drop in the efficiency of the schools. One of the hardest tasks of a minister in charge of a rapidly expanding school system is to make the public, and particularly employers, understand that there is no one absolute and eternal standard of quality in education.

Quality as relative

Underlying all the discussions in the symposium was the assumption that the concept of quality in education is relative, that, standing by itself, the term is devoid of meaning. In his paper Peters insists that there are 'multiple criteria of quality', which means, if I interpret him aright, that in making judgements of quality, one must always ask the question 'Good for what?'. Philp goes further when he says that it is impossible to discuss the quality of a school system without first knowing its goals, which must be based, in turn, on the goals society has set for itself.

No one can quarrel with this theory of Philp, but where does it leave me as an administrator? I would gladly base the aims of a system on the goals of society, but who is to tell me what they are? Society, as I know it as a politician in a democratic country, is a hydra-headed monster that speaks with many tongues. It is true that I am a member of a government that owes its somewhat precarious position to a majority of the voters having been persuaded to back its over-all policies, but educational issues played

1 Peters, p. 166
2 Philp, pp. 980-981
only a minor part in the last election, and there is, moreover, no close relation between the way people voted at the election and the demands they now make on me as minister of education. Many of the parents who badger me for new schools in their districts and the chambers of commerce who want higher standards of achievement on the part of their young employees were the very people who supported our election campaign for a reduction in taxation. To which of the many voices of society am I to listen - the parents who want more school places for their children or the teachers who want smaller classes, the specialists who press me to establish more agricultural schools or the pupils who refuse to enter them, the churches which want more time for religious instruction or the industrialists who cry out for more mathematics and science in the already crowded school day? I am well aware that it is the duty of a government to govern and to take some decisions that are unpopular, but, if I am to persuade my colleagues to do that on issues of educational policy, I must avoid the woolly phraseology in which such topics are usually discussed and present a case in terms of tight facts and simple principles as intelligible to the intelligent man-in-the-street as to the educational expert. There were two concepts developed at the symposium which should help me to do that - the distinction between quality as seen from within the educational system ('internal quality') and quality viewed as the fitness of that system to the society it serves; and the related distinction between the productivist, the democratic, and the humanist ideals as providing the criteria of quality in education.

Internal quality versus fitness

The distinction here, as I understand it, is between two different sets of criteria that can be used in judging the quality of a school or a system of schools. Internal quality is judged by how far the school (or system) attains the goals it sets out to achieve, and fitness by the extent to which the system as a whole produces the kinds of educated person of which society stands in greatest need. Clearly, a system cannot have fitness if its internal quality is poor, but it can have a high level of internal quality and yet be most unfitted to the needs of the society it is supposed to serve. In a country crying out for scientists and technicians, a system turning out nothing but lawyers and classical scholars would have a low score for fitness no matter how excellent its standard of scholarship. So, I hasten to add, would a system, even in a poor country, that produced plenty of technicians but no humanists.

I suspect that this distinction will not satisfy the theorists as well as it satisfies me. It has some obvious flaws, not the least of which is the too easy
assumption that, with the new skills of the manpower specialists, someone can lay down the precise numbers of each kind of 'product' society should demand from its schools. Yet experience has taught me that there is a subtle but quite real difference between those who tend to base their criteria of excellence on the commonly accepted goals of each type of school and others who view the system as a whole and measure its products against what they think are society's needs. I am not concerned to show that one of these points of view is right and the other wrong, nor even that one is conservative and the other progressive. A good school embodies intellectual and social values that are often superior to those of the adult world, and they should not be too readily discarded to provide a quick solution to a passing social or economic problem. On the other hand, an educational system, even more than most institutions, develops a life and a set of rules and principles of its own, and can, over the years, cease to be responsive to the needs of a society in a state of rapid change. What was once a conscious effort to reach a social goal becomes a mere institutional habit.

Any minister of education must be conscious of these two different, and often competing, conceptions of quality, and in a developing country there are special conditions that can make the tension between the two views particularly intense. On the one hand, the rate of social and economic change at which they aim is vastly greater than the educational systems of developed countries ever had to cater for at a similar stage in their development; the amount of money available for modernizing the schools is pitifully small; and the new breed of planners' have, within the past decade, thrown a fierce new light on the relation between education and economic growth, which has revealed the inadequacy of many school systems to meet the demands society has every right to make upon them.

On the other hand, the schools are often shackled to a nineteenth century conception of education, and the huge gap between what they are doing and what they ought to be doing makes them turn in on themselves and get what satisfaction they can from trying to meet internal standards of quality. Education has, over the past century, had revolutionary effects in many parts of the world, but I know of no country that deliberately organized its first school system as an instrument of rapid change, and the very mechanism of administration was usually created for conservation rather than innovation.

My own country still clings to the system of administering schools that was set up in the colonial period. It was in its time tolerably well adapted to its purposes, but those are not the purposes of an independent country eager to take its place in the modern world. The system is still inward-looking rather than outward-looking. While there are a certain number of administrators, inspectors, and teachers anxious to break through to a form of
education more suited to present needs, they are hampered at every step by old-fashioned syllabuses, dated textbooks, examinations that are largely irrelevant to the ends we now want to achieve, and a rigid system of inspection that clutters up the inspectors with so many administrative details that they have not the time, even if they had the desire, to help teachers improve the quality and the relevance of their teaching. I may be asked why, as head of the whole school system, I do not bring syllabuses, examinations and methods of inspection up to date by legislation, by altering the rules of the game. I have learnt by sad experience that precious little is achieved in education by legislation alone. New syllabuses and examinations involve new textbooks, equipment, and buildings, but what is even more expensive and time-consuming is the changing of ideas. Inward-looking and obsolete conceptions of education are embedded as firmly in the minds of men as they are in statute books and regulations. Poorly educated teachers can teach only what they know, and so they cling to the textbook and depend on the narrow, formal framework of the system to give them their sense of security. When in doubt, they fall back on the ways in which they were themselves taught a generation earlier.

To ask such teachers to take a wider view of society's needs and to adapt their teaching boldly to them is like snatching the life-jacket from a poor swimmer. Within reasonable limits the change can be made, but not by official fiat alone. New and more intelligent supports must be offered to the mass of average teachers as well as new freedom for the adventurous few. This means syllabuses and examinations prepared with expert assistance, textbooks and teachers' guides detailed enough to be of day-to-day help, new methods of supervision, in-service training courses throughout the whole country, more education and longer training courses for new entrants to the profession (and who is to re-train the teacher-trainers?), and a fresh outlook on education for all those in authority in the school system. Given time, money, and technical help, I believe we can do the job, but it is important that the planner, the educational theorist, and the politician all understand what is involved when a country such as mine sets out to bring its concept of the internal quality of the school system more closely in line with the concept of fitness to society's present and future needs.

I would not wish to give the impression that it is the teachers alone who, with a few outstanding exceptions, cling to outmoded views of what constitutes education. The chambers of commerce, who tell me that the school system is out of touch with their needs, are already expressing fears of a 'drop in standards' that will result from the changes we propose to make to adapt the secondary school curriculum more closely to the needs of the increasing number of non-academic pupils who are to be admitted. Yet the most academically able pupils now go on to the rapidly expanding profes-
sions, and, unless we give other children a secondary education suited to their abilities, the employers will find no one to work in their offices, shops, and drafting rooms. Parents, as I have said earlier, also exercise a constraining influence on anyone who wants to alter the school system. At first sight this seems curious; parents, particularly in a developing country, rarely have high-flown ideas about what Peters calls the intrinsic value of education; they are essentially interested in what he terms its instrumental value, its usefulness. But since each parent is primarily concerned with the effect of a school on the future of his own child and not with its fitness for the community as a whole, he is inclined to judge it on the basis of the internal criteria of quality by which the school system ranks its pupils, and which largely determine the careers open to them. Educated parents will be quicker to see the advantages of a new kind of education for a new kind of society, but illiterate parents are likely to cling to the standards and concepts of education that have brought material success to young people in the past. So, in any conflict between concepts of education, they are more likely to throw their weight on the side of an old-fashioned, internal quality than to support the planners whose emphasis is on fitness.

This brings me to a related set of concepts which were discussed at some length in the symposium.

Productivist, democratic and humanistic ideals of quality

Aron defines the productivist ideal of education as one under which 'the principal, if not the sole, aim is to produce as much as possible, or to increase as much and as rapidly as possible the amount of goods available to the community'. This is a more restrictive concept than the ideal of fitness; to be fitted to the needs of society a school system must offer much more than productivity in this sense. Speaking as an economist, Lewis was no less definite on this point than Aron. Yet, seen in contrast to the democratic ideal ('that every man should have his chance'), this narrow concept of productivity helps me to define more clearly one of my most difficult problems as minister. It would be unfair to pin either view, in its extreme form, on any individuals, but various groups in the community do give different weights to the two criteria in judging the education system. Aron points out that the two principles 'are not necessarily incompatible, nor are they auto

1 Aron, p. 13;
matically in accord'. In a country such as mine, they can be in such painful opposition as to create a serious political problem for the government.

Let me be quite concrete. The government's advisers, both economists and educationists, are unanimous in recommending that we spend more money on secondary, technical, and higher education, not only to meet the needs of industry and government but also to raise the quality of the teaching service at all levels. If we accept their advice, we shall be following the productivist principle and training the educated elite we so badly need, but we shall use up practically all the additional monies we are likely to scrape together for education over the next five years, and so shall be able to make only the most meagre extensions to our primary school system. This brings us face to face with the democratic principle. This principle, as I understand it, does not mean that every child must be given the same education, but only that such educational opportunities as there are should be distributed according to the pupils' ability to profit from them rather than on the basis of their financial and social status or their geographic location. Elvin takes this line in his paper: 'Where there are grade A institutions as such, the democratic test is whether access is open to them on merit.'

The catch is that the primary schools, apart from their function of providing elementary instruction, are our only means of selecting pupils for secondary and higher education. Fifty per cent of our children never go to school at all, or leave within a year or two before they have learnt anything of value or the school has had time to judge of their ability. There is no reason to believe that the number of really able children in this submerged 50 per cent is much inferior to that in the other half of the population that has been lucky enough to get some schooling. But, without universal schooling, how are we to find them? If we spend all our available resources on additional primary schools, we may find them, but we shall not have enough secondary schools and higher institutions to offer them the advanced education for which they have been selected. Is this really the way to apply the democratic principle?

Speakers at the symposium were not slow to point out that, in the long run, the lack of accord between the principles of productivity and democracy cannot be as great as appears to me at the moment. Only a country with a fairly high level of productivity can afford to give educational opportunities to all its children, and, in a country with a stagnant economy, parents who press for more and more education for their children may find themselves overtaken by a kind of educational inflation, where a secondary school certificate will be barely adequate to buy the job that a primary school certificate earned before so many buyers rushed the market. The

1 Elvin, p. 99
principle of equality of opportunity assumes that there will be opportunities but by itself does nothing to guarantee them, so that its application can have meaning only if it is moderated to give due weight to the principle of productivity in a country where the two are temporarily in conflict.

This would be a neat solution to my problem if everyone in my country could be so admirably detached. It is a point of view that appeals to me, for I am, by nature as well as by function, a planner, and like to take the long, broad view. If giving the country the school system it needs means depriving some children of the amount or kind of education they want, it seems to me wise, and ultimately even kind, to do so. To parents, and even to many teachers, this seems a brutal position to take. Parents, illiterate as some of them are, see all too readily the implications for their own children of our refusing any education at all to some children in order to offer more and better education to a selected few. Arguments beginnings 'In the long run...' have little appeal to them, and I am well aware that, if I press them too far, I shall not, in the long run, be here to carry out my tough policy.

I have an uncomfortable feeling that those of us who are deeply concerned with education in countries such as mine are beginning to range ourselves in two camps. On the one hand are the administrators, planners, and development theorists who are willing to be tough, at least with other peoples' children, and who lay particular, though not exclusive, stress on fitness, productivity, and the training of an elite in the education system. On the other hand, the great mass of parents and some teachers pin their faith to a narrow conception of internal quality and to the democratic principle, and, if faced with the choice, they will press for more schools rather than better schools. Up to now, however heated the theoretical debates, the schism has scarcely shown in practice, because most educational plans have made provision for simultaneous expansion of all parts of the school system. When, as seems almost inevitable in many countries, governments have to begin to drag their feet on the expansion of primary schools in order to raise the quality of those they already have and to produce the elite on which progress of any kind must depend, the cleavage between planners like me and parents like those in my constituency will become all too obvious. Already, for example, the Indian government's Education Commission has had to recommend ¹ that the target, foreseen in the constitution, of universal primary education up to the age of 14 by 1960 be adjusted to seven years of compulsory education by 1985-86.

The historian could point out that the clash between productivity and democracy which we are experiencing in developing countries is, in a sense, not new. England began its industrial revolution with a working, population that was largely illiterate, and nearly all developed countries had to spend two or three generations building up their capital before they could offer the majority of their people secondary schooling. Politically speaking, however, the cases are not comparable. In some ways, the countries that first evolved the idea of a principle of democracy that could compete with the principle of productivity as a criterion for judging education had an easier task than have we who now follows in their footsteps. The very idea of equality of opportunity evolved only slowly against the background of economic growth and increasing prosperity. The choice between productivity and democracy in education, or between quality and quantity, was never presented so baldly to rulers in the nineteenth century as it is now to the government of Ruatoria; for most people it was scarcely seen as a choice at all. A social and economic élite was taken for granted. In most countries it had a school system of its own, whose quality was totally unaffected by any extension of the schools for the masses. The few 'scholarship boys' who fought their way into it only raised its intellectual level. The schools for the common people increased slowly enough for their quality at least to keep pace with their number, and for industry to make use of their products.

