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PART ONE

ECONOMICS OF EDUCATION

INTRODUCTION

JOHN VAIZEY

The rise in interest in the economics of education which has taken place in the last few years is due to a concatenation of several forces. One is the rising cost of education itself. It has been shown that education at early stages of economic development takes between 1 and 2 per cent of the gross national product. In advanced economies it now takes at least 4, and sometimes 5 or 6 per cent. Projections for future expenditure suggest that the proportion will become higher. The reasons for this are not far to seek.[1]

As economies grow richer there is a switch away from primary industry to secondary industry, and then from secondary industry to the service trades. As individuals become richer the proportion of their income devoted to food and other basic necessities drops. The amount that they spend on health care, transport, holidays—and education—rises. Not only this, but increasingly the provision of skills for the economy at all levels becomes more dependent upon formal arrangements for education and training. Doctors in the nineteenth century learnt their trade largely by apprenticeship. At that time the requirements for medical registration were formalized, and the mounting knowledge of the causes of sickness and concerning the fundamental sciences lying behind the functioning of the human body led to the incorporation into the medical curriculum of a great deal which can only be imparted by formal education. The same is true of a host of other professions and occupations from dentistry to architecture.[2]

The accumulation of knowledge itself, especially of the physical world, has been the basis of the technological transformation of the world economy. The accumulation of knowledge and its transmission to new generations represents an increasingly important part of economic activity.

For these reasons alone, therefore, as a nation grows richer it tends to increase more than proportionately its expenditure on education. But there are also arguments for more educational expenditure springing

1. I have reviewed this evidence in *The Economics of Education*, 1962; see also Friedrich Edding, *Internationale Tendenzen in der Entwicklung der Ausgaben für Schulen und Hochschulen*, Kiel, 1958.
2. See Jean Floud, A. H. Halsey and C. Arnold Anderson (eds.), *Education, Economy and Society*, Glencoe, 1961.

from concepts of justice and human decency; the argument, for instance, that underprivileged groups of the population—working people, girls, racial minorities—should have access to educational opportunity in the same degree as their more fortunate contemporaries. The aspiration for democracy and equality expresses itself largely in a desire for education.[1]

Another force making for interest in the economics of education has been the growing concern of economists with problems of economic growth. This subject, among Western economists at least, had been largely neglected during the years of mass unemployment before the second world war. Immediately after the second world war, however, there was a surge of interest in the subject. Because of the relationship in Keynesian economics between the movements of gross investment and gross national product the preoccupation of growth economists has been with the extent of investment in physical capital. There has been a development of techniques, such as capital output ratios, designed to show how much extra output could be expected from any given increase in the proportion of gross national product devoted to physical investment.[2]

The substantial truth of this teaching about economic growth cannot be denied. Nevertheless, it has been known for many years that it is not the whole truth, and more and more information has been accumulated to suggest that the significant variables may well lie outside the physical plant—the factories and machinery—which is erected in an economy. There has been evidence, for example, that countries like Norway with high rates of physical investment have grown no faster than those with comparatively low rates. There has been evidence that countries which have increased their proportion of physical investment over a period of a few years have not substantially increased their rate of economic growth. Increasingly specialists in the economics of growth, like Professor W. Arthur Lewis, have suggested that what is perhaps most significant is the whole nexus of social attitudes to growth which underlie the economic process itself.[3]

These attitudes change through time in both favourable and perverse ways. It is obvious that education can reinforce both tendencies. On the one hand much education is concerned with handing on the beliefs and values of society, that is, with preserving and not with modifying its culture. If the process of growth is liable fundamentally to break up the framework of any society (and that is very probable), then it will run directly counter to the aims of the existing education system. This has certainly been the case with almost all forms of traditional religious education, certainly those which were established before modern forms of capitalist social and economic organization became dominant. On the other hand, an education system or curriculum which is based upon the findings of modern science

1. See Seymour Harris (ed.), *Higher Education in the United States*, New York, 1961.
2. See, for example, F. M. Meier and R. E. Baldwin, *Economic Development: Theory, History, Policy*, New York, 1957.
3. W. Arthur Lewis, *Theory of Economic Growth*, London, 1955.

and psychology will be concerned—almost by definition—with the process of change. It will promote and accelerate it, not necessarily restrictively: evidence has shown that such a system could also be used to diminish the heart-ache and the human cost of a process of transition from a stable but stagnant to a stable but growing society.

Thus, in these and other ways, the argument has developed about education in particular, and social expenditure in general, that outlays on productive investment are not in themselves likely to be successful unless they are supported by a substantial expenditure on the provision of social capital—on the infra-structure of a developing society. But what is the nature of 'social' capital; how does it differ from 'ordinary' investment?[1]

At its most material, this social capital consists of things such as roads and docks which yield no, or very little, direct return to their builders, which are constructed by governments or other public agencies, and are essential auxiliaries to productive investment in factories—in this case for transportation purposes. At its least material, social investment is concerned with the improvement of the health and welfare of the people. These are desirable ends in themselves, but because without such investment the process of growth will be held back, it is legitimate to class this as productive rather than unproductive expenditure. The spread of malaria in Italy, for example, is frequently given as one of the reasons for the breakdown of the Roman Empire. The low productivity of many workers in tropical areas is directly attributable to their poor physical state. Insufficient means of education is another direct cause. Without some system of modern education an advanced economy would not work, because it depends on general and specific skills which education alone is able to dispense.

Another force which has been making for the growing interest in the economics of education has therefore been the shortages of skills which appear to have held back economic growth. This aspect of the subject came to the fore mainly in modern fully employed economies. In the U.S.S.R., the United States and Western Europe, it has been often shown that at points where the economy is growing fastest one of the crucial limitations on forther growth is frequently the supply of skilled people. In Sweden, for example, any decision by the Government to expand the social services is limited directly by the number of doctors, social workers and other trained personnel likely to be available in the next ten years. When rearmament started in the early 1950s many countries reported acute shortages of scientists and engineers, which held back their programmes. The rate of road-building in Britain has been limited by the availability of competent civil engineers. These facts have led many economists to the view that the supply of skills is itself a factor in economic growth—an important factor which is quite distinct from the question of

1. See Michael Kaser, 'Needs and Resources for Social Investment', *International Social Science Journal*, Vol. XII, No. 3, p. 409-33.

attitudes to economic growth among the population at large, which we have already discussed.

In making projections of the needs for skilled manpower of all sorts, it has been possible to calculate back into the education system the numbers of educated people required in order to produce the necessary skills to service the economy. This complex art has been the basis of the French planning system and plays a major role in the U.S.S.R. It is coming to the fore in countries like the Netherlands, Yugoslavia and Sweden. It is now seen to be of critical importance in the developing countries of Asia, Africa, and Latin America. In Nigeria, for example, the Ashby Report suggests that in order to produce the skilled people needed to maintain the rate of growth of the Nigerian economy which is desirable, the expansion of the education service will have to be considerable. The same has been shown in reports on Pakistan and Greece. Consequently a great deal of work on manpower forecasting has a direct relevance to the education system itself. The link between skills and the schools seems to be at the heart of the subject.

The specialized role of manpower forecasting has thus been another force bringing the economics of education into prominence. It has both a wide and a narrow interest. In many countries, for instance, the growth of the educational service is limited by the supply of teachers. All forecasts of the likely demand for their services and of possible supply suggest that over the next ten or twenty years there are likely to be serious shortfalls. Within education itself the economist has a special role to play in analysing these shortages. Certain conclusions follow from his work. It has been felt increasingly, for example, that investigation is needed into the technology of education. Education itself is an industry like any other. It has certain inputs and certain outputs. These outputs are not easily defined, but neither are the outputs of many service trades because they do not readily produce series of concrete objects which can be presented as a statistical series, as happens, say, for the output of electricity or motor cars and also because education is not normally bought and sold and consequently has no definable monetary output. The consequences of this are twofold. It is believed of education in particular and of the service trades in general that their technology is stagnant and that, therefore, as productivity rises in the rest of the economy they tend to become relatively more expensive. On the other hand, because their output cannot be measured, because there is not a time series showing how the productivity of education has changed, there has been little work done on the possibilities of reducing the unit cost of education. And since the technology of education is not investigated, it does become stagnant.

Since education is the largest single user of skilled manpower in an economy and since skilled manpower is likely to remain scarce in most economies, it follows that the education system is likely always to be short of teachers. Consequently any substantial attempt to step up the output of education must demand a substantial change in its productivity.

In the articles which follow the question of the remuneration and status of teachers is not under discussion. It would seem that because of the likelihood of continuous scarcity of their services their incomes will tend to rise relatively to those of income earners in general. If steps could be taken to increase the productivity of teachers by the use of ancillary workers and modern technological devices, it is highly probable that their professional status would be enhanced, and that this in turn would tend to raise their remuneration.

Wages are affected not only by relative scarcity in the labour market, but also by the social standing of different groups of workers, since the labour market, as Barbara Wootton has indicated, is exceedingly imperfect.[1] The study of the relative status of the teaching profession throughout the world is a matter in which economists and sociologists could well combine so as to make effective and authoritative contributions to one of the most interesting social questions of our time. The status of teaching is indisputably bound up with the status of education and on the status of education a great deal in society depends.

All these forces, then, combine to make the economics of education an urgent, exciting and important subject. The papers which are presented here deal with a number of topics.