This leisurely pattern of growth is of little use to us as a model. The idea of equality of opportunity as a criterion for judging the quality of a school system has not evolved from our own experience but has been imported as a ready-made, consciously held principle from countries whose conditions are very different from ours. For the parents whom I must meet next week in the distant village of Huon, it is not an ideal to be aimed for by the end of the century but a rule of conduct that would oblige me to give them a school next year. And I probably shall, and to other villages like them, though I desperately need the money to build new technical schools I accept, though reluctantly, the statement made by one participant to the symposium that a 'fit' school system in a country with 80 per cent of the people in agriculture would be one with inequality of opportunity, but of what use will that be to me in Huon?

The discussions at the symposium did enable me to see a little more clearly the part that I as minister must play in the solving of this dilemma I must work at both ends of the scale. With my colleagues in Cabinet and in the House of Assembly, who finally decide the policy, and with the parents who bring pressure to bear on them. With the politicians I must steer a middle course between those (including the ministers of finance and of industries) who believe that, for the next decade or two, we must concentrate on productivity and play down 'softer' principles until we can afford them, and the majority...
who, with a more tender social conscience or a more acute political sense, yield too readily to agitation for more schools even when they know that both academic standards and the country's productivity will suffer thereby. Both sides must be made to see that, in a modern society, economic productivity and equality of educational opportunity are ultimately dependent upon each other, that under no conditions should either be completely submerged, and that determining the shifting balance between them as a country grows calls for wisdom, toughness, and compassion. I wish I myself understood with more precision just what I mean by that.

The other half of my task is no easier; it is to modify the expectations of parents and of children. I have little hope of placating those to whom education in this generation is denied altogether - were I in their position I should be equally recalcitrant - but we could do something to make people understand 'educational inflation'. A youth with a primary schooling, who refuses to take up manual employment because he is 'educated' and hangs around the town waiting for a job in a government office, must be made to see that the inflation is real and permanent, that this primary education will help him even in a manual job, and that there are opportunities to improve himself by part-time study if he is able and determined enough. Critics of the government point out that the country has already a measure of educated unemployment, and warn of the dangers of the frustrated intellectual. I think they miss the point. Some of this unemployment is due to young people choosing the wrong kind of education, to their following law, for instance, while the country clamours for technicians, but much of it arises from wrong expectations of the kind of job each level of education will buy. Even a subsistence farmer will be more effective for having a primary education, and a secondary education is an excellent preparation for apprenticeship to a trade. The conception of equality of educational opportunity will be meaningless so long as young people all try to crowd through one narrow professional door and fail to realize that, in a growing economy, there are new ways opening to them, which may, for the moment, lack the traditional prestige, but which make demands on intelligence and education. It is, of course, for society to see to it that these are not just vain words. I am going to take up immediately with my colleagues in Cabinet plans for adjusting salaries and avenues of promotion in the public service for technicians and tradesmen, in order to bring them more into line with a modern conception of the 'educated man'.

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1 This is illustrated very effectively in Capelle's diagram on p. 296, which shows the varying qualifications needed to gain the same kind of job in countries at different levels of development.
The problem of giving equal opportunity to all through education is made no simpler by recent researches on the relation between students' home background and the quality of their academic work. Aron recurs 1 constantly to the advantages that accrue to the children of the privileged classes not only from the cultural environment in which they spend their early years, but also from the fact that this same type of culture provides the criterion by which society judges a 'man of quality'. He quotes his own country as an example. On the basis of researches carried out in a group of European countries Torsten Husén shows that there are 'consistently higher correlations between outcomes [school achievements] and socio-economic backgrounds of students' than been achievements and more apparently direct indices of quality, such as teacher competence and hours of instruction. He goes on to suggest that 'it would be easier to predict the quality of a country's education with the aid of some of the more important indices of its socioeconomic development than by means of the school variables available'. 2

The intellectual and ethical 3 problems this poses to a country trying to select pupils for secondary and higher education belong no more to the developing country than to the developed, and I can add nothing to what the experts said. I am not sure that Husen's very low correlation between teacher competence and students' academic achievements would remain so low if the measures were applied over the full scale of teacher competence, from the best in Europe to the worst in Ruatoria. Within my own country I am quite convinced that the low level of education of many of the teachers is reflected directly in the poor standards of their pupils, and I should like to see his investigation repeated with a mixed group of developed and under-developed countries.

Nevertheless, what Aron and Husen say has sufficient relevance to developing countries to affect our educational policy. I am becoming increasingly conscious of what I might call the problem of the first-generation literates. Many of our pupils come from illiterate homes. They are not, I hasten to add, necessarily uneducated homes, but the education they have to offer is of the tribal variety, and bears little relation to some of the skills, habits, and attitudes we are trying to inculcate in the schools. There are no books and few toys; after the first two or three care-free years, the child

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1 Aron: especially pp. 140-143
2 Husen, p. 279
3 How far, for instance, is a poor country, striving to increase its productivity, justified in taking academic ability where it finds it, even though it is known that the tests being used give a great advantage to the children of the privileged classes? It has been done for centuries as a matter of course in most developed countries; can it be done as a matter of principle in under-developed ones?
is relegated to the care of older children, and adults' relations with him are mainly authoritarian; questions are not welcomed, and his parents rarely have anything approaching a conversation with him; since the status of women is low, there is little conversation between the parents themselves; and the child is not admitted to the men's village meetings where interesting talk does go on, with the result that his vocabulary remains stunted and thin; he has never seen a close relative or friend studying a book, and the challenge and excitement of the written word may pass him by; for many, even at the secondary school stage, a book remains a thing to be either superficially skimmed or learned by heart. Worst of all, both the child and his parents must be aware that every step he takes in school moves them a little farther apart; scholastic quality is being bought at no small personal price, and the inevitable ambivalence towards learning must be revealed in the attitude they all have towards academic work.

Some children overcome these disabilities and achieve a modern education without severing their bonds with their own people, but every time I go into a professional, middle-class home and see children surrounded by books, toys, conversation, and interested adults who have run the academic race before them, I realize afresh the barriers the average village child has to surmount to become what Peters would call an 'educated man'. When the child moves from the home into a dreary, ill-appointed school, dominated by a teacher produced in the same way as himself, the process of producing a hack, routine worker to cope with the problems of a rapidly changing world is almost complete. The system has achieved neither productivity nor democracy in the sense in which we used the terms at the symposium.

Sometimes, in my more depressed moments, I imagine that it takes at least two generations to produce a really educated man, one to prepare the home setting and the other to educate the individual, but the views expressed by Aron and Husén can lead to conclusions more practical and less pessimistic than this. If what they say is correct, it is obviously uneconomical, in a country with a largely illiterate population, to attack the problem of low educational standards in the schools alone. We must also work on the adults to give them an idea of what the schools are trying to achieve. I am not referring merely to adult literacy campaigns, though these could be of great help in reducing the gap between the generations and in encouraging parents to provide the conditions and the incentives for learning. Hardly less important is the need to make village people themselves take some responsibility for their own schools; if I can get my departmental officers to agree, we really must make more effort to decentralize some elements in the control of the schools.

As we try to raise the quality of teaching in our village schools, one dilemma faces us which the outside critic often overlooks. Unless the child
is to be torn asunder by the tensions between the 'modern' life of the school and the traditional life of the village and the home, the gap between the two must be only such as the average pupil can handle, but, if the country is not to remain stagnant, the schools must prepare the children for a life that will be very different within a decade from what village life now is. The difficulty reveals itself in the selection of teachers. One who 'fits in' with the community - the ideal in a modern country - will give the kind of education the village expects, which is not the kind the country needs; but the reformer who sets out to develop critical and creative individuals may build up intolerable tensions. Obviously, both the school and the village must change if the classroom is to reflect some of the deeper values of village and family life and the village itself is to accept gladly this new window on to a wider and changing world. How this is to be done is our affair, and it is too much to expect any foreigner to help us with it.

To avoid complicating the issue even further, I have avoided mentioning up to now Aron's third ideal of quality in education - the humanistic ('to train intelligences and personalities in accordance with a more or less clearly defined ideal'). As he says, 'productivism, humanism, and democracy are only temporarily contradictory... [but] in no society today are they in harmony of their own accord'. A decision has to be made, a weight given to each, and different societies and different groups within any one society will balance the scales between them according to their own accepted values. The term 'frills' as applied to certain subjects in the curriculum stands as living evidence that not everyone would give the same importance to the humanistic ideal in education. Nor, for that matter, would everyone employ the word 'humanism' in the same way. I use it here very widely to cover all the aspects of the individual's intellectual and cultural education that are not directly - or at least obviously - determined by economic or political ends.

There is a sense in which every poor country must decide whether, for a generation, it will make some sacrifice of humanistic values in favour of an intensive drive for productivity. The symposium had a brief discussion on this, and I could wish, here as elsewhere, that the chairman had held us to the question until we had unravelled all the tangled threads. It so happened that, a week before we met, President Léopold Senghor had given in Paris

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1 Aron, p. 136
2 Our secretary of treasury, by no means a fool, once proposed to our planning commission that the bachelor of arts cease to be a first degree in our universities and that every student be required to begin with the bachelor of science degree. His faith in science as a panacea for our ills proved to be greater than that of even the scientists on the commission
his own characteristic answer to the question: *Je l’ai toujours dit: l’indépendance culturelle est au commencement comme à la fin du développement économique et politique. Pour devenir une nation et ainsi pouvoir apporter notre contribution à la coopération internationale, il nous fallait auparavant être et pour être, retrouver notre identité culturelle d’avant la colonisation.*

These are brave words, and I accept them unreservedly - I have never thought that my country could be saved by bread alone - yet my real problem is not one of principle but of 'how much' and 'how'. Whatever our devotion to culture and pure scholarship, Ruatoria obviously cannot afford its fair share (if this means anything) of the world's symphony orchestras, scholarly libraries, Old Masters, and publishers. Nor, over the next couple of decades, can we release sufficient people or funds for pure research and scholarship to hold our own in the learned societies of the world, though I should be grieved to think we should entirely give up the attempt.

If our conception of humanism is solely that of the West, or, even more narrowly, of Aron’s 'man of quality', I see no solution to our problem; except for a tiny elite who can travel, our population will be culturally starved until we can afford a measure of culture for the average man assuming that we still want it by then. But Senghor and Aron, between them, offer the government of a poor country some hope of avoiding in its most brutal form this choice between the ideals of productivity and of humanism. In his definition of the humanistic ideal of quality of education which I have already quoted, Aron insists that training based on it is always 'in accordance with a more or less clearly defined ideal', and then goes on to show that the ideal of most developed countries is still heavily dominated by the concept of the gentleman of leisure and his non-instrumental attitude towards education. This, he tartly observes, 'would seem to apply far more to the playing child than to the thinking adult. The non-instrumental attitude is a characteristic of the well-educated man only in so far as it applies to study, to purely intellectual activity'.

'It does not follow, however, that so-called theoretical or general knowledge is better at all levels for developing the human personality than more limited or practical knowledge'.

If we can be allowed this degree of latitude in our concept of the educated man, and can learn to give vocational and professional training a broad theoretical base, we can begin, even in a poor country such as mine, to reconcile the productivist and the humanistic ideals in our educational system. We may

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2 Aron, p. 138
3 *Idem*, p. 142
have few philosophers, but we shall at least have engineers, scientists, doctors, and technicians with some claim to be educated men and women.

The argument is not complete, however, without Senghor’s contribution. His vision of ‘negritude’ is too well known to demand more than a footnote in explanation. Stripped of its purely African reference, the concept has practical significance for schools in developing countries in any continent. If the humanist content of education is not to be purely a foreign import, but is to be based firmly on the history and living culture of a whole people, then everything from a village festival to a university curriculum can contribute to it. Not even the illiterate need be totally excluded from it, nor must they wait for colour in their drab lives until the nation’s per capita income passes some calculated threshold. A low income and cultural poverty are not necessarily bedfellows, but, in the modern world with its expensive adjuncts to culture, it takes effort and planning to keep them at bay. It takes money too. In my country there are few scholarly works on which the universities could base teaching about our own history, literature, and mode of thinking, and no single textbook for schools that would give a child a lively appreciation of the past and present of his own people. Even at the village level, local customs, crafts and ceremonies are being lost, and it will take money and great skill to give them a new meaning. For the old meaning appropriate to the inward-looking village is not enough. In any country during a period of rapid change, the school has the seemingly impossible task of making every child a Janus, with one face turned toward the unknown future where he must make a living, and the other toward the past that will give life much of its meaning. We in developing countries know the problem in a more acute form than the countries that are advising us have ever known. I sensed the problem long before I came to the symposium; now, though I still see only dimly how to go about solving it, I at least know how to talk about it more intelligibly.

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1 ‘Mais qu’est-ce que la negritude? C’est tout simplement l’ensemble des valeurs des civilisations du monde noir, c’est une maniere d’etre un etre negre. C’est aussi une maniere d’etre au sens plein du mot, c’est-a-dire une maniere d’etre au monde, d’etre sai si par un monde et ide reagir en recreant le monde, pour tout dire c’est un humanisme parce que c’est un art de vivre.’ (Nouvelles litteraires, op. cit.)
Horizontal versus vertical differences in concepts of quality

Whether we should, for a period, sacrifice humanistic elements in our school system in favour of increased productivity is only a special case of a much wider question: should we, as a poor country, deliberately set ourselves goals of educational quality that are inferior to those of our richer neighbours? This was another point where I found enlightening the special vocabulary developed by the symposium. The point was made that, in any country at a moment in time, there is, along the axes I have already discussed - internal quality-fitness, productivist-democratic-humanistic - a wide range of views on what constitutes the quality to be aimed at by the school system. As I have already indicated, economists, teachers, sociologists, parsons, parents, businessmen, because of their training or vested interests, tend to give special emphasis to certain components of education, and, even within each group, differences of temperament and personal philosophy will produce a broad spectrum of views. These are horizontal differences, since the various opinions all refer to the same plane of time and place.