First, there is the contribution which education can make to the economy. Professor Strumilin shows that differences in the earning power of people with and without education are very great, and that this reflects differences in their physical productivity. A similar point about earning has been made in numerous studies in the United States. This has led, for example, to the slogan that a college education is worth $100,000 (and is now said to be worth $250,000).[2]

The method which is adopted is to take earnings through out the working life, discounting for sexual, social and morbidity characteristics, and the result shows the difference which, as far as can be ascertained, is attributable largely to education. It is true, of course, that much of this work suffers from multiple correlations; that is to say, a man with a good education is likely to be also someone brought up in favourable family circumstances, favourable geographical circumstances, and who has other advantages, physical and psychological, which would in any case enable him to do well throughout life. It could be said, perhaps unfairly, that exponents of this work are discounting the inequalities of the economic system, and no more.[3] Nevertheless, if you could take identical twins and give them clearly favourable circumstances, but allow one of them to have educational advantages while the other was made to begin work earlier, it seems highly probable that the twin with educational advantages

1. Barbara Wooton, *The Social Foundations of Wage Policy*, London 1956.
2. Here a variety of sources are available for study. See, for example, Theodore W. Schultz 'Investment in Man: an Economist's View', *The Social Service Review*, University of Chicago, Vol. 33, June 1959.
3. See my *The Economics of Education*, Chapter III.

would be the more highly paid of the two. This extra income would measure to some extent at any rate the contribution which he has made to society because of his education.

Nevertheless, as Professor Bowman points out, there are differences between the individual's reward and the reward which society as a whole may get. These differences may be that the advantages of his education accrue to somebody else, as might happen in a system of slavery or exploitation. There might be advantages to a community in having educated people in it which do not necessarily accrue to the individual. Such people might be ready, for example, to accept voluntary responsibility in non-remunerative activities; they might be less prone to crime, less likely to make demands on the social services, which are excessively used by the thoughtless and incompetent—all this would be a somewhat immeasurable 'return'. Furthermore, the market for labour is a highly imperfect one. Differences in wages and salaries at most only indicate differences of marginal physical productivity and do not measure them, and they do not necessarily show the contribution which is being made to society by the individual concerned. In a characteristically brilliant contribution Mr. Debeauvais shows how the development of economic thought on the subject of the returns to skill was determined by the structure of the labour market in the nineteenth century. The imperfection of the labour market as it was then made it difficult to deduce the connection between the inputs of skill and the wages of labour; and furthermore the classical theory (which was fundamental both to the neo-classicists and to the Marxists) treated labour as a statistically simple series of units. We see how the elementary education, which was all the producer required, was undertaken by the community, and that the professional training of skills was accepted by business. This led the industrialists and the economists of the nineteenth century to neglect the costs of training, which did not enter into the entrepreneur's calculations of profits. For these and other reasons, therefore, the simple correlation of earnings through a lifetime with educational background is not necessarily a decisive indicator of the contribution which education makes to economic life. It certainly is not, of course, any indicator of the contribution which education makes to the culture. The reason why calculations of this sort are undertaken is to enable policy decisions to be made about the degree to which education should be expanded relative to expenditure on physical plant and buildings in productive business. Therefore the yield of education has to be expressed as a rate of return on its costs.[1]

The whole question of how to measure educational expenditure has come to the fore in recent years. Until very recently the statistical calculations represented only that part of Government expenditure which

1. OECD Policy Conference on Economic Growth and Investment in Education: Paper II, *Targets for Education in Europe in 1970* (by Ingvar Svennilson, in association with Friedrich Edding and Lionel Elvin).

was labelled 'educational expenditure' and therefore excluded government expenditure on education which appeared under other budgetary heads, and excluded private expenditure. Furthermore, there was no attempt to break down expenditure on education into its component parts and to ensure that these were internationally comparable. Nor was there any attempt to express this expenditure as a proportion of the gross national product. The first attempt to do this in a systematic way in a single country took place in 1958.[1] Since that time a substantial amount of progress has been made in the systematic measurement of educational expenditure, which allows valid international comparisons to be made. This improvement in financial and economic statistics has been accompanied by an attempt to bring some sort of order into educational statistics generally.

A rapid improvement is now taking place throughout the world in this respect. For the first time it has become possible to show how far the percentages of age groups at school in different parts of the world are capable of being validly compared with one another. This improvement in the statistical basis of knowledge about educational realities will enable a substantial amount of progress in theoretical work to take place.[2]

One such conceptual issue which divides scholars is the question of 'earnings foregone'. How far should the costs of education include not only outlays on salaries and goods and services, but also what the students might have earned had they been at work and not studying? In national income accounts as they are commonly presented it seems probable that there is little or no place for the concept of earnings foregone. The national income is tied fairly closely to monetary flows, and any departure from these flows has to have serious justification. It is argued by those who support the view that earnings which students might have made had they not been studying represents a real economic loss, that not to mention or calculate the extent of this loss means underestimating the cost of education. That there is some truth in this point of view cannot be denied, but many would feel—and I would have thought that their argument carried considerable weight—that this loss is best presented in terms of physical quantities, that is to say, the degree to which the labour force is reduced by the withdrawal of students. To do otherwise is to launch out upon a sea of assumptions about what earnings would be if people who are not at work were at work, and the figures become extremely unreliable.

In Professor Bowman's article an attempt is made to suggest methods by which the social returns of education can be discerned. Professor Bowman does this in an informative way by distinguishing between returns to the individual and returns to society at large. It may well be felt, however, that in societies which have a socialist system and particularly in such as are underdeveloped and proceeding towards higher levels of income by a centrally directed economy, this basic assumption about private earnings

1. See my *The Costs of Education*, 1958.
2. *Manual of Educational Statistics*, Paris, Unesco, 1961.

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measuring in some sense contributions to society is not necessarily the best guide to the most practical policy for government to pursue, whatever its theoretical justification may be. Many of these countries have found that manpower planning is for them the most appropriate form of discerning a connection between their economic development programmes and the human skills which are largely the product of the education and training system.

The whole field of manpower planning has been the subject of considerable research and writing. The first systematic examination on an international basis took place at a conference held by the OECD in the Hague in November 1959,[1] and was the subject of a high-level expert meeting which was held at the International Labour Office in Geneva, in October 1962. The details of this manpower planning are not relevant here; it is sufficient to observe that the manpower programmes in some developing countries have been formulated in such a way as to enable their targets to be translated into demands on the education system, and that such demands require the most substantial changes in the structure, organization, content, and methods of education.[2]

Some of these points form the subject of Mr. Benson's contribution, which raises the whole question of the nature of the production function in education. Mr. Benson uses American data in an attempt to distinguish between different costs of different ways of teaching. He points out that there is a secular tendency towards improvement in the quality of education which puts pressure upon local resources. In the poor countries of the world this tension between growing demand and available supply is so great as to put intolerable strains upon the existing education system. Mr. Benson has three important suggestions to make for dealing with this situation. He proposes a revision of curriculum, the redeployment of staff, and the use of new physical devices in the education system.

'It is too early', he says, 'to measure the returns of these various changes. A difficulty, of course, aside from the general one of estimating yield of a service activity, is that the change in process of whatever kind in the schools is likely to yield a somewhat different set of products than formerly were had.'

This shows that it is difficult to measure the usefulness and effectiveness of new developments in education. Nevertheless, the general point remains that changes in techniques have taken place in education and will continue to take place. Because they are the result of pedagogical research, these changes have often been insulated from the pressure occasioned by the relative scarcity of different factors, and have therefore tended frequently to be cost-raising rather than cost-reducing. It follows that the basis of expansion in education, assuming (as we must) that resources are limited, must be a form of technological change which is cost-reducing; such an

1. *Manpower Needs in an Age of Science*, Paris, OEEC, 1960.
2. See *Investment in Education*, Nigerian Federal Ministry of Education, 1960 (The Ashby Report).

expansion could both throw open education to more people and make it more effective, if future research and development on an operational basis were to relate to known economic scarcities.

It is certain that educational research has for the most part meant investigation of psychological data. This has profoundly changed teaching practice throughout the world by revealing more the nature of children and by revealing more about the nature of the learning process itself. The problems in education which are now coming to the fore seem, however, to transcend these psychological problems. They are problems of scarcity and shortage, problems of social adjustment, problems of poverty and illiteracy. They are in other words problems in economics and sociology. It may be taken as an accepted fact that the elimination of poverty is the major problem facing most of the nations in Asia, Africa, and Latin America at present. This means that the fundamental intellectual problem facing workers in the social sciences is how to aid the acceleration of economic growth.

Many economists in recent years have turned their attention to the problem of economic growth in the poorer areas of the world. Two contributions here are concerned with this issue in relation to education—those of Professor W. Arthur Lewis and M. Michel Debeauvais respectively. It is worth pointing out what education can do and what it cannot do. As has been observed above, a great deal of education which is cultural in content may be harmful to growth and certainly need not necessarily promote it. On the other hand, certain parts of education are an essential preliminary to growth. Thus the whole question of the content of education and of the methods by which instruction is given is raised by any consideration of the place of education in economic growth. Economists have a bias towards subjects which appear to promote rational methods of thought, like mathematics and the natural sciences, towards subjects which break up accepted attitudes, like sociology and other social studies, and towards practical subjects—crafts and elementary agricultural skills which enable people to develop their capacity to earn their own living. The whole question of the appropriate balance of education is raised by the paradox of intellectual unemployment.[1]

In country after country throughout the developing nations there is a thirst for education which exists alongside severe intellectual unemployment. *Prima facie* this is evidence of an imbalance in the content of the courses. At a recent meeting, for example, the Swedish Minister of Education drew attention to the shortage of scientists and engineers, at the same time to the apparently growing surplus of those educated in the humanities.[2] In countries like India this imbalance takes the acute form of there being

1. *Report of the Committee on National Education*, Karachi, Pakistan Ministry of Education. 1960.
2. OECD, *Ability and Educational Opportunity in a Modern Economy* (Report on the Conference organised by the Office of Scientific and Technical Personnel in collaboration with the Swedish Ministry of Education, Kungälv, June 1961).

no jobs for those with qualifications in the humanities. Nevertheless, this is a superficial explanation of the reasons why intellectual unemployment exists. The real reasons lie deeper.

There is, first of all, the unwillingness of people who have achieved educational qualifications to work in jobs which they feel fall below their appropriate social status. Thus a graduate will often be unwilling to teach in a village school and he is able to maintain himself without work because the extended family system makes it possible for him to live on his family's resources. Even more profoundly the wage and salary structure of a society may inhibit the employment of qualified people because the conventional salary for a graduate may be such that it is substantially greater than he is worth to the firm which would otherwise employ him. Gradually, however, the existence of unemployment and pressures for social change will tend to eradicate the social snobbery which prevents people from taking jobs which they consider beneath them, and, as Professor Lewis points out, the growing pressure of numbers of educated people will tend to drive down their income differential. This will of itself tend to raise the level of employment among intellectuals relative to that of other people.

Nevertheless, a fundamental problem still remains. In a country with substantial reserves of manpower and which is short of physical capital —and this is almost a definition of an underdeveloped country—a choice may be made between developing the economy along conventional lines and keeping substantial labour reserves underemployed or unemployed, and developing the economy by making use of these labour reserves for intensive techniques of production. The latter is in fact regarded by many economists as the most appropriate form of economic development for many Asian nations. This means that the use of labour power to develop the economy must not be inhibited by an inappropriate wage and salary structure. The consequences of such a view in the matter of educational policy are profound.

In the first place, the skills which are necessary for an economy which is developing by labour-intensive methods are different from those which are appropriate to one which is developing by capital-intensive methods. A different sort of worker and a different sort of supervisor are required. This means that the imitation of overseas models of education is even more inappropriate than it seems on purely sociological and anthropological grounds. But it also means that the development of a wages and salary policy which leads to the greater employment of people (and particularly of skilled and qualified people) is inescapable. Nowhere is this dilemma—for dilemma it is, in terms of pratical politics—more evident than in the educational system itself.

The basic factor which education makes use of is manpower. By definition, in most poor countries manpower is relatively cheap (though, of course, skilled manpower may be relatively expensive). Also in country after country there are unemployed intellectuals, while the schools are short of teachers. It follows that the possibility of developing the educational

system depends to a considerable extent upon driving the cost of teachers down to the levels at which the unemployed intellectuals can be fully absorbed, or on devising means by which they can be employed. This is a paradox indicating that the existing money/price system does not reflect the prevailing scarcities of real factors in an economy. It is also a problem in public finance, since the education system is usually largely financed from the Exchequer, and therefore there is a genuine fiscal barrier to the expansion of the education system—a fiscal barrier which distorts the choices of paths of development and prevents their being taken in the light of the prevailing real scarcities and abundancies of economic factors.

There would seem to be three courses open. The first (which is appropriate to a socialist economy) would be to determine the wages and salaries in the light of prevailing economic realities and the social values which should be attributed to different professions. In this context the technique of shadow-pricing (which would enable the salary of a teacher in the government accounts to appear very low, whether or not he was paid a higher salary) would on our assumptions of intellectual unemployment clearly indicate a substantial expansion in the education system. In other words, on this assumption and in a given context, the strength of the socialist system lies in that it removes the barrier to educational (and economic) growth which exists because of the difference between the path dictated by reference to the real forces in a situation and the path which is indicated by the monetary distortions of those forces and the prevailing fiscal barrier. The practical difficulties in pursuing a policy by reference to real rather than monetary forces are of course great, especially in an open economy. The second course would be to adopt a policy of *laissez faire*. It could well be argued that this would not by itself lead to such a pattern of monetary prices as to enable growth to take place as rapidly and as effectively as a direct calculation in terms of real scarcities, by the technique of shadow-pricing, for example, assuming that this could be accurately and effectively made.

The third possibility which offers an alternative to both full-blooded socialism and *laissez faire* is not really an intellectual alternative to either, but a pragmatic compromise or an evasion of the issue. Nevertheless, it reflects the acuteness of the choice of paths of development (with all its social and political consequences) which any developing nation has to make. This is the use of substantial overseas aid in order to develop the education system. With regard to this, there exist two different schools of thought. At regional meetings in Asia, Africa and Latin America, the poorer countries have called upon the wealthier countries to devote sums running into billions of dollars to overseas aid in developing education. The argument advanced is that the sums required to develop education are so large that the poorer countries cannot by themselves provide them. Nevertheless, it is difficult to see how overseas finance can directly help in the development of an educational system. The real problem is of course the supply of teachers. However, the possibility of using a substantial

number of overseas teachers in a developing economy is not great, not only because teachers are scarce already in the richer countries, but because they do not speak the language of the countries to which they might be sent, and because the development of an educational system by foreign nationals is not socially or educationally desirable. Consequently, the supply of teachers in large numbers from the richer to the poorer countries is not really a practical policy. The supply of books, teaching equipment and temporary buildings from overseas nations is, of course, a possible and fruitful material contribution, though it represents a small part of the total costs involved. It is therefore difficult to see how the millions of dollars which have been asked for can be turned into those real factors which are necessary for the development of education.

In a country, however, with considerable intellectual unemployment the major real factor already exists and lies unused, and the limitation of growth in many sectors of the economy (including education) is more often than not the balance of payments. Any attempt to accelerate economic growth within the country reveals itself first in an inflation and then, instantly, in a serious deficiency in the balance of payments, which has to be covered by overseas aid. The greater the degree to which this deficiency is covered the more rapid the possibility of economic growth within the country, subject, of course, to real limitations of certain crucial items of supply. Therefore any measure which leads to the greater support of the balance of payment can permit more rapid growth of a particular industry or service, if the growth of that service is not itself held back by a crucial bottle-neck. (In a country with intellectual unemployment this bottle-neck should not exist for education, because the supply of pupils and teachers is, by definition, available for rapid expansion.)

The argument, therefore, for overseas support of education is a special case of the argument for general overseas support for the balance of payments in developing countries. It has never yet been made clear how far this special support of a particular service is likely to increase the total of overseas aid available, or how far it is a device to divert activities inside the country towards that service—in this case, education. If it is the first, then propaganda for greater overseas aid is entirely to be welcomed. If it is the second, then it may be that the development of education will accidentally be given priority when it should not. The case of special support for particular purposes is on the verge of external interference in internal affairs, which has been strongly objected to by the receiving countries.

Assuming however that the growth of education will take place as rapidly as possible, with or without overseas aid, Professor Lewis raises a series of questions of the greatest interest and importance. One of these is the extremely high cost of education in the poorer countries. Mr. Benson's argument for technological development, which was referred to above, is even more appropriate in this context than in the wealthier countries of the world, especially as the poorer countries are, in fact, using an imported technology in their education systems which is clearly inappropriate to

their real needs, not only economically, but culturally and socially as well. It is clear that a 'technological breakthrough' is essential at this stage if education is to develop rapidly and effectively.

Professor Lewis raises a further question which is just as important: the appropriate shape of the education pyramid. In all developing countries pressure exists (for democratic reasons alone) for expansion of primary education. This in turn produces candidates for admission to secondary education (and ultimately to tertiary education). Any expansion of primary education leads to a consequential expansion of the other sectors. But these sectors are affected by forces tending to make them expand disproportionately. In order, for example, to provide the skills necessary for the economy there is also a tendency for the secondary and tertiary sectors to expand, independently of the supply of candidates coming from the primary schools. The most striking instance of this is the supply of teachers. Primary education can only expand as fast as the number of primary school teachers. It follows that the expansion of secondary and tertiary education is linked functionally (by the pupil-teacher ratio and the rate of attrition of the existing stock of teachers) to the growth of the primary education system. This relationship determines to an extraordinary extent the pattern of educational growth within a country, and without a fundamental re-thinking of the whole structure (such as that proposed by Professor Strumilin) it is very difficult for policy decisions to be reached on matters of expansion and restriction.

The study of the fundamental relationships between different parts of the education system—what might be termed an experiment in educational logistics—demands a considerable degree of economic sophistication since it is an exercise in choice with limited resources. So far work which has been done in this field tends to rely upon two different sorts of approach. One is to investigate the prevailing numerical relationships between different sections and, on the basis of such information as is available, to project what these numerical relationships are likely to be for the future. For example, the rate of growth of children in the sixth forms of English schools is thought to be increasing by something like 1½ to 2 per cent per year, and plans have therefore to be made to accommodate them on the assumption that this growth rate will continue. More profound investigation might show the forces underlying these relationships and enable predictions to be made about likely alterations in their nature.