If this plane is raised or lowered on a vertical scale of economic development, the pattern of views alters markedly. These changes could be called vertical differences in concepts of quality. This may seem an unduly complicated way of saying that the educational goals a country seeks should change with its stage of economic development, but there is more to it than this. There is a curiously unpredictable element in the changes. It is often deceptive to forecast from the opinions of an occupational group at one level what will be the views of a corresponding group in a country at a different stage of development, and even an individual is liable to switch his ideas on standards of quality unpredictably as he moves from stage to stage or from subject to subject. Individuals and groups in developed countries, who stoutly uphold the maintenance of scholarly studies and academic standards at home, and who give barely a thought to the 'fitness' of the schools to their economic system, advise me that life is too grim and earnest in my country to permit our wasting much time and money on philosophy, the classics, and the arts, and that we should adapt our standards in most subjects and courses to something they call 'the economic and social level of the community'. Other people, with very similar backgrounds, equally strongly give me the opposite advice, particularly where university education is at issue. Academic standards, they say, are universal and sacrosanct; once they are allowed to slip they may take generations to recover. So we should tie our university curricula and standards, as most of the French ex-colonies have done, to those of a few universities of world standing. If, as a result, the
number of graduates is totally inadequate for our needs, that is to be regretted, but it cannot be helped.

Our on n people are no less divided on the subject. Many, who had devoted their lives to building up academic standards in the schools, made no protest when, after independence, the system was expanded so rapidly that a fall in standards was inevitable. On the other hand, our universities have steadily refused to use their surplus accommodation to give courses at a non-degree level because that is not 'done' in a university, and they must guard their image in the academic world. They are adamant that our universities must maintain world standards in their degrees. When I press them to define what they mean by 'world standards' they become elusive, but I suspect that Oxford, Cambridge, and Harvard are the dream-models of some professors. Knowing the poor quality of most of the secondary schools that provide the undergraduates, I personally think it will be a generation before our universities as a whole reach parity with ex en institutions in developed countries, but I dare not say so in public. It is perhaps wiser, and certainly safer, to let them boast of their world standards provided it does not weaken their determination steadily to strengthen them.

It is not just the academics who are ambivalent on questions of standards. Parents, politicians, and public men, who, in the name of equality of opportunity, have acquiesced in children being taught by sub-standard teachers, would tear me down if I suggested that the same children be treated by sub-standard medical practitioners. If we could spread our skills more thinly by training para-medical personnel to work under a small number of fully qualified doctors, we could provide reasonably good services to whole areas that now have none at all. 1 This has been done, in fact, in many countries for generations, 2 but to suggest, as a matter of principle, that it be introduced in my country in 1966 would be to raise intense opposition from many politicians and from town-dwellers who now enjoy 80 per cent of what medical services there are. It would only add fuel to the flames to remind them that the standards of medical attention they are demanding were unknown half a century ago in the developed countries, whose economic

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1 A similar proposal is made by Lewis on p. 82, who insists on the upgrading of both the professional and the technician
2 For example, the Central Medical School in Fiji, which originally took in some entrants with little more than a primary school education, after a three-year course turned out what were then known as 'native medical practitioners', who gave valuable services to Pacific islands that would have had no hope of attracting fully trained doctors. The standards of both entrants and graduates have been steadily raised over the years, but, as far as I know, it is not yet even a full medical school; the graduates are now known as 'assistant medical officers'
level, even then, was far beyond what ours is now. Who dare fight the idea that only the best is good enough?

The concept of horizontal and vertical differences, crude though it may be, gave me the first rough form that I could impose on this welter of conflicting views, but, in itself, it offers no solution to my practical problems. However, two ideas, one introduced by Shumovsky and the other by Elvin, will be of immediate practical value if I can get them accepted in my country.

In chapter VI will be found an outline of the account Shumovsky gave of the evolution of engineering education in the USSR from the beginning of the first five-year plan in 1929. As I understand it, the initial policy was to meet the rapidly increased demand by training large numbers of engineers in narrow fields, 90 per cent of them being technicians with only a three-year course. They were capable of handling the relatively routine work of building machines to the ready-made, imported designs on which USSR industry then largely depended. At the same time, people were sent abroad to study. When they returned, it was possible, by about 1936, to broaden the basis of engineering education and produce engineers with more knowledge of mathematics and physics, who continued, however, to spend a considerable part of their training in shop-work. The final phase began about 1950, when the courses for top-level, creative engineers dropped much of the detailed technological training and concentrated on producing engineer mathematicians and engineer-physicists who could specialize in research and design.

A similar strategy, I believe, was adopted in Japan as its industry moved from the imitative to the creative phase. The essence of it is that a country should deliberately set for itself training goals that are relevant to its needs and to its potential over a limited planning period. Whether or not they conform to 'world standards' is for the moment irrelevant. What is important is that, having decided what type of worker you are most in need of, you should insist on getting the highest standard for that type. A first-rate technician may be much more useful than a third-rate engineer, and, as Capelle insisted, his post must never be regarded as a consolation prize for someone who has failed to get the full professional qualification.

There is a lesson here for many developing countries, including my own. Driven by a variety of motives - academic snobbishness, a desire to give our young people the best, and an anxiety to catch up with the rest of the world - we have concentrated on producing sketchily trained professional workers rather than highly competent technicians. (Parents and students, as I said earlier, have often made it difficult for us to do anything else.)

1 Capelle, p. 270
This is, of course, to miss the whole meaning of standards of quality. An engineer is not 'higher' than a technician, or a doctor than a nurse. They are different kinds of specialists with related but different functions, and if a country, for good reasons or bad, concentrates on producing professionals at the expense of technicians, it finishes by having many of the men with the longer and more expensive training doing work that could have been done as well or better by people prepared in a shorter and more immediately practical course. Nor is it necessarily any safer to aim the course vaguely between the two, for one may achieve quality at neither level.

In practice, the situation is complicated by the fact that there are some occupations which, even in a country as poor as mine, cannot be permitted to fall even temporarily below world standards. Shumovsky quoted as a case in point the pilots and maintenance engineers of jet aircraft, and, as an inveterate traveller on our national airline, I should be the last to disagree with him. Clearly, we have somehow to decide which services and industries, at their professional and managerial levels, must be staffed entirely with men educated to the degree common in developed countries, which of them could do with a sprinkling of such men, and which must be satisfied, for a decade or more, with workers in categories that would not normally be accepted in comparable jobs in richer countries. Having decided what these categories are, we must rid our minds of false notions of world standards and ensure that each man, in his category, is trained to the highest standard possible.

A policy of deliberately setting ourselves some educational goals that would not be acceptable to richer countries will not be well received in Ruatoria, however inevitable it seems to the outside observer. Our newfound national pride will be dimmed, a small privileged elite who are already living at western standards will feel threatened, and thousands of young people who had set their hearts on a professional qualification, however tawdry, will feel themselves demeaned to be seated below the academic salt. A rigid insistence on high standards, some diplomatic readjustment of job nomenclature, a thorough overhaul of salary schemes for technicians and skilled tradesmen, and the provision of an educational ladder by which the most able workers can enter a higher category should help us to establish a concept of quality in education more fitted to our economic state.

Fortunately, there is a device to blunt the sharp edge of the choice between 'world' standards and 'local' standards. It is the development of 'centres of excellence', such as are advocated in the report of the Indian Education Commission. ¹ This is what Lionel Elvin is advocating in his paper, when he

brings together Edward Shils' idea of 'critical mass' ('the minimum quantity scale without which quality cannot come through'), and Maynard Keynes' well-known 'multiplier effect', as arguments for the establishment, even in the poorest country, of a few educational institutions of sufficient quality to be both a stimulus and a seed-bed for other schools and universities. If, he says, voices are raised to say that such a policy, applied at any level of the educational system, is not democratic, not fair and equal, 'so much the worse for democracy'.

The idea is, I think, workable in Ruatoria, and I believe it has sufficient appeal to various sections of the community to be acceptable politically. Even if we cannot, in the lifetime of some mediocre professors, find a whole university that can become a centre of excellence, the university authorities can select certain promising departments to which sufficient first-rate staff can be added to create the necessary critical mass to generate good research and teaching. At the school level, it should be possible to associate a group of primary and secondary schools with each of a couple of our more progressive training colleges, and then give to each 'complex' some lively teachers, small additional funds, and sufficient freedom from restrictive rules and practices to enable them to develop education of quality. Of course if the scheme is to succeed, merit must be the sole criterion for entrance to any of these institutions that are not purely local in character.

Breadth, pyramid, success

Lewis's three categories of quality - *breadth, pyramid, success* - cut across some of the theoretical discussions I have already mentioned. His treatment of the subject is essentially practical, and I see immediate application in my own country of what he has to say on such topics as the relation between general and specialized education, the over-production of skilled manpower, the minimum goal of 50 per cent of children in primary school, and the proportions of children, in countries at low levels of development, who, 'according to manpower budgeting', should go on to secondary, technical and higher education. With a scholar's caution, Lewis adds a limiting phrase to almost every piece of advice, and is at pains to point out that, on questions

1 Elvin, pp. 93, 97
2 Idem, pp. 97-100. See also Lewis, p. 86, for the concept of a 'pyramid of quality', and Peters, p. 164
of quality in education, 'the market's answer is not decisive', and that 'one's attitude to the angle of the [educational] pyramid tends to be related to what one wants of an educational system'.

With all its limitations, this is the kind of advice I can use, and my only plea is for more of it. I know that two countries, apparently at the same level of economic development, can vary in the demands they make on an educational system, and that the search for an authoritative norm, an ideal pyramid, for each level of development, is likely to be fruitless. But I still like to think that, behind the multifarious experience of developing countries over the past couple of decades, there are enough uniformities to offer some guidance to a late starter that is trying to adapt its school system to social and economic needs in 1966 and to forecast those of 1976 and 1986. It may be too much to expect the experts to come up with a natural history (or histories) of an educational system in a developing economy, but I hope that further research will enable them to sketch the upper and lower limits beyond which developing countries have, in fact, found it impossible to go when adapting their educational systems to their plans for economic development at each stage of their growth. What we really want at the ministry of education is a warning of the kinds of problem we are likely to meet over the next decade in evolving a school system with both 'internal quality' and 'fitness', and an indication, however rough, of the room we shall have for manoeuvre. It is up to us, with our local knowledge and with such expert help as we can get, to say how far the experience of other countries is relevant to our case. But at least it should provide us with a starting-point for our thinking.

Indicators of internal quality and of fitness

Any attempt to control the quality of education or to think in terms of improvement along a scale assumes the existence of indicators of quality. Applied to internal quality, these may be, as Philp suggests, either direct (e.g., scores in examinations or standardized tests) or indirect (e.g., wastage or drop-out rates). Inadequate though our present examinations are, they could, with the knowledge we already have, be improved as measures of the intellectual achievements of the schools, but, like all school systems, we are still weak on measurements of the more intangible results of education. However, it is in the assessment of quality as fitness that we are most in need of help. A dozen possible indicators of fitness were suggested to the

1 Lewis, pp. 71-88
2 Philp, p. 285
symposium: the number of vacancies for skilled and professional workers, the number of educated unemployed, the number unemployed because of inadequate education, the number of foreigners in key positions in government and industry, the number of doctors, engineers, and teachers per 100,000 of the population, the percentage of adult literates, the percentage of women and girls educated, the number of books and newspapers in circulation, the number taking some form of adult education, the percentage of those qualified to vote who do in fact vote, the percentage of the gross national product and of the national budget spent on education.

These are interesting suggestions, and some of the figures will emerge from our first census and from the manpower survey that an International Labour Organization team is now making for us, but they would mean vastly more to us if we were able to see them against a background of comparable figures from other developing countries. Here again, I seem to be looking for norms where none can exist, but let me give a concrete example. Lewis tells us that 'one should always produce more skilled people than the manpower survey shows to be needed at current levels of expectation'. ¹ This is, I am sure, sound advice, but is there any evidence from the experience of other countries to tell us within what limits, for how long, and under what conditions this educational overproduction can go on without leading to the frustration and unrest which seems to have occurred, for example, amongst the educated unemployed in parts of India? Up to a point, the number of educated men and women temporarily unemployed or engaged in work inferior to that for which they were trained may indicate a school system prepared to meet the needs of the future; beyond that point it may be an indicator of a lack of 'fit' between the schools and the economy. Where is that point in Ruatoria? Can we use the experience of others as a rough guide, or must we learn each lesson all over again by trial and error?

Even if what I am asking is not totally impossible, it is obviously unfair to expect the experts to produce figures of this type like rabbits from a hat. Dimly though we still see the relations between economic growth and educational growth, fifteen years ago they were barely seen as a problem at all, and most of the experience from which conclusions can be drawn extends only over a decade. I only ask that, in any plans for research into improvements in the quality of education, priority be given to extracting from the experience of countries that have taken the first steps in development some rough guidelines for those of us who follow. There can be few industries that throw away their past experience quite as carelessly as does education.