This leads on to a second method, which is the construction of hypothetical models derived quite frequently from international experience. These sorts of charts are used to great effect in Unesco's handbooks on world education. They nevertheless imply that certain prevailing modes of organization can easily be imported or exported. Professor Lewis's work is a reminder that this kind of argument is a dangerous one, even though it may be inevitable in the present situation where there is a dearth of statistics and organizational capacity in many of the developing nations. It is dangerous because the tendency to copy a form of organization grows

into the tendency to copy that form in its most minute details, and this has led to palpable absurdities, such as the widespread use of the classical curriculum of French *lycées* and English public schools in tropical areas, while the study of the local culture is totally neglected.

Mr. Debeauvais' suggestion of a similar pyramid of human capital for each major economic sector is a strikingly original parallel development to this method of analysis of educational systems, which might well have important practical application. The reform of education and its realignment with the needs of the economy is of great importance for the developing nations, and Mr. Debeauvais' proposed method suggests a fruitful way in which the contribution of the economist to the analysis of education might be advanced.

In this field, as in many others, the economist acts as a craftsman, or as a critical commentator, and his contribution should perhaps be less on the highly theoretical plane—as, for instance, a discussion of the relationship between future income and present and past outlays on education—and should consist more in making pragmatic and helpful suggestions to statesmen and administrators grappling with the immense task of bringing education to poor countries.

A. STUDIES

THE ECONOMICS OF EDUCATION IN THE U.S.S.R.

STANISLAV STRUMILIN

In the U.S.S.R. the education and upbringing of the younger generation are closely associated with life and socially useful work. Adults may, while actually engaged in production, continue their studies according to their own personal vocation and preferences. In conformity with the objectives of the new programme of the Communist Party of the Soviet Union, this system of education promotes the all-round development of the members of communist society, thus contributing towards the solution of one of the most important of all social problems: the elimination of the essential differences between intellectual and physical work.

The educational system also promotes the achievement of the country's immediate economic tasks since it is a potent factor for progress in this sphere, and also for the rapid increase of productivity.

In the U.S.S.R. education at all levels, from primary to higher, is free. It is financed mainly from the accumulation of collective socialist productions; and from 1965, when taxes will no longer be paid by the population, it will be supported entirely by the resources of the economy. Increasing attention is being given to estimating the returns to be expected from investments in this field of cultural construction.

Private entrepreneurs are usually guided in making investments by the amount of profit they hope to derive from them, without considering the interests of other people or of society as a whole. Profit rates, however, depend also on various factors affected by the general situation, such as spontaneous fluctuations in market prices, booms and slumps, competition of monopolies, and speculations on the stock exchange, strikes, etc. In the socialist countries, on the other hand, where private capital and, consequently, variations in the general situation, play no part, such a criterion as a high profit rate cannot provide a sufficiently accurate or objective yardstick for measuring the return from investments, mainly because the interests of the whole society must be taken fully into consideration when the expenditure of sums derived from collective saving is involved. The profit rate never represents more than a part of the return—only that part received by the owner of a given enterprise. The total return from a particular investment can be measured only by the resulting increase in the social productivity of labour since this not only raises the rate of profit for

a given enterprise but also reduces the cost of a certain category of products for the whole of society.

The productivity of labour is determined by various factors, the most important of which are a high standard of technology and the extent to which human labour is assisted by power. At the present time automation and remote control are being more and more widely introduced and constant advances are being made in the use of cybernetics and electronics. The application of science is becoming a decisive factor in the development of the productive forces of society and the time will come when science itself will be a direct productive force in the fullest sense of the term. But, if this is to be brought about, more and more of the population must be familiarized with the achievements of science and this is possible only if large investments are made in school and adult education. The most advanced technology can produce no results until it has been assimilated by the workers, and the more complex and expensive technical equipment is, the wider the sphere of knowledge without which it is easier to break it than to use it properly, the more important it is to have a wise economic policy with regard to education, and the more fruitful capital investments in this field become.

This has been confirmed by the experience of the U.S.S.R. Prerevolutionary Russia was notorious for its almost entirely illiterate population. For this reason the new workers' and peasants' government had to begin its cultural work by measures to do away with illiteracy among the population at large. On 26 November 1919, while still involved in the difficult struggle against counter-revolution and foreign intervention, the Soviet Government published a decree concerning the abolition of illiteracy among all adults under fifty years of age. This was achieved within twenty years. As early as 1924, however, the country was confronted with an enormous new task of the same order. A draft ten-year school development plan designed to provide universal free and compulsory education for all children, starting with not less than four years' primary education, was submitted to the State Planning Commission (GOSPLAN) for consideration. It was at this time that GOSPLAN specialists first began to give serious attention to the economic returns from expenditure on school education.

Consideration of the salaries and productivity of different categories of manual and other workers in relation to their educational qualifications, showed conclusively that even the most elementary school education is much more beneficial to a worker than a similar period of practical training at the bench. In making these calculations, we took into account the effects of several factors, such as age, professional experience and technical qualifications. For example, the rudimentary instruction gained in one year of primary education increases a worker's productivity on the average by 30 per cent, whereas the improvement in the qualifications of illiterate workers and the increase in their output, resulting from a similar period of apprenticeship at a factory, is only 12 to 16 per cent a year. The improve-

ment in qualification resulting from one year's education at school is, on the average, 2.6 times greater than that resulting from one year's apprenticeship. After four years' primary education, a worker's output and wages are 79 per cent higher than those of a first-category worker who has had no schooling. After seven years' study (incomplete secondary course), an office worker's qualifications may be as much as 235 per cent above the lowest level; after nine years' study (complete secondary course), as much as 280 per cent above; and after thirteen or fourteen years' study (higher education), as much as 320 per cent[1] above.

Highly qualified workers lead to high productivity of labour and increase not only their own earnings but also the social product and, consequently, the national income. The return from education may also be determined by comparing a society's expenditure on school education with the resulting increase in the national income. For example, according to the calculations made in 1924, the sums required to carry out the proposed reform in primary education (increase the number of children enrolled in schools from four to over eight million in ten years) were estimated at 1,622 million (old) roubles. The increase in the national income resulting from the rise in the productivity of labour of workers educated during those years was already by the end of the period (after only five years' employment), as much as 2,000 million roubles, which more than covered the expenditure. The active life of a worker, between leaving school and retiring, is, however, not five but thirty-five to forty years and the greater competency acquired by study at school—the cost of which is broadly offset after the first five years of employment—continues to serve without placing any burden on the budget. According to the same estimate, the enormous rise in the productivity of labour due to primary education will increase the national income, over this period of years, not by 2,000 million but by 69,000 million (old) roubles.[2] Such are the returns from primary education, which is the least expensive to provide.

The first major objective of the Soviet educational development plan was in fact already practically achieved by the beginning of 1934. Compulsory primary education was provided everywhere and the length of the course had been extended to seven years in the towns. The next object was to introduce secondary education for all. Although progress was temporarily delayed by Hitler's invasion, the work is now well on the way.

The new programme of the Communist Party of the Soviet Union sets forth the following objectives: the introduction of eleven years' compulsory secondary general and polytechnical education, by 1970, for all children of school age in both town and country, and of eight years' education for all young people already employed in the national economy who have not had sufficient education. Between 1970 and 1980 all will have the opportunity

1. Details of these calculations will be found in Stanislav Strumilin, *Problemy ekonomiki truda* (Problems of Labour Economics), published in the U.S.S.R. in 1957 (p. 155, 156, 175, 178).
2. Ibid., p. 165.

of completing a full secondary education. The development of secondary and higher education will continue as new advances are made in science and technology. Those so wishing will be able to pursue higher or specialized secondary education (either full-time or while working in production) in higher technical education establishments or people's universities.

Soviet achievements in the development of the educational system show the following results.

Between 1924 and 1934 alone, enrolments for the shorter primary school course (four years) rose from 8.3 million to 18.3 million, the latter figure covering nearly all children in the appropriate age group. After a considerable falling-off during the war years, the same level was again reached and, by 1960, there were 18.6 million pupils enrolled for the first four years.

The number of older children receiving general and specialized education enrolled in grades V to X in secondary schools, and in technicums, and the number of students attending higher educational establishments, is increasing even more rapidly (see Table 1).

TABLE 1. Increase in enrolments within the U.S.S.R. since Tzarist times (in thousands of pupils)

Type of school	1914	1930[1]	1940	1950	1960
Secondary general (grades V-X)	506	2 042	13 796	14 612	17 392
Specialized secondary	36	587	975	1 298	2 060
Higher educational establishments	112	288	812	1 247	2 396[2]
Total	654	2 917	15 583	17 157	21 848
Percentage	*22*	*100*	*534*	*588*	*749*

1. 1930 is taken as the base year, representing 100.
2. 2.6 million in 1961 (*Pravda*, 25 October 1961).

Between 1930 and 1960, the population of the U.S.S.R. increased by 39 per cent and the number of enrolments in educational establishments above the first level increased 7.5 times, or 22 times in comparison with 1914. As a result, the specialized workers most urgently needed for the national economy were rapidly trained. The number of graduates of secondary and higher educational establishments also increased from year to year, as did the number of teachers, doctors, engineers and scholars. Table 2 shows the post-revolutionary growth in this field (within the Soviet Union).