¹ Lewis, p. 77
Conclusion

As the last few pages would indicate, my politician's mind is already begin-
ning to wander from the realm of principles and concepts to ways of getting 
things done. This makes it all the more necessary that I should end where I 
began, by reaffirming that, however much I crave for practical advice on 
the improvement of educational quality in my country, I stand in even grea-
ter need of help with the theory that lies behind it. Lewis has rightly said, 
'The vagueness of our measuring rods seems insignificant when compared 
with our blankness in evaluation'. ¹ It is a commonplace that the finally 
important judgements on education are always those concerned with values, 
but not everyone can know how painful it becomes to make such judge-
ments in a poor country where the hopes of half a generation of children 
may lie in the balance. We, who for the moment govern the country, cannot 
share with anyone the final choice that gives education to some children 
and withholds it from others, but we can be helped by men of scholarship, 
wisdom, and wider vision to see more clearly the principles at issue and the 
-probable consequences of our decisions. This kind of help I got, in no 
small measure, from the Paris symposium.

¹ Lewis, p. 71
It might be best to begin this paper by defining some of the terms commonly used, such as 'socialization', 'instruction', and 'education'.

All societies have their processes or procedures of socialization. The young cannot become members of society without having learnt its characteristic ways of thinking, judging, and acting. The process starts with birth. Socialization begins within the family and continues within the age group, or in some more specialized group. The societies we call complex are peculiar in this connexion because of a dual tendency: the growing number of socializing processes, and the increasing differentiation between the social roles and consequently between the intellectual, if not the moral, training given to different members of these integrated societies.

In French, in earlier years, the terms 'instruction' and 'education' were not synonymous, but the distinction between them is tending to fade, either because the word 'education' is now used in the same sense as in English or because the general public cannot, or will not, distinguish between instruction as the acquisition of knowledge or the training of the intelligence, and education as the training of the whole man, character as well as intelligence, moral or aesthetic sense as well as the purely intellectual capacities. The ministry of public instruction has become the ministry of education.

This distinction was never more than partly based on fact. Schooling in the broad sense, covering primary school to university, cannot help influencing the development of personality at the same time as the intelligence. But it can influence the development of the intelligence intentionally, with a definite aim and according to a particular method, or it can contribute to the development of personality without any intention on the part of teachers or administrators, who may not even realize the effect they are having.

There are historical origins and reasons for this distinction in France. In fact, rivalry between state and church for the education of the young has continued to this day. If schooling was to be secular, that is in theory to be uncommitted, then it could not in any circumstances encroach upon those preserves which were normally the sphere of the church and the family. Schooling without God was not necessarily schooling against God. In the final
analysis, schooling was meant to instruct rather than to educate. It did not forbid moral teaching, which was always implicit and often explicit. But with primary schools that are invariably day-schools, high schools and colleges that are practically never boarding-schools, and universities that are all non-residential, the French system of state education is clearly revealed as one process of socialization among others. This in fact is true of all countries whether developed or under-developed. Two things characterize the French case. The three main processes of socialization - family, school, and religion - were not only in separate compartments but for a long time were in active opposition to each other, while the secularization, and above all the centralization, of the French school system were carried much further than in any other developed western country.

Confusion between instruction and education, in France as in the rest of the world, has not been caused by recognizing that in fact it is impossible to separate them. The main cause of confusion is the deliberate decision to consider one to the exclusion of the other. It was almost inevitable that planners and people wanting to compare educational systems in different countries should take this decision. The purely intellectual aspect of education - the extent of knowledge acquired, the length of studies, the percentage of failures, and the ratio of so-called general to specialized training - is at once more easily estimated and varies less from country to country. Moreover, in modern societies, schooling, in its complete cycle from primary school to university, tends to concentrate on training either the intelligence or the practical and technical abilities. And although at the same time this schooling may turn out a certain type of man, it is not in general because of any special theory. Schooling in modern societies is considered to be a process of socialization with the primary function of training either intelligences or a labour force adapted to the needs of the economy. This system of education, which is the result of long evolution in the developed countries, is what planners try to introduce in developing ones.

In western countries, planning was not needed until after the second world war. In France, sixty to seventy years have elapsed between the passing of the laws on universal and compulsory primary education and the present influx of the young into secondary schools and universities. Even free secondary education had no immediate or significant effect on either the average length of studies or the social level of the intake of high school pupils and university students. Controversies - both numerous and vigorous - in the educational field were concerned with the subjects to be taught at various ages, the proportion of Greek and Latin at the secondary level, and the relationship between the two parallel systems which had been set up (so-called primary education no longer finished at the age of 12 or 14 but could be prolonged, although it did not lead to university).
Of the three processes of socialization mentioned in the above simplified analysis, the school (using the word in its most general sense) is on the whole the least conservative. Parents cannot avoid inculcating their way of life, while churches are founded either on the past or on eternal truths. The school by its very nature is not so conservative. Although it continues to impart knowledge and convey culture, it also tries to look towards the future, aware that knowledge will probably increase and that culture may change. Nevertheless, the function of the school system over the centuries has been to preserve - to preserve the intellectual and moral gains of previous generations and to uphold its own characteristic values at the same time as the values of the whole community.

The school was more conducive to change than the family or religion because it removed the young from the family environment, and also because in modern times it clearly distinguishes its field (knowledge and standards of intelligence) from standards of faith. The divergence between family environment and school culture - so rightly emphasized by all observers in underdeveloped countries - may be less marked in developed countries, but it has by no means completely disappeared. In the last century, and even in this, the family way of speech in the country districts was very different from the school's (though both were generally part of the same language). The extraordinary disparity in results obtained by children from different social strata can be explained to a great extent by the relationship between socialization through the family and through the school. The more the former supports and harmonizes with the latter the greater the chances of success. Aptitudes at school are a consequence of this dual socialization.

That is why for a long time no planning problems arose even in a country such as France where the state had taken over the responsibility for national education. Independent establishments were no problem, being too few in number. The young went into one or other pipeline according to their social background. Some who began in the ordinary schools, and whose talents were noticed by their teachers, were given bursaries and changed over to the pipeline leading to university. But, on the whole, social distinctions found their counterpart in the different ways that schools and university were organized. Secondary education, in general the least practical, the most abstract and theoretical, enjoyed greater prestige. There was no question that this was education of quality, a term which had much the same flavour as man of quality.

Present research on the relationship between quality and quantity in education lends itself to sociological interpretation. This research is the result of a novel historical trend in both developed and developing countries, although the conditions in each case may be different. In the developing countries the attempt to transplant an educational system which was evolved
in France, United Kingdom, Federal Republic of Germany, USSR or United States, comes up against the problem of lack of resources. It also gives rise to a discussion of basic principles. (What in the system is inseparable from the original environment? What is universally valid or answers the needs of all modern societies?) In the developed countries the number of candidates for so-called education of quality forces educators to examine the very concept of quality. This results in an apparent paradox which is the subject of this symposium.

In the last twenty-five years, the enrolment rate at various ages has increased so rapidly that tradition, improvisation, and pragmatism are not enough. Everyone recognizes the need for a rational study. But this may well be as difficult as it is essential. Rational organization implies that one or more objectives be chosen, and possibly an order of priority for them. Modern societies, however, seem to be even less sure of their aims and ideals than traditional societies. Yet they need to be surer now than ever, because they are trying to organize a system which was formerly self-functioning but which today is subjected to the pressures of world society and to other processes of socialization, not to mention its own inner demands.

Actually there is no real paradox. Uncertainty regarding aims is a result of the very process of rationalization. The greater the number who aspire to good education the more intensely do we wish to protect its quality. In any society each type of education enjoys some prestige (whether deserved or not, in the eyes of psychologists, moralists or economists, is unimportant in the present context) and gradations of quality are therefore more or less rigidly fixed by the environment itself. These gradations are in turn approximately in line with the social position and income to which each type of education gives access. The educator in British public schools had no doubt until recently, and perhaps still has no doubt, that he was dispensing the best possible education. Emile Durkheim, the sociologist, worked out differentiations between various types of secondary education in relation to a comparatively obvious social hierarchy.

At the end of his lecture on the development of education in France, he questioned the nature and function of secondary education, that is of education between the ages of about 10 (or 11) and 17 (or 18), which is given to a very small minority of the young. He wrote, 'Secondary education means education which prepares for university only and is defined in particular by the absence of any immediate vocational consideration.' And elsewhere, 'Though secondary education may be useful in this respect to future professionals of the economic life, or at least to some of them, it should not be specially organized for this purpose or else its very nature will change. It must not, nor can it, aim at preparing for industry or commerce or even the judiciary or army unless it denies its own nature, since its basic charac-
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A characteristic is to train the mind without regard to any particular profession. Although industrial and commercial schools immediately succeed primary education (like our colleges and high schools) they should on no account be confused with secondary schools as we have just defined them. The purpose of each, the methods which are employed, and the principles on which each is based, differ radically.' And so Durkheim comes to the conclusion that there are two separate problems: 'How should special education for industry and commerce be organized? Can a genuine secondary education which would develop the reflective faculties in general be organized without Greek and Latin?'

When the sociologist considers the place taken by Greek and Latin in French secondary education, it is difficult for him to refrain from stressing how conservative the system is with its maintenance of a particular cultural tradition and therefore of certain social distinctions. Until quite recently a knowledge of Latin was required for entry into some of the most famous United Kingdom universities. It cannot be laid down, once and for all, that a man who knows no Latin is not educated. Yet for a long time this was accepted as a plain statement of fact. This should put us on our guard against the danger of becoming confused between the traditional and the abstract definitions of 'education of quality' or the 'quality of education'.

The sociologist, more than all others, has recognized that rationalization is the basic phenomenon of civilization. He also, more than all others, has emphasized the arbitrary or at least undemonstrable character of judgements of value. Max Weber has pointed out too that the sociologist can, and should, analyze and make explicit individual and community judgements of value. Is it possible to define the various values, probably to some extent contradictory, in terms of which we judge an educational system?

If the term 'intrinsic purpose of an educational system' is used to describe the transmission and veneration of a certain type of culture and a certain type of man, and 'extrinsic purpose' to describe the training of manpower adapted to the occupations it is necessary to fill, then it seems to me that in general the emphasis today is on the extrinsic purpose of the educational system rather than the intrinsic. This trend is sometimes taken to extremes when educational planning is carried out with a view to obtaining the highest returns for the least cost with regard to increasing production or productivity. To put it in the abstract, the productivist or technical ideology is one of the most widespread in the world today. The principal, if not sole, aim is to produce as much as possible, or to increase as much and as rapidly as possible the amount of goods available to the community.

But this productivist concept is in contradiction to the democratic and
humanistic ideals to which planners and governments also subscribe. The democratic ideal requires that every man should have his chance. To make production the ultimate aim is absolutely contrary to the humanistic ideal. Man does not live to produce, he produces to live, and to live well. Schools should not therefore train him only to exercise his profession but should help him to develop his whole personality.

The educator as such cannot fail to be a humanist first and foremost. In other words his aim, almost inevitably, is to train intelligences and personalities in accordance with a more or less clearly defined ideal. The economist, on the other hand, while acknowledging the limitations of his analytical methods, wants poor societies to make the best possible use of their limited resources. In his opinion the greater the contribution to economic development the better (no matter how uncertain any measurement of this development may be). Meanwhile the politician hesitates between the ideal of good education, the exigencies of modernization, and the principles of democracy.

These three considerations are not necessarily incompatible, nor are they automatically in accord. Optimists have enumerated the agents which will reconcile them in the long run. The richer a society becomes the more it can spend on educating the young, lengthening the period of general studies and delaying the start of vocational training and apprenticeship. Moreover, even from the purely utilitarian point of view, the more complex a society becomes the more it requires its manpower to have an increasingly high intellectual standard. So the democratic ideal is in the end fostered by economic progress. As the conditions of the masses improve, family socialization will act less unfavourably on children of the working classes. At the same time the financial advantages of a university diploma will be reduced by the influx of graduates on the labour market. Societies, Marx said, ask themselves only those questions they can answer. Productivism, humanism, and democracy are perhaps only temporarily, not finally, contradictory.

But without denying the forces which in the long-distant future will tend to reconcile them, the fact remains that in no society today are they in harmony of their own accord. It is obviously in the interests of society that exceptionally talented individuals should not be lost in the crowd. But the efforts to compensate for, and overcome, the disadvantages suffered by children of the working classes as a result of family socialization, are not always a paying proposition. In point of fact most societies confuse scholastic, intellectual, and natural ability. Distinguishing between natural abilities and those which are measured by psychologists and educators is, moreover, difficult because of the great influence in the early years of family socialization on the development of intelligence and personality.
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There are similar intrinsic difficulties in reconciling the productivist aim with the ideal of the well educated man. The difficulties are due, first and foremost, to the ambiguity of this ideal. Or, to be more exact, which elements of this ideal are intrinsically or universally valid? Which have their roots in tradition or are inseparable from a particular culture? These questions came to my mind when reading Peters' paper. We have no difficulty in accepting that there is a distinction between the 'quality of education', in the sense of elevating the mind and personality, the quality of the process of education (or teaching), and lastly, 'the quality of human relations inside the schools or universities' to encourage students to conform to a concept which an integrated society has of what community life should be.

The ideal of human relations in educational institutions varies from one society to another within the western world. The British or American campus is unknown in France, and there is no equivalent of the small German towns which shelter ancient and famous universities. Nor is France any more familiar with the equivalent of British public schools. The best secondary schools, with few exceptions, are state schools, and education is limited in its essentials to instruction, to the training of the intelligence alone (even an introduction to the arts is omitted). There is undoubtedly scope for rational discussion of the advantages and disadvantages of the various formulae. But comparisons give rise to controversies, and even though one organization might be better in some respects than another, it would be an illusion to think that in any western democratic country the government could decree and enforce reforms which broke with tradition. It would be just as impossible to introduce the campus suddenly in France as it would be to prohibit it in the United States.

Similarly, the kind of relationship which develops in a school or university between the teachers, and between teachers and their pupils or students, is an inevitable result of both tradition and the outside environment (of the society as a whole) as well as of the immediate environment itself. There is always, to some degree, an affinity between the social nature of a school or university and the nature of the society in general. It would be a mistake to ignore the strength and continuity of the traditions which form part of an educational system. Until recently, this system, at least in Europe, has manifested through the centuries an extraordinary resistance to change. The speech or poem in Latin was still a common exercise in French lycées at the end of the nineteenth century. Methods owe much to the Jesuit tradition. In so far as democracy implies the participation or consent of the governed, schools and universities in France are more authoritarian than democratic. But experience has proved that democracy in the outside (political) environment is not incompatible with authoritarianism within the environment of the educational system. Some aspects of human relations in British public
Quality as relative

schools are as shocking to the French observer as certain aspects of the French system are to the British observer.

Our uncertainty becomes even greater when we arrive at the first definition of quality, termed intrinsic quality or excellence, or the kind of man or type of mind which is the ideal. Are the characteristics which Peters attributes to the well-educated man valid for all periods? Are they even accepted by everyone today? Would another philosopher give the same prominence to the various elements?

Our doubts are concerned firstly with the idea that education implies a propensity to a non-instrumental attitude. This evokes the ideal of the wise man, the honest man, or the gentleman of leisure. It infers that the man of quality has an understanding of the non-utilitarian values which is lacking in the professional man. But a strict definition of the non-instrumental attitude would seem to apply far more to the playing child than to the thinking adult. The non-instrumental attitude is a characteristic of the well-educated man only in so far as it applies to study, to purely intellectual activity. The educated man is one who takes pleasure in culture in and for itself alone. But what does this term 'culture' include? Is the engineer who, outside his working hours, is passionately interested in mechanics and nothing else, an educated man or not? The classic debate is inevitable; what degree of specialization is compatible with the ideal of the educated man? What are the respective virtues of the various school exercises, teaching methods, and curricula that are used for training the mind (let alone what would be even more difficult - for training the man)?

It must be admitted that our uncertainty extends to both the end and the means. The very terms we employ carry such a burden of history that their usage in different languages can engender misunderstandings. In French, as I said before, it was customary to distinguish between instruction (or training the mind) and education, which was concerned with the whole personality. Although all methods of instruction involve an educational influence (whether the teacher intends it or not), the planner's main consideration is instruction as such, or if you like, training the mind. The classic differentiation as regards training the mind is between learning (or knowledge) and intelligence - another ambiguous idea but one which crops up frequently in educational controversies. The traditional conception of secondary education was that its proper aim was to develop the purely intellectual capacities of meditation, reasoning and abstract thought. Preparation for a trade or vocational training was in a completely different category, essential for the smooth running of society but of a lower order. The hierarchy of prestige has, in my opinion, remained unchanged in all the educational systems of the developed countries. In the same way that non-manual activity enjoys greater prestige than manual, intellectual activity of the theoretical, abstract and general type is consid-
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Considered to be superior to intellectual activity which is directly concerned with practical affairs or production. This judgement of value, which has been handed down through the centuries, is what is expressed when the 'non-instrumental attitude' is included in the definition of the educational ideal.

Certain features of the economic and social organization of our civilization tend to confirm this judgement. Practical men (as they were called in the old days), men in industry and trade, need the purely intellectual capacities of conceptual thought, reasoning, and judgement just as much as the professional men engaged in the realms of science and culture. So it is only normal that secondary education, which is the approximate equivalent of what Lewis calls 'general education', should be given to a growing percentage of the young of each generation in countries that have the necessary resources. But that does not mean that everything is settled.

In theory, secondary or general education between the ages of 11 (or 12) and 17 (or 18) has a dual purpose, the development of particular intellectual abilities, and the acquisition of certain knowledge. There need be no special ratio between them. The idea that purely intellectual abilities cannot be developed without a knowledge of at least Latin, if not Greek as well, seems to us today utterly absurd. The fact that less than fifty years ago this theory was circulated in France, to justify a reform intended to restore the humanities to their previous position in secondary education, should remind us that in any society it is easy to confuse learning with ability and the ideal of one society with the purpose of intellectual training as such. Even the concept of 'training the mind' is not without ambiguity. Peters in his paper uses the term 'awareness', for which there is no exact French equivalent. It means more or less what in French is called *capacité intellectuelle*. We have no hesitation in admitting that this intellectual ability is greater if it includes not only a knowledge of results but also an understanding of theory and principle, or the rational procedures by which these are established. But two problems arise, one concerned with means and the other with ends. A mind capable of genuine comprehension in a number of fields is superior to one which reveals this 'quality' only in some. Yet it is becoming increasingly difficult to attain this ideal, which has come down to us from a time when an almost encyclopaedic knowledge was not impossible. The objection will no doubt be raised that it is not a question of encyclopaedic knowledge but of an all-round ability to comprehend. There is no need to know everything in order to be able to reason correctly in any subject. Experience, however, tends to make me less sanguine regarding this. I have met eminent learned men who were incapable of rationally examining a political, social, or historical problem. The reason these men were capable of comprehension in one field and not in another was partly emotional. But it was not only due to emotion. In some subjects the ability to comprehend requires a mastery of the proper
technical terms, a long acquaintance with more or less esoteric research. If we deny that the physicist, historian, or artist, each wrapped up in his own world, is educated, how many educated people are there still today?

Everyone agrees that encyclopaedic knowledge is impossible. To what extent is encyclopaedic comprehension possible? This all-round ability to comprehend is obviously desirable, but it is in fact limited to a few. The educational system should promote it, but can never ensure it. It is not even proved that a general education is more likely to be successful in this aim than one which is both more specialized and more thorough. Breadth of education is only a quality 'other things being equal', meaning that to broaden the scope of education may be valuable in itself but it is not the only value which should be taken into consideration. Further, when what matters is the training of the intelligence rather than the acquisition of knowledge, the value respectively of breadth and specialization (in curricula) will continue to arouse controversies which are difficult to arbitrate.

In other words, no matter how valuable it may be to distinguish theoretically between the quality of education as such and the quality of the educational process (curriculum, method, school exercises), these two concepts have been confused to a greater or lesser degree in most societies. Even today there is no clear distinction between them in practice, whatever there may be in theory. This is due to the fact that strict differentiation between knowledge and ability is difficult, while the respective values of an undeniable but special ability and a broader but less specific capacity are debatable (unless put to the test on the open market).

It seems to me that discussion in France is focused mainly on two questions. Firstly, is the influx of the young to secondary and university education in line with, or contrary to, the needs of the economy? Secondly, does the system, as it is at present, answer the requirements of democracy? Or to put it differently, I could say that there are three protagonists involved in the controversy. They are the secondary school or university teacher who upholds the system's traditions (of general education, training the intelligence, and disinterested culture); the economist or sociologist who questions whether the distribution of the young between the various types of education answers the needs of the economy and of social integration (which is one of the obvious functions of the socialization process of any educational system); and lastly, the politician or the general public who compares the division of the population into its various socio-economic categories with the social origin of secondary school pupils and university students. At present, both the sociologist and the democrat criticize the results of the French system. The former considers that the different types of training do not answer the needs of the economy, while the latter feels that, on the pretext of official equality, children of the privileged classes are unduly advantaged. This attitude is particularly
instructive when we remember that, in contrast to practice in the Anglo-Saxon countries, the best secondary schools in France are free of charge.

There is no doubt that the opinion of the economists and democrats is based on fact. The greater prestige of general education, as well as the conception which teachers continue to have of what constitutes education of quality (in fact what was given to men of quality), tend to swell the numbers on the classical and modern side in high schools and colleges at the expense of the technical sections. Left to itself, the French system is likely to produce too many young people with a general education in proportion to the number who have had vocational training. Furthermore, the effect of the system on the recruitment of students is only very gradual. The egalitarian, free, and competitive system favours children from privileged environments as much as, if not more than, the seemingly less democratic type.

What is responsible for this result in a system which strives to be democratic but which apparently fails to achieve its purpose? Unfortunately, given the present extent of our knowledge, we are unable to establish the exact role played by curricula, methods, teaching, and schools. It is difficult to decide how far a school by changing its techniques could neutralize the influence of family socialization on the scholastic abilities of children from various social strata. All we can do is to note that the criterion of quality - defined in terms of the efficiency of the educational process - is difficult to apply to the system as a whole, and that it leads to contradictory interpretations. If this efficiency is judged from the point of view of a particular interpretation of the democratic ideal - that of minimizing the scholastic inferiority of children of the working classes - then the French system has not been very efficient up till now. Even if efficiency in relation to democratization is discounted, at least two further criteria could be used to establish how efficient the system is. These are the percentage of pupils or students who, having started a particular course of study, drop out before completing it, and the intrinsic quality of the education received by those who are successful. These two criteria do not necessarily suggest identical points of view.

So it seems to me that educational planning in a developed country is more, rather than less, difficult than in an under-developed one. The difficulties are not only technical. They are due in the first place to the multiplicity of the aims of our societies, and in the second to the fact that the already wide choice increases simultaneously with the growth in resources (though these still remain scarce). Suppose a state similar to France wanted to plan its educational system. (The hypothesis is not ridiculous, because any system which is largely nationalized and under a single authority is likely to engender planning ambitions of this type.) The first difficulty to overcome is created by the length of the period of study. A certain number of years, between five and ten according to the case, must elapse before the young
who have chosen a particular route come on the labour market. Distribution between the various routes should therefore be worked out not in terms of today's needs but of tomorrow's. And these needs have to be worked out for every section of the economy and every branch of industry in terms of their future development. The unceasing transformation of all means of production makes it impossible to define these needs except in comparatively general terms, as, for instance, a certain level of training determined by the number of years of study or the diploma obtained. It would be easy to complicate a model like this by regional sub-divisions, or even by supposing that similar types of employment would require a higher standard of training in ten years' time because of the probable increase in the community's resources and the extension of general education.

Planning of this kind will however seem no less shocking to many people, especially teachers, merely because it is, or appears to be, based on a purely utilitarian conception. Any philosopher or moralist will say - I do not see how they could refrain - that education is intrinsically good and that to harness it on principle to the service of the economy is to subordinate the end to the means. If it were only the philosophers and moralists who protested, planners would probably have little difficulty in winning their point, but the teachers, or in any case a majority of them, are in spontaneous agreement. And the ordinary individual, without even realizing it, moves away from the truism that the purpose of education is to train minds or men and not solely a labour force adapted to the needs of the economy, and arrives at the more debatable opinion that general education as such is better than vocational training. We freely admit that a mind capable of encyclopaedic comprehension is a better mind than one which is possibly superior but which is restricted to a narrow field (although the very condition of creativeness occasionally restricts encyclopaedism and even mere comprehension). It does not follow, however, that so-called theoretical or general knowledge is better at all levels for developing the human personality than more limited or more practical knowledge.

I should like at this point to mention one of the social paradoxes which arises from this antithesis of quantity and quality. In all countries the education which enjoys the most prestige is reserved for a minority. (The sociologist might say that education of so-called quality will never be given to the majority because, as it becomes disseminated among a larger number, public opinion raises the threshold of quality.) Secondary education, defined by Durkheim as having no aim but to develop the intelligence and unconnected with any vocational activity, was given to children of the bourgeoisie, and to a few from the working classes whose outstanding abilities had been recognized in primary school. Moreover, this secondary education led only, or almost only, to institutions of higher learning, grandes écoles or univer-
sities. Inevitably this secondary education has remained the model of education of quality. The social circles in which families want to give their children this education expand, and the number of young who aspire to it increases. According to the democratic ideal, entry cannot on principle be refused. Lack of resources, however, means that all candidates cannot be taken. Examinations are the theoretical solution, but selection will inevitably be influenced, for reasons we now know, by social factors. Psychologists have found how difficult it is to work out tests to measure the intelligence alone and not the aptitudes which result from the intelligence-plus-family-environment complex. A fortiori, school exercises measure aptitudes resulting from the initial process of socialization rather than innate ability. As parents in the governing classes and in cultured circles are more than ever anxious about the education of their children, an officially democratic system, free and open to all, in actual fact becomes democratic only gradually (if true democratization is judged by the percentage of children of the underprivileged classes who manage to enter the secondary school).

This same dialectic may well lead to a contradiction between 'education of quality' (i.e., believed to conform to the ideal) and the 'quality of education' (i.e., efficiency of the education process). This contradiction may reveal itself in many forms, of which I quote the following three frequently observed examples. The same kind of education is efficient: (a) as long as the ratio of pupils to teacher is not too high, and it ceases to be efficient if the ratio rises; (b) as long as pupils are adapted by family socialization to absorb education, and not at all (or to a lesser degree) when it is given to children whose family culture is very different from that of the school; (c) as long as families are a help to their children, or if the children are separated from their families by boarding-school; and not if one or other of these conditions is absent. Education which society and educators believe to be intrinsically the best may then degenerate, which is as contrary to the interests of the community as to those of the individual.