During the early years of the planned reconstruction of Soviet industry, many people thought that technology was the solution to all problems. But the first attempts to get uneducated workers to master technical methods proved so difficult that another slogan had to be adopted: specialized workers provide the solution to all problems. It was for this reason that the training of specialized workers at educational establishments expanded so

TABLE 2. Number of graduates (in thousands)

Type of school	1914	1930	1940	1950	1960
Secondary general	no data available	48	277	284	1 055
Secondary technical	4.9	61.4	237	314	484
Higher general and technical education establishments	10.7	43.9	126	177	343
Total	no data available	153.3	640	775	1 882
Percentage		*100*	*417*	*506*	*1 223*

considerably between 1930 and 1940. The war slowed down this process but the years of peace between 1950 and 1960 saw it continuing and developing once more. Between 1918 and 1960, higher educational establishments alone produced 4,781,000 specialists, and secondary technical schools 7,744,000, making a total of 12,525,000, of whom 6,755,000, or 54 per cent, graduated during the last ten years.[1]

Much was also done to eliminate illiteracy. Between 1920 and 1939, special schools and courses gave training to over 96 million illiterate or semi-literate adults. Furthermore, over a period of only twelve years (from 1924 to 1935), 30.9 million children completed primary school (four-year course) and incomplete secondary school (seven-year course). Table 3 indicates the rate of increase in the number of specialists with higher and secondary education in the U.S.S.R. over the twenty-year period 1939-59.[2]

In twenty years (1939-59), the population of the U.S.S.R. rose from 190.7 million to 208.8 million, representing an increase of 18.1 million, or 9.5 per cent, while the economically active population rose from 88 to 99 million persons, an increase of 12 per cent. The number of persons having received higher or secondary education increased by 43 million, or 270 per cent, despite the losses due to the war. An even greater increase in this proportion is to be observed among the gainfully employed population (335 per cent): in the case of industrial and collective-farm workers engaged mainly in manual work, the proportion of those with higher and secondary education rose from 4.3 to 31.6 per cent; for industrial workers as a whole the figure is as high as 38.6 per cent, reaching 53.5 per cent in the case of the metallurgical and metal-working industries, 64 per cent in that of the printing and publishing industries, and still higher percentages for certain other categories of workers.[3]

1. In 1913, in Tzarist Russia, about 290,000 persons had received a higher or secondary education.
2. *Narodnoe hozjajstvo SSSR v 1960 godu* [The Soviet Economy in 1960], p. 21, 28, 29-36, 33, 38, 39.
3. In addition to the general education facilities available, there are also vocational training schools and courses of further training for persons already in employment. Between 1951 and 1960 alone, 5,649,000 workers completed

TABLE 3. Rate of increase in the number of specialists with higher and secondary education in the U.S.S.R. (1939/59)

	1939	1959		Per thousand of the population	
		Number	Percentage increase over 1939	1939	1959
Total for the U.S.S.R. (in thousands)					
Higher education	1 177	3 778	321	6	18
Secondary, general and specialized education					
Complete secondary (ten years)	2 200	19 544	888	12	94
Incomplete secondary (seven years)	12 489	35 386	283	65	169
Total (secondary education)	14 689	54 930	374	77	263
Total (secondary and higher education)	15 866	58 708	370	83	281
Number of persons having received higher and secondary education					
Among the active population					
Manual workers (in millions)	3.2	28.4	775	43	316
Intellectual workers (in millions)	6.7	18.2	272	498	884
Total (active population) (in millions)	9.9	43.0	435	113	434
Among the rest of the population (in millions)	6.0	15.7	262	—	—
Number of engineers and agronomists (in thousands)					
Engineers	247	834	338	—	—
Agronomists and zootechnologists	295	477	162	—	—

A supply of highly qualified specialists is of particular importance for economic development. The U.S.S.R. has, for a long time, been the country with the most engineers. At 1 December 1960, the Soviet Union had more than 1,115,000 engineers and over 1,930,000 qualified technicians or more than 3 million engineering and technical specialists. Nevertheless, having no fear of over-production of such specialists, the Soviet educational system trained 120,000 engineers and 220,000 technologists in 1960 alone, and this effort is to be intensified in the future. It may be noted that, in the same year, the United States of America had 525,000 engineers and

courses at vocational and technical schools and 50.6 million either trained for new professions or improved their qualifications by studying individually or in groups, while actually engaged in production.

that, over the past few years, the number of new graduates of engineering schools has been no higher than 38,000 per annum.

Literacy campaigns and the introduction of compulsory general primary education have provided a wide foundation for secondary and higher education. Whereas, in 1940, as many as 62 million of the population (excluding school children) had had less than seven years' schooling, in 1960 the number had fallen to 38 million. Thus the section of the population with a low standard of education is contracting rapidly while the average level of education is rising quickly. In ten years' time, however, when the eleven-year course of secondary education will be generally available, the level will be even higher. Over 20 million workers in the higher age-groups with a low standard of education will have retired by that time and their places will be taken by more than 30 million young people from secondary and higher educational establishments. The majority of manual labourers, even, will not only have had a sound technical training but also hold secondary school-leaving certificates. The annual number of graduates from higher and full secondary educational establishments has more than doubled over the past ten years and at present (1961) it has already reached about 2 million. Having regard to the rise in population and the continuing increase in the graduation rate, the number of Soviet intellectual workers will thus rise to at least 30 million in the next ten years and to 70 to 80 million in the next twenty.

In the Western countries, such a high rate of expansion would be liable to result in a heavy over-supply of workers in all the intellectual professions, an increase in unemployment, and a sharp decline in wages. But in a planned economy there are no such dangers. All Soviet citizens are guaranteed the right to work. They need fear neither unemployment nor a fall in wages. The country's current production plans provide, twenty years ahead, for the increase in the productivity of labour, the shortening of the working day which this will necessitate, and an increase in nominal wages, as well as an improvement in the real standard of living of all workers, made possible by the growth of the national income.

As the public education system expands, the State funds allotted to it are systematically increased. From 1932 to 1960, the proportion of the budget assigned to education rose from 10.6 to 14.1 per cent, the actual amount involved being about twenty-five times as great. Whereas in 1940 the appropriations amounted to 2,250 million roubles, in 1960 they rose to 10,300 million roubles (103,000 million old roubles) or approximately 11,500 million dollars. And, of course, parents pay nothing for their children's education.

In 1960, the unit cost of education (in new roubles) was about 3,000 roubles in the case of the full secondary education course (ten years), and no more than 3,600 roubles for the seven-year course of secondary education followed by training in a technical school, and 8,000 roubles for higher and secondary education combined (fifteen years' study in all), including scholarships. It was naturally lower in the case of the correspon-

dence courses provided by technical schools and higher educational institutions. It will be seen that expenditure on education is relatively low, and the direct economic return from it is thus all the more significant.

This return is reflected first of all in the increase in workers' wages. In 1924-25, the wage level of Soviet workers was still very low, although its real value was no lower than in pre-revolutionary times when the additional social insurance payments are taken into account. Later on the wage level rose greatly, with the increase in the productivity of labour, to which the higher standard of education among the population made a great contribution.

It has already been pointed out that, other things being equal, rudimentary education leads to an increase in wages of 30 per cent, and a full primary education to an increase of nearly 80 per cent. On the basis of these figures, it can be said that by 1934 the elimination of illiteracy alone resulted in an increase of income of approximately 2,400 million roubles per annum for 57.5 million workers. In addition, 23.8 million pupils completed the primary-school course between 1924 and 1935, which represents a combined annual wage increase of approximately 2,650 million roubles. In other words, considering these two categories alone, without taking account of secondary or higher education, the total annual returns from education already exceeded 5,000 million roubles. By 1935, the additional income of the population, in wages and labour benefits as a whole, due to the rise in educational standards was not less than 10 per cent.

Since that time, the wage level and average standard of qualification of Soviet workers have risen to three or four times what they were before. By the time they start work, all young people have had at least four years' education, and many of them have had seven or ten years' secondary education or a higher education. Engineers and technicians are, of course, more highly paid than ordinary workers. For each year of study over and above the four years' primary education, a worker's annual salary rises by a given amount. In a single year the increase is not great, but over a period of thirty-five to forty years the total of this additional income represents, in terms of present standards, not less than 12,000 (old) roubles for technicians and 18,000 (old) roubles for engineers—amounts far greater than the total State expenditure on their education.

Every Soviet worker playing a part in the production of material goods not only completely offsets the expenditure on the 'production' of his labour, but also creates a surplus product 'for society' which can be used for social consumption and saving. The improvement of workers' qualifications results not only in higher remuneration for their labour but also in an increase in their 'social' product, which goes into the country's reserves for public consumption and saving. Therefore, in studying the efficiency of school education and the profit-earning capacity on investments in this field, account must also be taken of the portion of the surplus product resulting from improvement in the qualifications of workers.

Between 1940 and 1960, the national income of the U.S.S.R., expressed

in constant prices, increased from 33.5 to 146.6 thousand million roubles, representing an increase of 338 per cent or 113,100 million roubles (at 1961 prices), whereas the number of workers taking part in the production of this income rose, over the same period, from 54.6 million to 68.4 million only, or by as little as 25 per cent. But the improvement in the qualifications of the labour force resulting from secondary and higher education has yet to be considered. If we equate a unit of complex labour with a certain number of units of simpler labour, according to the wages scale, i.e., if we consider, for instance, that one worker with a higher education diploma equals two workers who have completed primary school only, the figures given in the above calculation for the number of workers employed in production may be increased by 19 per cent for 1940 and 30 per cent for 1960. Such adjustments, reflecting the enormous expansion of higher and secondary education in the U.S.S.R., substantially change the dynamics of labour upon which the social product and national income depend. In the Western countries, where the standard of education among the workers has not risen so sharply, adjustments of this kind may not be necessary. In the U.S.S.R., however, they are so considerable that to ignore them would be to discount the whole cultural revolution which is taking place.

Another major factor accounting for the increase in the national income is the equipment of the labour force with means of working, which may be measured approximately in terms of the increase in investment per unit of labour, prices remaining constant.

Between 1940 and 1960 fixed capital for purposes of production in the U.S.S.R. rose frome 55,700 to 173,900 million (new) roubles, i.e., it increased more than threefold. If the number of workers remains constant, any increase in such capital is, as a general rule, reflected in a corresponding increase in production due to the introduction of the additional equipment. If, however, there is a simultaneous increase in the quantity of labour and the equipment at its disposal, then the resulting increase in production is proportional to the product of these factors.

Table 4 indicates the degree of importance of each of these factors in the increase in the national income of the U.S.S.R. over the past twenty years. Contrary to Western practice, only that part of the national income derived from primary sources (production of material goods) is considered in this table; the incomes of persons employed in the provision of services, even the most useful and necessary, such as doctors, teachers and other scientific and cultural workers, are not included, since these persons exchange their labour for that of the workers in the production sector so that their entire income is in fact drawn from the same primary source—the production of material goods.

Having thus limited the definition of the national income, in order to avoid counting the same items twice, we have included in the labour force directly contributing to the production of this income only those workers actually engaged in production, thus excluding the considerable numbers of scientific and cultural workers, and members of families engaged in

TABLE 4. The dynamics of the Soviet economy

	1940		1950		1960	
	Amount	Percentage	Amount	Percentage	Amount	Percentage
Fixed capital in thousand millions of roubles	55.7	100	70.7	127	173.9	312
Labour in the production sector						
Number of workers (in millions)	54.6	100	56.0	103	68.4	125
Adjustment for standard of qualification	10.5	100	14.5	138	20.4	194
Weighted total	65.1	100	70.5	108	88.8	136
Adjustment as a percentage of total (weighted) labour force	16.1	—	20.6	—	23.0	—
National income of the U.S.S.R. in thousand millions of roubles						
Due to increase in labour force	33.5	100	36.2	108	45.6	136
Due to the equipment available to labour:						
Due to increase in fixed capital	—	—	9.0	27	71.0	212
Due to the combination of these factors	—	—	3.3	10	25.7	77
Discrepancies	—	—	6.4	19	4.3	13
Total	33.5	100	54.9	164	146.6	438
Total productivity of labour	—	100	—	152	—	322

domestic work, who have had a secondary and higher education. Nevertheless, the role of highly qualified labour is clearly very important. True, if the increase in the national income is considered from the consumer aspect, its growth over the past twenty years is seen to be due mainly to the great expansion of fixed capital and technical equipment. The slight 'discrepancies' shown in the table above indicate that we have not taken sufficient account of the effect of higher standards of education on the growth of the national income. These 'discrepancies' appear to show in particular that the return from capital investments over the period considered increased slightly more rapidly than did fixed capital itself. With a rise in the productivity of labour, so long as prices remain constant, only the purchasing power of the rouble, dollar or pound varies; there is no change at all in the actual proportions of labour with different types of qualification used. Since, in 1960, the total national income amounted to 146,600 million roubles at current prices, 23 per cent of this sum being due to improvement in the qualifications of the labour force, in monetary value this fraction represents no less than 33,700 million roubles.

Such is the contribution made by secondary and higher education to

TABLE 5. Return from, and profit-earning capacity of, the educational system in the U.S.S.R. (in thousand millions of roubles, prices remaining constant)[1]

	1940		1950		1960	
	Amount	Percentage	Amount	Percentage	Amount	Percentage
Fixed capital in the educational and cultural sector	4.37	100	5.39	123	16.24	372
Return from education						
Increase in the national income	5.39	100	11.31	210	33.72	626
Current expenditure per annum	3.13	100	4.25	136	10.30	329
Net increase in income	2.26	100	7.06	312	23.42	1 036
As percentage of fixed capital	52	—	131	—	144	—

1. *Narodnoe hozjajstvo SSSR v 1960 godu*, p. 716, 844; *Narodnoe hozjajstvo SSSR v 1958 godu*, p. 770, 900. [Statistical yearbooks.]

the national economy in the U.S.S.R. It may be compared with current State expenditure on education, and with capital invested in the building and equipment of every kind of educational, scientific and cultural institution, for schools, theatres, art galleries, zoological gardens and polytechnical museums all play their part in the education of workers and the improvement of their qualifications. According to the Central Statistical Office, such investments amounted to 1,205 million (new) roubles in 1930, 4,370 million in 1940, 5,388 million in 1950 and 16,237 million in 1960, at present values. This expansion is striking, but the rise in productivity due to secondary and higher education has been even more rapid. The comparison in Table 5 between the increase in productivity and the total expenditure on all types of education in the country shows the constantly increasing rate of return. It will be seen that, between 1940 and 1960, fixed capital in the sphere of education, science and the arts increased even more rapidly than in the production sector, and that, in constant prices, current expenditure on education more than trebled. Over the same years, however, the addition to the national income due to higher and secondary education increased more than sixfold, and the net income, after deduction of current expenditure, increased tenfold. The average returns—for the national economy as a whole—from investments in this sector of cultural development has thus broken all known records, increasing from 52 to 144 per cent per annum.

To many, such a return from the public education system may well seem surprising, especially as it is not included in any form of official accounting. Not everyone perfectly understands how such a high rate of increase in the national income in the productive sector comes about through the steady

expansion of the numbers of workers with increasingly high educational standards.

Lenin, the founder of the Soviet State, showed as early as 1918 that the educational and cultural development of the population was one of the main requisites for raising the productivity of labour. Since then, there has been a real cultural revolution in the U.S.S.R. The educational and cultural development of the whole of the Soviet population has attained a level never previously reached and is continuing energetically. It is not only those directly concerned in the production of goods who play an active part in this development, but also those who 'prepare, mould, develop, preserve or merely maintain the labour force'.[1]

The school teacher 'prepares', the professor 'develops', the doctor, to a lesser extent, 'preserves', the labour force of the productive sectors and enterprises. And if we do not take account of their work in calculating the value of the country's material production, it is only in order to avoid counting the same items twice, since the results of their work are already shown in the improvement in the qualifications and the increase in the productivity of the workers directly engaged in the productive sector.

For the same reason, in estimating the national income, we also leave out of account the work of pupils and students engaged in acquiring the knowledge and mastering the methods of thought which they will later apply in productive work. Their numbers, however, are enormous. During the last few years, a total of at least 50 million persons a year, of all ages, have been attending schools and following courses of study. To this number we should add yet another 20 million 'industrial innovators' who vie with each other in discharging their undertakings to 'study, work and live according to the principles of communism', and who devote every free hour and every free minute to study, while continuing to work in production. The All-Union Society of Rationalizers and Inventors now numbers more than 4 million workers engaged in production. In 1960 alone, the amount saved by the application of 2,536,000 innovations proposed by these front-rank workers is estimated at almost 1,500 million roubles. But these inventions represent something more than material advantage to the inventors themselves and savings for the State. Account must also be taken of what this mass movement in which they are taking part means to the Soviet workers.

'It appears to me', writes one of them, 'that the chief advantage of proposals for rationalization is not the savings thereby made in roubles and kopeks, increasingly substantial as these are. The greatest value of this system is that it kindles enthusiasm and does away with boredom and indifference. . . . Life is good and one goes cheerfully to work in the knowledge that the challenge of a new idea or a new problem of research is waiting. That is why we in our workshop have set ourselves acompletely

1. Karl Marx, *Teorii pribavocnoj stoimosti* (Theory of Surplus Value), part I, Moscow, 1955, p. 142.

new aim: every worker must become a rationalizer. Rationalization is an absorbing passion. One has to think up one idea for a second to present itself. With the third one is already a different man, longing to study, plunge into books, devour newspapers, living a wonderful adventure.' The individual is awakened to the poetry of creative effort and the enthusiasm for work it engenders gives a new meaning to his entire life.

It would be difficult to assess the true value of every aspect of this intellectual work, which combines study with creative work, and is carried on outside production or the working day. But there is no doubt that all these aspects of work—which are continually expanding in the U.S.S.R.—are, at least indirectly, a potent factor in the growth of production and the high rate of increase in the national income, characteristic of the Soviet Union.

Similarly, the part played in this expansion by the most creative work of all—scientific work—cannot be measured directly. The number of scientific workers in the U.S.S.R. is rapidly increasing. Between 1940 and 1960 alone, it rose from 98,000 to 354,000, representing an increase of 360 per cent, and in another twenty years, at the same rate of growth, it will be counted in millions! It should be remembered that there are no industrial or commercial secrets in the U.S.S.R. and that any attempt to monopolize a scientific achievement for private ends is inconceivable. Perhaps it is precisely for this reason that new possibilities are opened up for scientific development in countries where this practice no longer exists.

Science is international. The scientists of all countries, including the U.S.S.R., not only make their contributions to the common store of scientific knowledge, but themselves draw freely on the best of the achievements of world science. And this science, by helping men to master the most powerful forces which nature offers in its bounty, itself becomes a more and more powerful force of the human intellect. The treasures of science accumulated by the creative labour of many generations of reseachers, from every age, cost great effort only to those who first discover them, for any discovery of genius can afterwards be easily assimilated by the people at large.