In most developed western countries these problems are in fact solved by social mechanisms and not by government decisions. In both the United Kingdom and the United States, secondary schools and institutions of higher learning are extremely diversified, and all of them, even when state-financed, are largely autonomous in matters of curriculum and teaching methods. The institutions, which are the result of a long history, enjoy unequal prestige so that the most famous are also socially the best, although they are always to some extent the target of criticism. Further institutions of secondary education and higher learning develop, either supplementary to the traditional ones or competing with them. In any case, reforms, or even planning, can never be more than piecemeal, due to the very diversity and autonomy of the institutions. After the Robbins Committee report, the United Kingdom
government's target was to double the university intake in twelve years. But, for all that, it did not decide how the universities should be organized, what the curricula should be, nor what form the examinations should take. Instead, it took various steps, such as increasing the number of comprehensive schools, giving more scholarships to children of the working classes, and building new universities, each step being taken for a particular purpose within the framework of an integrated system of which most elements were already in existence and which, by definition, could not be altered.

On the other hand, planning can, in theory, be applied to a nationalized and centralized system like the French one on the lines suggested above. In point of fact one has only to think of the demands of planning to understand that planners are always bound by innumerable constraints and that they have to bear in mind many different factors. The constraints are those of a system built up over the centuries. They include the teaching methods, which are the heirs of a tradition, the varying prestige of different types of education and institutions, the heterogeneity of family socializations, and, last but by no means least, the limited resources in money and educators at any given moment in any society.

It could easily be said today that educational systems, at least up to university level, are all much the same. They all have compulsory schooling of eight to ten or eleven years (with a tendency in all countries to regard ten years as a minimum) and promotion to secondary education between the ages of 10 and 12; this usually lasts six to seven years and is generally divided into two cycles (of three or four years). The most striking difference is between the United States and the USSR, on the one hand, and the European countries on the other. In the latter, schools attended by pupils following only the short secondary cycle are often separate from those where the pupils hope for full secondary education and want to go on to the university. (The separation between the two types of secondary schools is on the way out in France.)

Organization varies in each country, as do methods of selecting university entrants. One way or another, the number of students is kept down to the number of places available at the universities (or at equivalent institutions). This may be done by raising the standard of preliminary examinations or officially decreeing a *numerus clausus* (as in the USSR), or by a special examination either on a national level or for each establishment.

In its general aspects this system, with its emphasis on intellectual training, displays to the modern world what may be termed model characteristics. The criteria which Lewis considers obvious are derived from them. The first two - length of studies and the shape of the pyramid - are related, so to speak, to the educational purpose itself and imply an idea of intrinsic quality, the ideal of the educated or cultured man. The third criterion - of successes or
percentages of failures - is related, on the contrary, to the efficiency of the educational process (or to the need to select between candidates too numerous for the number of places).

If this system became general, it would not eliminate controversies concerning quality but in many instances might add to them. In the first place, even if education became mainly instruction (at least on the conscious plane) in state establishments where day-schooling is the usual rule, human relations within the schools, the relationship between teachers and pupils, and the type of social or moral training given, would not be at all the same in all countries. French schooling forms French citizens in the same way that American schooling forms American citizens. As long as education is concerned with the whole personality it will bear the stamp of its social context, and similarity in the organization of schools and educational systems will not abolish these differences, which, though they may not be measurable, are none the less important in the eyes of educators. Theoretically we might say that the kinds of men trained by different socio-scholastic systems vary in quality, although we could not work out any hierarchy, and even less could we mark them in order of merit.

Even within the purely intellectual framework there are differences in quality (in both senses of the word) which are equally impossible to deny or to measure. Compare a graduate of the *Ecole normale* in Paris with a brilliant Oxford or Cambridge student; the development of various abilities is not the same in each of them. Certainly at the higher, and possibly at all levels, educational systems and teaching methods do not develop the various intellectual qualities equally (such as mastery of language, development of concepts, ability to expound, precision of thought, creative imagination). At any international congress it is easy to recognize the hallmarks of the education which the learned men and professors have received. Traditional secondary education in Europe displayed specific characteristics of both class and nationality.

Let us leave aside these qualitative differences which are not, and cannot be considered as, steps towards a predefined excellence. If the factors of moral training in the educational process - the ideal portrait of the cultured man, the importance ascribed to each intellectual quality - are ignored, then we are left with nothing but blueprints of the type of educational system which is likely to spread in all developing countries and which planners naturally take as their model: that is, a general elementary education (reading, writing, and arithmetic) for all children, and a general secondary education for a growing number of pupils and for a lengthening period, with vocational training for the best of them starting as late as possible. As general education is intrinsically good (in relation to the ideal of the well-educated man) and has been shown to promote productivity in developed countries, then ob-
viously there is no incompatibility between the three ideals of productivity, democracy, and humanism.

There is then no contradiction of principle, and if we may continue to draw conclusions from the rich countries, it might be said that only those societies which are sufficiently productive are able to give everyone the chance of becoming a cultured man. But until this happy state is finally achieved in the distant future, every society will have its problems caused in the final analysis by poverty or the inadequacy of the available resources to satisfy the requirements of what, according to our ideal, the educational system of any modern society should be.

As we have seen, controversies are no less animated in the developed countries, at least in Europe, than in the under-developed. The former are richer, but, perhaps because of this, they have, in one sense, an even greater variety of choice. In addition, they never start with a tabula rasa. They have to change an educational system designed for the few to one open to a large number, and substitute a reasoned, if not rational, scholastic selection for an automatic social selection. Western Europe, in the throes of this transformation, is today the scene of the most impassioned polemics - and for good reason. The quality of secondary education in western Europe, according to the prevailing ideology, was inseparable from the humanities, from Greek and Latin. This relationship between general education and the humanities has been discussed year after year. How ignorant of Latin could a 'cultured' man be? Supposing that 'culture' did not imply a knowledge of Latin, could disinterested intelligence be trained without school exercises in the dead languages? Moreover, the retention of some subjects and methods led to, or could lead to, a contradiction; the worthwhileness of scholastic traditions was associated with the level of training of teachers, with small classes, and with the preparation pupils had had in their families. In short, the massive increase in the number of young people receiving instruction, previously limited to a few, may lead to an opposition between quantity and quality. If, due to overwhelming numbers, the standard of what was once education of quality is lowered, it may well become inferior to a less pretentious education without furthering the democratic ideal. Children of the working classes might have a better chance of success in a less general, less abstract, education, one which is closer to their experience and family environment.

The under-developed countries, at least in Africa, do not have to reconcile these aristocratically derived scholastic traditions with the social and moral requirements of modern times. But there is another danger to be avoided. Because the system in developed countries is inevitably their model, they are inclined to forget that the various considerations carry different weight according to the level of development of each society, and also that they are
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in even greater danger than European societies of downgrading an education of quality by trying to provide for too many pupils too soon.

All societies, no matter how varied, which we are in the habit of referring to as under-developed, have one thing in common - their poverty, inadequate resources for the requirements of education both in money and in men. What are the general consequences of this poverty?

1. Lewis's paper does not mention the problem of democratization as discussed in the developed countries. Nor does it mention the question of distinguishing between natural abilities and those which are measured by scholastic success, itself predetermined by social circumstances as much as by inherent gifts. Democratization is in one sense a luxury of wealthy countries. By this I mean that the concern to give every individual a chance, which means full enrolment and a correspondingly high percentage of failures, is beyond the means of poor countries. In another sense, it may be that these same countries need to democratize even more than the rich ones, because a system of selection which did not involve the loss of talented children would be in the community's interest. But the extension of a system like this to the whole population is impossible, because there are not enough places in the schools. Perhaps, in compensation, family socialization leads to greater equality between individuals, so that scholastic selection has a less social basis and is nearer to selection by natural abilities.

2. Because resources are limited, some priority must be given to what is termed the productivist aim and to so-called economic considerations. The poorer men and societies are, the more carefully they must spend their money. On this basis it would be easy to set the humanist ideal against the productivist, the training of a cultured man against that of a professional, and general education against vocational. This virtual opposition, now worldwide, seems insoluble in developing countries, and the more so as they adopt as their model the educational system of the developed countries, as it is, or sometimes as they believe or would like it to be.

At this point the experience of European countries is relevant. Assuming that general education, handed down through the centuries, is better from the point of view of a certain cultural ideal or type of humanity, it still has to be decided what part of the content of this education is rationally indispensable and what is traditional. Further, it may be that this education, superior in quality in the right conditions (level and number of educators, adaptability of pupils thanks to family socialization), will be inferior to vocational training when these conditions are no longer present. Governments should therefore not forget: (a) that the education which has the most prestige will usually attract too many candidates; and (b) that, when the western countries were at
the present stage of development of many of the African and Asian countries, the educational systems then in force restricted secondary education to a few and promoted vocational training for the majority. Perhaps the most useful maxim for Africa and Asia is that which Tocqueville used when referring to the America of the 1830s: the equal dignity and value of all work provided it is well done. It seems therefore that, in the educational field, imitation is at once inevitable and dangerous.

3. The result, and almost the aim, of the intellectual and rationalized educational system which is spreading throughout the world today is to remove young people from what are still traditional environments. As mentioned earlier in this connexion, education as a socializing process has always had as one of its functions the bringing about of change. Today this function is becoming increasingly important because the rate of technical and economic transformation is accelerating, and, if vocational training is too limited in content, it may become useless in ten or twenty years' time. But in the very poorest societies the modern type of education which is given in primary schools should not encourage the young to abandon their family environment. Uprooting the young should go hand in hand with transforming the family environment.

4. All through history, complex societies, no matter how poor, have had their élites, and when the educational system was comparatively autonomous it trained a few to have the quality which each epoch considered desirable. There is every reason to suppose that the poorest societies today would also like to have an elite - an intellectual elite which was university-trained. But this would absorb a considerable proportion of their limited resources. It might also lead to criticism from people who had some conception of the democratic ideal (especially if the privileged few were drawn from comparatively restricted social environments). Comparison of a system of this kind with the systems now prevailing in modern western societies might lead us to condemn it, but allocating resources for the purpose of training an elite may be more easily justified if we call to mind the experience of the United States and Europe in the nineteenth century.

And so, following a different line of reasoning, I reach much the same conclusions as Lewis. For all that, I shall refrain from suggesting any quantification, lacking as I do the necessary experience, and also perhaps because an awareness of the many factors that are involved inclines me to be cautious. What matters is that governments and planners should have as clear an understanding as possible of the complexities of the problem and of the impossibility of coming to a scientifically proved solution. 'Optimization' remains, in spite of statistics, a question of good sense rather than of science.
Some views on cross-national assessment of the 'quality of education'

School education is a part, sometimes perhaps the most important part, of the 'preparation for life', that is, for citizenship, for parenthood, for future occupation, etc. Since all of these tasks are performed within various social and economic settings, the criteria for evaluating to what extent the school has succeeded in accomplishing its functions vary with regard to both kind and order of priority. It is therefore inappropriate to apply the same set of criteria when evaluating the quality of education achieved by schools in, for example, the United Kingdom and Nigeria.

The criteria of quality thus relate to the objectives which explicitly are guiding the operations of a given type of school within a given socio-cultural framework. The quality is thus assessed by asking to what extent the schools have succeeded in achieving both their cognitive and non-cognitive objectives, both immediate and remote.

A comprehensive evaluation which takes into account all the objectives is a formidable task, which, from a practical point of view, would seem impossible at the national level. A quality assessment at the national level would have to be a compromise between practicability and comprehensiveness. Thus, cognitive outcomes are easier to evaluate than non-cognitive, immediate easier than remote. Ordinary school examinations fit into this pattern of priorities, cross-national evaluations even more.

Both educators and laymen often use the word 'standards' when it comes to evaluating the quality of school education. The expression has certain vague connotations. In the first place, 'standards' are thought of as being in one way or another metaphysically anchored. Therefore it is regarded as a sacrilege to change 'standards', especially to lower them. It is striking to note how, at least in Europe, all steps that have been taken to broaden the opportunities for secondary and higher education have met with the objection that they would 'lower the standards'. Worse still, when those educators who frequently use the expression are asked to provide an operational definition of what they mean by 'standards', they are usually at a loss. If pressed for some meaning, they might come out with the definition that 'standards' refer to the minimum requirement for a pass mark that has emerged over the
years. Thus, one finds that in European secondary academic schools the attrition rate (grade-repeating and drop-out) within a given country and a given type of school has, over a long period of time, been almost constant, and strikingly independent of the size of the enrolment.

Irrespective of whether 'standards' have a national or cross-national application, they must be given a meaning in two respects. In the first place, standards would have to be related to set objectives - ultimately the types of behaviour that school education should try to bring about or promote. Secondly, the extent to which the educational system has succeeded in achieving these set objectives should be given some statistical form of expression.

Establishing objectives by means of analyzing what is 'requested' by society at large or by the world of employment is a difficult task. But, as has been shown by the curriculum research programme carried out in connexion with the School Reform in Sweden, it is not an impossible task. If one tries to describe in a meaningful way the requirements that industry, the business community, and the civil service demand of the young people they employ, certain important leads can be obtained in constructing and revising curricula. It is taken as self-evident that the assessment of societal and individual 'needs' of this kind will by no means be expressed only by indicators of what should be included in the curriculum, since there are numerous other goals than the pragmatic ones towards which schools are supposedly working.

One serious limitation of an analysis of 'consumer needs' is its static nature. At best, it might reflect what is 'needed' or 'required' by the present society. But the aim of education is to prepare for a future society, which, especially in a time of rapid technological and social change, could well develop into something quite foreign to present-day conceptions. One way of coping with this would be to carry out cross-national or cross-cultural analysis by means of which certain trends in the changing demands could be analysed.

Various statistical meanings could be attached to 'standards' depending upon their relationship to national or cross-national assessments.

1. It has already been pointed out that standards in many cases refer to the pass-mark. Maintaining standards means that those whose achievements fall below a given level are given a mark and are then designated

failures. Evaluations are thus conceived of in an absolute rather than in a relative way. A given student is evaluated in terms of whether he has passed or failed, not in terms of his position in the distribution of achievements.

2. Standards could be expressed in relative terms, that is, by means of relating group or individual performances to the average performance of a reference population. Thus, one finds that the average performance of American students taking mathematics in the senior year of the secondary school is generally far below that of their British counterparts in mathematics. To make cross-national assessments of standards in such a way (by average performance) is, for various reasons, not satisfactory. One ought, for example, to take both national and international spread of performances into account. But the major drawback for using the average performance as an index of national 'productivity' or 'efficiency' in a given type of school stems from the fact that quite different proportions of the corresponding age group are compared. When evaluating the achievement of a given school system in terms of student performance, one should not only take into account the relative number of students who have been retained and brought to a given grade level but also consider those who have been held back as grade-repeaters or have simply dropped out. Such considerations are especially important when evaluating the relative merits and drawbacks of comprehensive versus selective education, or when evaluating the effects of 'broadened opportunities'. In a highly selective system, where a small intellectual, and (in particular) social, elite survives the various screening procedures, the high average performances of the elite have to be weighed against the broadened opportunities for a major proportion of the young people in a comprehensive and 'retentive' system.

3. In the International Project for the Evaluation of Educational Achievement (IEA), cross-national or 'cross-system' comparisons have been made in terms of international percentiles. 1 These are then defined by the composite distribution of the achievements of all the national samples tested at a given grade level. By means of these percentiles it is possible to obtain an answer to the question whether, and to what extent, a broadening of opportunities means a lowering of standards, and in particular whether, and to what extent, the top students in a retentive (comprehensive) system perform worse than those in a non-retentive (selective) system.

Thus, in the IEA we studied the achievements of the students in the last
grade of the pre-university school (i.e., high school seniors in the United
States, Oberprimäre in the Federal Republic of Germany, the sixth-formers
in the United Kingdom who are about to sit for the general certificate of edu-
cation, 'A' level, and the lycée students about to take their baccalauréat in
France). Among these, the terminal students actually taking mathematics, and
as a rule belonging to the mathematics-science track, were of special interest.
Their proportion varied from 4 to 18 per cent of the corresponding age group.
A comparison in terms of international percentiles referring to the composite
distribution of all the mathematics students (i.e., those in school) would then
not be fair to the systems with high 'retentivity' or holding power. Therefore,
we went one step further and calculated the proportions of the total age group
that reached a given percentile score. In country A, where one-fourth of the
age group graduated from the secondary academic school, only 2 per cent of
the terminal mathematics students reached the standard of the 95th percenti-
le as compared to 10 per cent in country B, where less than half as many stu-
dents graduated. But if the two countries were compared in terms of the pro-
portion of the total age group reaching the 95th percentile we found
three-quarters of one per cent in country A and less than one half of one per
cent in country B.

4. Finally, an evaluation was made in terms of 'how many are brought how
far?' When, for example, a comparison is made between the United States on
the one hand and countries such as the Federal Republic of Germany or the
United Kingdom on the other, quite different structures of average perfor-
mances for various types of terminal students are obtained. In the latter two
countries, the major proportion of an age group leaves school at the age of 14
or 15. A small proportion stays on in school for another two or three years,
whereas a still smaller proportion graduates from the academic school which
makes them eligible for university entrance. In the United States, depending
upon variations in state legislation concerning statutory school-leaving age,
about 30 per cent of the young people drop out from high school and about 70
per cent graduate. It is found that the average performance of the top 5 per
cent of the age group in the United States reaches a standard comparable to
that in any of the selective European countries such as the United Kingdom,
Federal Republic of Germany and France. In addition to that, the United
States has a group of high school students whose performances are far below
that of the graduates in Europe but substantially above that of the elementary
school leavers there. Thus, when evaluating the outcomes of a given school
system, one has to take into account not only the quality of the end-products,
irrespective of the 'total production', but also the level that has been achieved
by students at all levels of ability.
Some views on cross-national assessment of the 'quality of education'

From what has been said above, it is evident that over-all criteria of quality would have to be conceived of in relation to the society the schools are serving. Thus, there is no point in making over-all comparisons of quality between highly industrialized and economically developed countries, on the one hand, and emerging ones on the other, since the objectives of school education must necessarily differ in so many respects. One cannot expect the schools to achieve substantially more than the target set by the socio-economic level of the society at large. The IEA study gave very low, and sometimes insignificant, correlations between student achievements and purely pedagogical variables, such as teacher competence, number of hours of instruction, and amount of homework, but consistently higher correlations between outcomes and socio-economic backgrounds of students. It would be easier to predict the quality of a country's school education with the aid of some of the more important indices of its socio-economic development than by means of the school variables available. Furthermore, measures of student motivation and attitudes towards learning seem to account for more of the cross-cultural differences in performance than do most of the teaching and school variables.
A basic assumption of this paper is that 'quality' can be defined and measured in meaningful and precise terms for purposes of analysis and measurement. Necessarily, any definition or set of definitions of an abstract concept of this character can only be operational, and any measurements must be of variables which are, in the technical sense, 'intervening' rather than observable.

A second assumption is more general, and is, perhaps, in the nature of a theory of education rather than an assumption. It is that any formal education system exists to serve the society in which it operates; that is to say, the aims of the system must be congruous with the aims of the society itself. Therefore, the achievements, both quantitative and qualitative, of 'education' in this formal sense, can only be evaluated in relation to whether or not they are serving the needs of the particular society, and not in terms of an abstract set of principles. This is not to deny that there are certain aims and principles which may be universally accepted; those embodied in the Universal declaration of human rights or other international conventions are examples. But their expression can only be embodied within national systems and can only be evaluated, except in a theoretical comparative sense, in this context.\(^1\)

It follows that improvement in the 'quality' of education presumably means taking action to ensure that the needs of the society and of its members will be more effectively provided for. Such action can be taken only if there is specific realization and recognition of what these needs are. All too often education programmes and, in particular, the development of curricula are undertaken with no clear view of what the society is trying to do, and, in consequence, there is frequent criticism of the output of the educational

\(^1\) The aims of the society are not necessarily, or indeed frequently, internally consistent with each other, and it follows that the aims of the education system are not always completely congruent with those of the society. As a consequence, there are likely to be imbalances and stresses, but, none the less, an educational system can only be evaluated in terms of its aims.
system in terms of prejudiced views of what children should be learning and of the balance of skills which they should have. This would suggest that, when one is designing curricula or planning a school system, there is need for a clear definition of the aims of the society and of the aims and objectives of education within these. If, for example, a primary aim is the maintenance and development of Arab traditions and culture, then the aims of the education system should reflect this. If, further, the curricula of the schools, of the teachers' colleges, and of the universities, are principally conceived in terms of aims of this character, as has been the case in many states in the past, then any discussion of 'quality' can only be in terms of these and not in terms of some other aims which are those of quite different educational systems.

More specifically, improvement in the quality of education presumably means increasing the probabilities that children and others will acquire the necessary knowledge, skills, attitudes and values which will enable them, at the same time, to do three major things: (a) to live happy and successful lives as individual human beings (this may be called the 'personality or individual aspect' of education); (b) to fill adequately the various social roles, including the manpower roles, which must be competently performed if the society is to grow and develop (this may be called the 'social system aspect' of education); (c) to preserve and develop the traditions and values of their own society and of humanity as a whole (this may be called the 'cultural aspect' of education).

These objectives, in a well balanced society, will be congruent with each other, but in almost every known society there is a degree of conflict among

1 The concepts of 'probability' and of 'variance' are central to this thesis. No education system can guarantee anything for any one child. All that can be done is to provide opportunities for learning which will increase, or decrease, the probability that children will acquire certain knowledge, skills, values and attitudes. Children vary in their capacity to learn, not only in terms of basic ability but also in relation to learning conditions. The traditional techniques of educational planning, and most of the models which have been built, ignore this point. The assumption is made that all children who emerge from the system at any one point with the same amount of 'exposure' to the same experiences will be identical in what they know and in what they can do. Put in terms as simple as this, few, if any, would maintain the proposition, but it is none the less implicit in most, if not all, planning. Because of the nature of man and of society, variation is inevitable, and a major problem is to define the tolerance limits in specific as well as in general terms.

2 This distinction is obviously closely derived from chapter 1 of: T. Parsons and E. Shils (eds.), *Towards a general theory of action*, Cambridge, Mass., Harvard University Press, 1951
them, not only in relation to the society as a whole, but also with respect to sub-groups within the society. This too will lead to stresses and imbalances in the education system, or, in some cases, a series of sub-systems. Space does not permit an exhaustive analysis of the difficulties which arise because of this, but it is maintained that the general position holds good. Some societies may stress one set of goals at the expense of others, but all three must, to some extent at least, be realized if the society, and therefore its education system, is to be viable.

'Increasing probabilities' implies developing facilities for education and methods and techniques which will enable the aims to be adequately fulfilled. This, in turn, implies the notion of 'quality control', in the most precise sense of the term, as a basic function of the system itself. It implies also the specification in quite precise terms of the goals of the curriculum in relation to the aims and objectives of the society, and the steady evaluation of achievement. 'Evaluation of achievement', however, is not merely the examination of children's attainments according to the traditional patterns. It also includes evaluation of the 'quality' of the product as predictive of later performance, whether as individuals or as members of society. These two types of evaluation are not by any means necessarily the same thing. A child may 'pass' an examination brilliantly (i.e., his attainment may be high), but 'fail' quite badly in a particular occupation for which his previous training has been supposed to prepare him (i.e., the predictive value of the examination is low).

This is to use 'quality control' in precisely the same sense in which it is used in industry or commerce, and implies the development of evaluation techniques strictly analogous to the various methods of sequential analysis. Any 'product' can be evaluated, at any point in the production process, according to previously determined and defined standards, and may be 'accepted' or 'rejected' ('passed' or 'failed') within specified tolerance limits.

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1 The analogy cannot be pushed beyond the concept of control to that of decision. Even in the most utilitarian of terms and excluding the human issues, there is, manifestly, a major difference between the production of a piece of hardware in industry and the education of a child. When an article fails to meet the specification standards we can either throw it away, reduce it to raw material and start again, or put it to some other use, with or without further processing. In education the second alternative is not open, and we are gradually learning the folly of the first. The implication of the third choice is one of recognition of variation and of differing criteria of 'quality'. Because of this we are inevitably and irrevocably involved in improving the processes of education in order to improve 'quality' not merely in general terms but also in individual terms; we must somehow learn to provide systems which can tolerate diversity.
Furthermore, the 'quality' of the process itself may be evaluated in terms of the proportions of acceptances or rejections. This is to use 'quality' in at least two distinct senses, which are frequently confused in discussions about 'quality in education'. These refer to the quality of the product (of the graduates at various points in the system) and the quality of the process (of the education system itself). The two are obviously closely related, but they are by no means identical. Given a statistical statement about the number of products rejected (for example, the number of children who do not reach a specified level on a particular standardized test of attainment) a precise prediction can be made, in probability terms and in relation to the predetermined criteria about the quality of specifiable sections of the process (for example, the curriculum or the teaching methods). Similarly, given specific statements about the process, predictions can be made, again in probability terms, about the performance of the product under given conditions. The major problems in education, as in industry, are: to specify the characteristics of the product which are required (i.e., the aims of the system); then to define the variables which must be controlled in order to obtain these characteristics (curriculum, organizational pattern, teaching skills and methods, buildings, equipment, etc.); to determine 'acceptable' standards both for the product and the process; to identify and define a series of measurable characteristics which will be 'indicative' of the performance of process and products in relation to these standards; and finally to make subjective judgements based on these measurements.

This immediately raises the questions of variables of analytic relevance. What aspects of the school system, in the widest sense, are susceptible to quality control techniques? This is a matter well beyond the scope of the present paper, but, as an example, it is worth looking at what is involved in one area alone, that of curriculum considered broadly. For purposes of illustration, we may consider curriculum at three levels, which may be named the 'essential or minimum curriculum', the 'optional curriculum', and the 'vocational curriculum'.

1. The essential curriculum: the minimal skills, knowledge, etc., which all people within the society should have. This would imply for most countries certain knowledge and skills, etc., such as: (a) literacy in the mother tongue; (b) some basic skills in arithmetic; (c) some specific knowledge of the social structure and social goals of the country; and (d) some acceptance of values and attitudes particularly relevant to the culture of that society. These, it should be emphasized, are attainments which all persons should have, and 'improvement of quality' would here mean simply increasing the probability that all children, and others, would learn these things. This, in turn, implies ensuring that elements of this character are included in the curriculum.
facilities for teaching them are available in all schools, that they are clearly recognized by all teachers, and that provision for teachers to become acquainted with them is included in teacher training programmes. Progress towards their attainment should be measured by quality control techniques, including the development of standardized measuring instruments specifically related to them. These skills, knowledge, etc., are attainment factors.

2. The optional curriculum: specific skills, knowledge, etc., of which all children should have at least some elements. It is not necessary, for example, for every child to be fully conversant with the detailed history of his country, or of its geography, or of its social structure, but every child might well be required to be in possession of certain elements. Which elements, and how much of them, are desirable must be determined in advance and clearly specified within the curriculum, both of the schools and of the teacher training institutions. These elements will also vary with the age and capacity of the child and with the specific needs of the country. But, here again, it is possible and desirable to devise measuring instruments which will ensure continuous evaluation.