Over thousands of years, millions of great minds, from Euclid to Lobachevsky, from Pythagoras and Archimedes to Newton and Einstein, from Heraclitus and Aristotle to such lucid, logical theorists as Marx and Lenin, have carried science forward by their creative work. And, though these men are now no more, the fruits of their labours will continue to serve mankind for thousands of years to come. But those truths the discovery of which cost Euclid, for example, a whole life-time of effort, are mastered by our schoolchildren, along with dozens of other subjects, in some three years. They learn Newton's binomial theorem or Mendeleev's periodic classification of the elements in a very short time. But today's schoolchildren are tomorrow's producers. And the comparative ease with which they master all the scientific knowledge that has earlier been acquired at

the cost of great effort, makes it possible for us to regard that knowledge as a free gift from nature.

This knowledge has special value only if it is combined with practical work for, under the present conditions of production brought about by the development of automation and electronics, workers have to face new demands. In these circumstances, what really matters in production is not now so much muscular strength and toil-hardened hands, but technology enriched by the knowledge and intelligence of the worker at the machine and on the production line. It is for this very reason that science here becomes a direct productive force, along with the technology and power necessary for production. Moreover, it may be said that the 'efficiency' of science in these conditions increases in proportion to the volume of knowledge applied, multiplied by the degree of its assimilation and the extent to which it has been spread among the workers.

The successes achieved in public education in the U.S.S.R. over recent decades have made it possible, to a great extent, to apply science directly to production and to increase its efficiency as an element in the productive force of labour. But this is largely explained by the fact that Soviet workers, who feel themselves to be not the servants but the masters of production in the U.S.S.R., are themselves extremely anxious to improve their qualifications through study; by tens of millions, they vie with each other in increasing output rates, and nowadays millions of talented inventors and rationalizers emerge every year from the ranks of the workers.

Their successes are explained also by the fact that science has greater credit in the Soviet Union than anywhere else in the world. 'To go forward without science is to walk like a blind man without a guide—one is bound to stumble.' This wise observation is already becoming an integral part of our folk wisdom. 'Science is our compass.' Such is our guiding principle and, as the whole of Soviet experience has shown, it leads to brilliant results.

In the U.S.S.R., the cultural revolution and economic development are closely interlinked. Investment in public education produces very good returns because it serves the cultural interests of the labouring masses themselves and meets the objective requirements of economic development. Thus, in this process, the cultural factor is known more and more clearly to be economically productive and profitable.

SOCIAL RETURNS TO EDUCATION

MARY JEAN BOWMAN

It is my purpose in this paper to examine and untangle part of the web of concepts concerning interrelations between education and economic development. I shall focus on 'social' versus 'private' returns to education.

This distinction is not one of opposites. In fact, since all returns accrue ultimately to individuals, we could state the formal identity: aggregate social return equals the sum of its individual components. However, if we add what you get from your education to what I get from mine but disregard how my education affects yours, or vice versa, the above identity will not exist. The total social return may be larger or smaller than the sum of individual returns viewed in isolation from each other unless a correction for these interactions is made.

Distinguishing between private and 'social' returns is not the same as distinguishing between market and non-market, or real and psychic returns nor is it related to the distinction between education as consumption and as investment—though these several distinctions often tend to be partially confused with each other. In each instance there are difficulties of measurement and each has time dimensions that are often neglected. Even in dealing with the consumption-investment distinction, classical theory tends to measure along time scales rather than to incorporate time into the core of the analysis.[1] Analysis of 'private' and 'social' returns to education in particular clearly necessitates exploration of processes of change through time, for it is in these changes that the largest discrepancies arise between the summated individual returns and the social total viewed as an entity. Nevertheless, such analysis can be no more than begun in these pages.

THE AGGREGATIVE AND DIFFERENTIAL APPROACHES

Two, virtually polar, approaches have characterized the recent literature on the economics of education. One of these begins with neo-classical economics, measuring returns marginally, as differentials associated with

1. Ragner Frisch's exposition of this theme is very much to the point.

education. Either tacitly or explicitly it is assumed that all other factors are constant. Though adjustments are introduced in applying this approach to the assessment of effects of education upon growth, the basic framework is initially a static one. This starting-point has sharply illuminated the importance of distinguishing between private and social returns in the Pigou tradition and as a necessary part of the attempt to identify a Pareto Optimum.

The opposite starting-point views total or social returns as an entity. Marxian theories and the recently popular aggregative input-output analysis are alike in taking the State rather than the individual as the main concern. This approach, confronting traditional marginal analysis, has pointed up the fallacy of aggregation. It has the advantage that all returns are accounted for, but the disadvantage that, except by introducing assumed constancy in functional relationships, it is impossible to distinguish the role of education from that of other factors, or private from social education.

Here it may be advisable to insert a brief comment on the importance of identifying private returns even in a socialistic economy. (No one questions the importance of identifying social returns in a predominantly private enterprise economy.) Allowing the individual to fade from view does not eliminate the fact that production depends on the efforts of individuals and that incentives depend upon returns which the individual regards as his. Socialist planners know this well enough. And so a reality akin to marginal analysis slips in through the window. Whatever the characteristics of an economy, the individual still perceives something that is a 'private' return, a differential return seeing 'other things as equal'. These private returns are empirically observable. They may be either better or poorer approximations of social returns in a socialistic than in a predominantly free enterprise economy, despite the deliberate effort to gear the former more directly to social goals. The growing interest in using 'shadow prices' in socialist planning is evidence of the recognition of this problem.

THE QUANTITY OF EDUCATION

Since we are concerned here with gross returns to education but not with rates of return on the costs incurred in providing education, it is not necessary to measure the quantity of education. Nevertheless, it is necessary to identify just what, conceptually, the education under consideration may be. To do this requires brief attention to two critical aspects of the measurement of quantity of education: (a) the view of the cumulated education embodied in the adult population as a flow of inputs versus a store of value, and (b) the inclusion or exclusion of on-the-job training.

I have argued elsewhere that the relevant concept of quantity of education (or 'human capital' in its educational components) for analysis of education's contribution to national product is a flow concept. Focusing on production activities only, I suggested such a measure, which I labelled

'effective current stock';[1] it should be clearly distinguished from gross or net human capital concepts, which refer to stores of value, not current inputs into economic activity. No discounting of returns is needed (in fact discounting would be inappropriate) in arriving at an 'effective current stock' estimate. Underlying the analysis presented in this paper is such an effective current stock concept of quantity of education, but with one important modification. We are not interested here in distinguishing between uses of education in production activities and in more direct consumer enjoyments except as it may be possible to measure the former but not the latter. The 'effective current stock' concept of education will therefore be modified when consumer returns are considered, to include education embodied not only in the members of the labour force but in the entire adult consuming population.

Until recently it was usual to refer to the importance of apprenticeship and similar forms of training but without including them in the framework of education. Gary Becker has skilfully brought this training within the compass of a theory of investment in human resources, and Jacob Mincer has applied this theory in a first estimate of the amount of on-the-job training in the United States.[2] Ideally, lifetime income streams for individuals with the same amount of formal schooling are compared by occupational and other classifications, using the time pattern of average incomes in each category. Among college graduates, for example, those who receive training on the job begin with lower incomes but end up with higher ones than their fellows. At first they forgo some income (the opportunity cost of their on-the-job training); later their higher incomes include a differential that is the return to this supplementary education. By assuming the 'internal rate of return' to investment in on-the-job training to be the same as that to the appropriate prior level of formal schooling, the amount of the investment in the former is estimated. This analysis assumes that markets operate competitively and that private decisions are economically rational. It is assumed also that cross-section age-income data are good indexes to lifetime income sequences. Fortunately, the above assumptions can be eliminated without destroying the conclusion that is most important for the problems considered here: differentials in income associated with education, as measured by census data, include monetary returns to associated on-the-job training.

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1. 'Human Capital: Concepts and Measures.' Originally printed in: Hugo Hegeland (ed.), *Money, Growth and Methodology (Festskrift in honour of Prof. Johan Akerman)*, Lund (Sweden), C.W.K. Gleerup, 1961. This article will be reprinted, with minor changes and an added introductory section emphasizing the importance of the input versus the store of value concepts, in: Selma Mushkin (ed.), *The Economics of Higher Education*, U.S. Department of Health, Education and Welfare, Office of Education, 1962.
2. In unpublished papers prepared for the Exploratory Conference on Capital Investment in Human Beings, sponsored by the Universities-National Bureau Committee for Economic Research, 1 and 2 December 1961. Gary S. Becker, 'Investment in Human Capital: a Theoretical Analysis', Jacob Mincer, 'On-the-Job Training: Costs, Returns, and some Implications'.

THE RELATIONS AMONG COMPONENTS OF SOCIAL AND PRIVATE RETURNS

Because of the frequent confusion between the private-versus-social and other ambiguous distinctions in assessing returns to education, I state a simple equation that is applicable to many types of economic structure, though the relative values of the variables will differ considerably. The variables apply to a short period of time, but the relationship defined can be examined further in a dynamic context.