3. The vocational curriculum: specific skills and knowledge, of which some children should have most, or all. This is directly related to the manpower needs of the particular society. Clearly, some children must have all the knowledge necessary for engineering, or agriculture, or teaching. Quality control here assumes a double aspect, since it is centred on prediction, as well as on attainment. Not only must the skills and knowledge of the child be assessed, as showing what he has learnt, but their relation to the special manpower and other social roles of the society must be clearly shown in a quantitative fashion.

All this implies at least five activities in order to ensure proper control and improvement of quality: (a) definition of general aims of the education system; (b) development of these into detailed specific aims; (c) development of a curriculum which will be related to the specific aims of the system; (d) provision of facilities and resources, including buildings, equipment, teachers, etc., which will enable this curriculum to be put effectively into practice; and (e) establishment of specific techniques of quality control which will make possible continuous evaluation of achievement in relation to the aims.

In more particular terms, this would suggest the rapid building up of services within each country which could carry out these particular steps. This, however, is no more than a beginning. To talk about 'quality' and 'quality control' is all very well, but 'quality' as discussed here does not
exist in any abstract sense. It must be related to some set of determined standards in some specified way, and, in this sense, really needs a further descriptive term like 'improvement', 'deterioration', or 'maintenance' of quality, and should be interpreted in this way. In this formulation, the critical task is to determine criteria of quality. These criteria are of two distinct kinds: (a) those which relate to the selection of the relevant characteristics for measurement - the indicators of quality; and (b) those which relate to the level of performance within the indicator.

As a first attempt, we might suggest as criteria for selection of indicators: -that they should be invariant with respect to their individual definition (i.e., they must always mean the same thing); that they should relate to all significant (to be defined) sectors of the education system; that they should be definable in quantitative terms; and that data relating to them should be able to be regularly, objectively, and reliably obtained. Reasonably objective criteria could be established along these lines leading to a set of 'good' indicators. For (b) the situation is different. Once an indicator has been selected, then, for the most part although not always, satisfactory level of performance is a matter of subjective judgement. To take an example, we might decide, on the basis of criteria like those suggested above, that children's scores on an objective standardized test of attainment in specified subjects of the curriculum are indicators of quality. We may then immediately ask questions like, 'What mean scores should be accepted as minimal? What is the maximum tolerable variance?' And so on.

A second theoretical distinction must be made between what may be called 'direct' indicators and those which are 'indirect' in the sense that a second inference must be drawn from them. An example of the first type might be that just given, scores on standardized tests of attainment, and of the second, a measure of decrease in wastage or drop-out rates. However, it should be noted that the same variable may be a 'direct' indicator of one aspect of the system and an 'indirect' indicator of another. A good example of this might be objective measures of the performance and knowledge of the products of teacher training colleges. Such a measure would, or could, indicate precisely the quality of the graduates in relation to specified standards. In this sense it would be a 'direct' indicator of the quality of training. There is, however, some evidence, in some countries, that the quality of the education system as a whole (i.e., the over-all performance of children) is positively related to the qualifications of teachers. Increasing numbers of teachers with higher qualifications, in the sense suggested above, would therefore be an 'indirect' indicator of the quality of the general system. A similar example would lie in school buildings. Direct measures of the quality of the building as such can readily be specified, but to argue from better buildings to better general education is to make an 'indirect' inference.
Three dimensions for classification of indicators have thus to be distinguished: direct v. indirect; attainment v. prediction; and product v. process. Before an attempt is made to specify some possible indicators, however, it should again be stressed that this classification is operational. An indicator may be 'direct' for one purpose, 'indirect' for another; it may be both attainment-directed and predictive, depending on the purpose for which it is to be used; and a measurement of a product may reveal a great deal about the process.

Planning for quality, like every other kind of planning, implies the taking of decisions, but decisions can only be taken in the light of established facts, and these facts can only be evaluated in relation to aims. An important extension of this formulation is that, once reliable prediction data are available about direct indicators, they can be built into any planning model. An example is the recent study of the elementary school curriculum in Thailand. Objective tests of certain subjects in the curriculum were designed, standardized, and administered to probability samples of children throughout the country. The scores have been analysed in relation to: the age, grade, sex, socio-economic status, vernacular language or dialect, years in grade, repetitions, of the children; the age, sex, qualifications, experience of the teachers; the geographical region and location (urban, urban-rural, rural) of the schools. In consequence it is possible, for example, given the location of a school by region and the qualifications and experience of the teachers, to predict within quite precise statistical limits the mean and variance of the performance of the children on tests of language, arithmetic, etc. The implications of such techniques for planning are obvious, but the important point is that they stem immediately from the concept of quality control by means of direct indicators.

Nor do such methods apply only to knowledge and skills. In the case of values the problems are more difficult but are by no means insuperable. To use once again the Thai example, ten 'values', important in Thai culture, were identified and defined, essentially from an analysis of child-rearing practices and interviews with religious and other leaders. These were then embodied in a series of situations, in each of which two courses of action, each representing one value, were possible. Children were asked to say what children should do in each situation, and this task was also imposed on a group of very eminent official persons. The assumption was that the officials would define some of the aims of society in terms of values children should learn, and that the responses of the children would give some indication of the extent to which they were in fact being learned. The results were beyond expectation. There was great uniformity of response among the officials (a scale with an internal consistency reliability of .95 emerged), and, more surprisingly, from region to region among the children. The correlations
between children's scales and the 'official' scale were positive and high (ranging from .65 to .80), suggesting that children at least knew what was expected of them. These scale scores could also be related to variables like socio-economic status, teachers' qualifications, and so on.

Any strictly scientific assessment would involve procedures like those just discussed, but this does not exclude the use of indirect 'indicators' of quality of 'improvement', provided it is clearly recognized that these give no guarantee that quality has been attained. For example, a diminution in wastage rates or a lowering of the pupil-teacher ratio are often cited as examples of improvement in the quality of education. But this does not necessarily follow. Wastage rates can be artificially diminished by introducing and enforcing age promotion and by strict compulsion on attendance up to a legal leaving age, but, unless this is accompanied by appropriate facilities, it is likely that all that has been done is to exchange one kind of 'wastage' (repetition and drop-out) for another (scarce equipment and teacher skills). Similarly, a lower pupil-teacher ratio can readily be achieved by the introduction of many untrained teachers into the schools or by the exclusion of certain classes of children, neither of which represents an improvement in quality.

Unfortunately, no comprehensive research programme has been undertaken to evaluate the effectiveness of a number of assumed indicators (class size is a case in point), much less to work out a patterned series which could be routinely applied. The nearest approach has been Bloom's *Taxonomy of educational objectives*,¹ which has at least pointed out ways of translating aims into measurable categories, but there is still a very long way to go. Because of this, to attempt to suggest some indicators, direct or indirect, predictive or attainment, in relation to the system or to its products is a hazardous task, and what follows is no more than illustrative. Some possible indicators of quality are the following.

¹ Benjamin S. Bloom (ed.), *Taxonomy of educational objective. The classification of educational goals*, New York, David McKay Co., Inc., 1956
Related to children

A rising enrolment rate, relative to the age population, at each educational stage

This is clearly an indirect indicator and one fraught with hazards. However, if an aim of the society is literacy for all, then one indicator of how well the school system is responding must be enrolment rates. Similarly, if there is a demand for more secondary graduates for industry, rising secondary enrolments are a first indicator.

Falling repetition and drop-out rates, particularly at transition points

This too is indirect. The dangers inherent in it have been indicated above, but there is sufficient good experimental evidence available to show that, where there are good teachers and good facilities, repetition does not lead to improved performance.

Rising performance on standardized tests

In an important sense this is the only reliable direct indicator of pupil performance. However, it is not necessarily a good indicator, in the predictive sense, of later performance in industry.

Related to teachers

Of necessity, these are all indirect indicators of pupil performance. The assumption is that the better trained the teacher, the better the performance of the children. Experimental evidence is, fortunately, in agreement with the hypothesis, but the relationship is far from being one to one. The special case of pupil-teacher ratios has been discussed above.

1. Falling pupil-teacher ratios.
2. Increases in length of teacher training programmes.
3. Rise in point of entry to teacher training system.
4. Higher retention rates for teacher trainees and for teachers within the system.
5. Regular, planned in-service teacher training programmes.
In addition, it would be useful to devise some direct indicators of teacher performance, both within the training system and on the job. These would remain indirect indicators of pupil performance, but would be a good deal more reliable than the purely demographic ones suggested above.

**Related to facilities and equipment**

These too are manifestly indirect indicators at a further remove than those relating to teachers. The argument is simply that children learn more effectively when they work in appropriate surroundings with access to various kinds of relevant aids and devices. The critical words are 'appropriate' and 'relevant', and we are sadly deficient in experimental evidence except of the most obvious kind. The distinction made earlier, that an indicator may be indirect for one purpose but 'direct' for another, becomes of considerable importance here. Some possible indicators are the following.

1. Increase in rate of school building. The dangers in this as an indicator are too obvious to need stressing, but it is equally obvious that, unless buildings are being provided to house rising populations and curriculum diversification, the probability of improvement in quality is lessened.

2. Rise (within defined limits) in the number of square metres of classroom space per child. This is related to the previous indicator but is not the same thing. There is, for example, a small amount of good evidence that classroom area per child is more important than number of children per teacher as a factor in pupil performance.

3. Increase in number of textbooks per child. This is related to direct indicators of the quality of the textbooks themselves, but there is some evidence that any old book is better than no book at all, as a learning aid.

4. Increase in availability of audio-visual aids. This would have to be broken down into a number of different indicators, relating to different types of aid and different forms of pupil participation.

**Related to auxiliary services**

These are even more indirect, in that they are more indicative of the possibility of quality control and of measures to improve quality being adopted when the need for them becomes apparent. Each of them can, by its very nature, be made subject to direct evaluation. Existence of:

1. A planning unit closely linked to development planning.
2. An educational research programme closely linked to curriculum and development planning.
3. A curriculum development and analysis unit.
4. A system of continuous evaluation (quality control) related on the one hand to the education system, and on the other to commerce and industry.
5. A system of educational and vocational guidance.

This list is far from complete, and it deliberately leaves out indicators of the quality of one major area which is perhaps the most important of all - the curriculum. The reason for this is that pupil evaluation (quality control of the product), both in the sense of attainment and of prediction, is essentially an evaluation of curriculum. Strictly speaking, a 'child' cannot be evaluated; all that can be done is to measure what he has learned in terms of knowledge, skills, values, and attitudes, and this is what the curriculum is all about. In the last analysis, the 'quality' of education is a measure of the probabilities discussed at the beginning of this paper, and this is a matter of defining aims, and then of determining the extent to which these aims have been realized. They can only be realized in terms of what a child is given the opportunity to learn - the curriculum.

A final note for planners. Perhaps the best (if indeed not the only) example of all this working in practice is more than two thousand years old. The education system of Sparta, as described for example by Xenophon, set out a series of aims, themselves derived from the aims of the state as laid down in the legal code; these aims were then translated into a school organization system, a detailed curriculum, and a teacher training programme with methods and techniques well and clearly described. The whole was related, as an educational plan, to the social and economic development of Sparta, with its efficient and thoroughgoing manpower planning techniques. At each point of the school system a most effective and rigorous set of quality controls was built into the procedures, with planned use of drop-outs and rejects. About the only differences between this system and what has been discussed above lie in the less pretentious jargon of Sparta and the greater sophistication of evaluation and statistics available to us. And it is worth noting that the system worked very well indeed over a long period of time. When it did break down, it was partly because the aims of the society ceased to have validity in the new social and economic conditions of the rest of Greece, and partly because the technical skills of one important section of the labour force were no longer adequate to meet the technological challenge of neighbouring societies; less prosaically, the newly developed tactical skills of the great Theban generals and the mobility of their troops defeated the hoplite armies which had served Sparta - and all Greece - so well for so long. This
is not to praise Sparta as a social system, but it is to say that it is possible to define the aims of a society and then develop an educational system which will fulfil these aims. It is also to say that criticism should focus on the aims of the society rather than on the achievements of the educational system. It is pointless to criticize Sparta for not producing Athenians; she was not attempting to do so. She was trying to produce soldiers and the mothers of soldiers, and did so superbly. The quality of her educational system, considered in relation to its aims and measured annually in accordance with defined standards, group by group, was demonstrably high. That the aims were narrow, cruel, and often inhuman is equally demonstrable; they ran counter to most of what was best in Greece as we like to think of it - but this is irrelevant to the present discussion.

Evaluation of quality in education, in terms of the formulation discussed here, can take place at several points: the aims of the social system itself - and this is clearly a philosophical-ethical evaluation; interpretation of those aims as aims for the education system - and here criticism can only be of the educational aims as expressive of those of the society; methods and techniques adopted to achieve the educational aims; and the performance of the products, again in relation to the aims of education and those of society. No matter how we may condemn the aims of a system, if the educational products fulfil those aims then it is an educational system of high quality. No matter how laudable we may find the aims, if the educational products do not match them it is a system of poor quality. Again, this is no new idea. There is a famous passage in Plato's *Laws* (Book I) in which he expressly condemns the military ideal of Spartan education while at the same time praising the techniques and methods used to attain that ideal.

Quality in education is not an absolute. It can only be evaluated in terms of arbitrarily determined standards, and these in turn depend partly on subjectively formulated aims and partly on objective statistical procedures. From any scientific point of view, to argue otherwise is to vanish into a cloud-cuckoo-land.