Let a_i represent returns to education as these can be directly taken by individual i (including non-monetary returns), defined as the differential over what the individual would command if he had no education. (Or, if one looks only at one segment of education, it is what he could command if he had completed only the next lower level of education.) The aggregate of these individual returns is $A = {}_0\Sigma_n a_i$. Starting in the opposite direction, the aggregate of social returns is designated S (again including non-monetary real and psychic income). We may then set up the identity: $S = A + D$, D being the discrepancy between S and A. Distinguishing the monetary (′) and non-monetary (″) components:

$$S = S' + S'' = A' + A'' + D' + D''$$

For simplicity, it is assumed that all returns realized through exchange find expression in monetary returns and that these are converted into units of constant purchasing power.[1] The returns actually measured in most empirical work are sets of average income differentials $\bar{a}'_j$, $\bar{a}'_k$, . . . for each educational group, j, k, . . . Weighting by the numbers in the respective educational categories and summing gives A′, which is the aggregation of monetary returns to education as seen by individuals, each individual taking other things to be equal.[2]

A″ is the aggregated contributions of education to private non-monetary income. For an individual a_i'' depends upon (1) the additional things he can produce for himself (e.g., repairs to his home) because of increased skill or more leisure; (2) psyshic returns from the sort of job he is able to hold (job preference); (3) non-market production that his education prevents or that is incompatible with the time needed to realize A′ (the latter implying a negative effect on leisure); (4) added enjoyments in any given leisure time attributable to his education (reading, music appreciation, etc.); and (5) enjoyments for which his education disqualifies him. Items (1), (2), and (4)

1. Thus, for example, housing provided by an employer would be included in 'monetary returns'. The nature of empirical adjustments to bring actual exchange-determined returns in line with this specification has been widely discussed and can therefore be by-passed here, though with the stipulation that corrections of this kind would be required at several points in the ensuing discussion.
2. The need for adjustments to correct for effects of ability, effort, family contacts, etc., that are associated with differentials in educational attainments has been frequently noted. Recently rough attempts to make such adjustments have been appearing, notably by Gary Becker and Lee Hansen; but none to my knowledge has yet been published. Distortions due to these factors enter into most of the empirically-oriented concepts discussed in this paper: warnings on this point will not, however, be repeated.

would be positive, (3) and (5) negative. Hence A″ can be positive or negative, though educated people normally assume that a_i'' is typically positive and hence so is A″. If A″ is positive, then it follows that A > A′ and market measures of income differentials understate aggregate private returns; if A″ is negative, measured monetary income differentials overstate aggregate private returns.[1]

There is one overwhelming reason for concluding that in Western societies A″ is a large positive quantity. This relates not to the above factors for men in the labour force but lies in the contributions of educated women who withhold their services from the market.

Thus far I have focused upon returns within a given short-term period. But it should be noted that when looking at long-term developments the informal intergeneration effects of parental education may be substantial. These effects emerge in all of the elements of a future S, monetary and non-monetary, private and non-private.

D′ and D″ need not be defined merely as residuals. They are the components of social returns that cannot (even with full individual knowledge and rationality) enter into individual motivations and decisions.[2] Except by a process of imputation back to population subgroups, they cannot be localized in individuals. Since D′ is the simpler, it is considered first.

The difference D′ between A′ and S′ is mathematically determinate, since A′ is derived by aggregating income differentials above some baseline, whereas S′ takes into account effects of education upon that baseline itself. When returns to the grand total of all education are being evaluated, the baseline from which to compute the differentials that make up A′ will be the income of the totally uneducated. If the diffusion of education through a society raises the earned incomes of the uneducated (disregarding transfer incomes), the baseline is raised. It does not matter whether these incomes of the uneducated are increased at a greater or lesser rate than incomes of the educated; if they are at all increased by others' education, D′ is positive. Taking the baseline average income as b', it has two components, b_0 and b_e, the latter being the part that is determined by the education of other members of the population.

We then have a theoretical measure of D′ as Nb'_e, where N is the number of adults in the labour force. If D′ is positive (probably the usual case), S′ will of course exceed A′. If D′ is negative because the spread of education reduces the baseline income, A′ would exceed S′.

If one is interested in social versus private returns to some part of education only, let us say post-elementary education and associated on-the-

1. The distinction between a_i'' and a_i' would be of no importance for individual decision-making provided error in forecasting returns were the same for both components, since it is their sum that matters. However, there may well be greater error or systematic bias in one of these elements than in the other.
2. This does not exclude the possibility of 'altruism' as a factor in individual motivations. Such altruism would enter as a psychic component of A″ while additionally tending to raise D.

job training, the baseline income to use is the average for elementary school graduates (g'). Letting S'_s represent social returns to post-elementary schooling, A′ the aggregated private returns to that schooling, and D'_s the discrepancy, D'_s will then depend upon the interactive effects of the presence of a given distribution of post-secondary schooling among the population upon the incomes of those with varying lesser amounts of schooling. Each of the latter groups will have its income raised or lowered by some aggregate amount. Letting the suffix e stand in this case for interactive effects of post-elementary education on average incomes of others, we have:

$$D'_s = n_j a'_{j_e} + n_k\, a'_{k_e} + \ldots n_g g'_e + n_s g'_e$$

where g'_e is the component of income of elementary school completers that is attributable to post-elementary education of others, n_g is the number of elementary school completers in the labour force, and n_s is the number in the labour force who have had post-elementary schooling. j, k, etc., specify education groups below elementary school completion. The sum of $(n_j + n_k \ldots + n_g + n_s)$ is equal to N. Specifying effects in this way is of course a variant of marginal analysis closely akin to the 'other things equal' technique, but with the difference that the components are imputed from totals and must necessarily add up to the totals. Thus the aggregative and marginal approaches are merged, or, to put it more harshly, forced into mutual consistency.

I have ignored changes in the distribution of the components of A′, assuming them to cancel out when aggregating for this part of S′. This is easily justified. For example, suppose that because of my education I am able to enhance my income by swindling someone else. I have made no productive contribution, and my income would overstate my contribution to 'social' returns; my contribution may actually be negative. But this is taken into account through the other components of A′ and/or b' (or a'_j, $a'_k \ldots g'$) in that it lowers the monetary incomes of others.

A similar formal treatment could be given to D″, though the formalization is much less useful when dealing with non-monetary returns. The major elements in A″ have already been suggested. Like D′, D″ (social non-market returns not included in private returns) will include both positive and negative components. Among the most obvious positive items are the voluntary services to the community by educated men, who draw upon skills acquired at school or who enjoy jobs allowing them more leisure. If education reduces delinquency rates, this also is a positive non-private and largely non-monetary return. D″ would include also psychic income attributable to having educated neighbours or colleagues with whom one can interact pleasurably. Probably the most important negative component in D″ is the psychic dissatisfaction flowing from one's awareness of 'negative' status (a negative b''_e). It has proved impossible to assess social non-monetary real returns to education (let alone psychic returns). This is due primarily not to the difficulty of identifying non-private as against private returns but to the non-measurability of most non-monetary returns. These same dif-

ficulties explain omission of most non-monetary elements in income from national-income accounting.

A DIGRESSION ON THE AGE INCIDENCE OF SOCIAL VERSUS PRIVATE RETURNS

I have argued elsewhere[1] that there are systematic biases that shift with age in using personal earned-income data to measure the productive contributions of the recipients. There are biases also in using cross-section age-income data in a given year as proxies for historical private lifetime incomes. Only the former, however, are of direct interest in the present context; they are relevant primarily as they affect differentials of income for one or more educated groups above a given educational baseline. Two such biases are especially likely to exist. First, better-educated men in middle age are most likely to make substantial contributions to the social product through voluntary community services, involving social returns to education that are not reflected in either private returns or monetary social returns. Second, both formalized seniority rights and informal status advantages undoubtedly result in continued payment of comparatively high incomes to older educated men even when their productivity has declined; for this age category aggregate private income differentials may overstate social contributions. A third age distortion involves more a failure to realize potential contributions than erroneous measures of social contributions; this is the bias against hiring older men. This handicap affects especially men with least education; the effect of this bias is to overstate still further the differential incomes and hence actual contributions of the better-educated older men. It leads also to understating the potential, though not the actual, contribution of the least-educated older men.

Cyclical unemployment aside, the principal distortions in projected lifetime incomes arising from the cross-section approach stem primarily from the effects of obsolescence, or, putting this the other way, from progressive improvements in the quality of education received by successive age cohorts. The resulting understatement of prospective returns, whether private or social, is not of major concern here.

Use of the 'effective current stock' concept of the quantity of education automatically allows for on-the-job training. There is then no occasion for the estimating procedures (involving discounting and internal rates of return) that would be needed if quantity of education were viewed as a store of value, or if our main concern were to identify criteria for the allocation of investments. Contributions of young people who are receiving training on the job are lowered, but at a later date when these same young people have completed their training the returns to it emerge in the higher

1. In 'Human Capital: Concepts and Measures', op. cit.

incomes of mature men. These men are now providing educational inputs into the economy that encompass both their formal schooling and the training they previously received on the job.

EMPIRICAL MEASUREMENT OF CHANGES IN MONETARY PRIVATE AND SOCIAL RETURNS OVER TIME

The simple equations given earlier can serve as a starting-point for analysing the effects of expanding education upon national product, and for distinguishing the private and non-private components of such changes. But before presenting this possibility, it is well to examine briefly the nature of the previous work that is most pertinent. With apologies to economists who have produced detailed and profound work, I shall grossly oversimplify here, but with the hope that any readers who may be interested but unfamiliar with the sources will examine the works cited for themselves.

The most direct attempt to measure contributions of education to national product over time is that of Prof. T. W. Schultz.[1] In essence his method was as follows. First, quantity of education embodied ('carried') in the labour force was estimated in cost terms, using constant dollars and including in costs the opportunity costs of students' time. Then estimates of internal rates of return to increments of schooling (his own estimates and others)[2] were applied to his time series of education carried in the labour force to derive the contribution of education to national product. Several sets of estimates resulted, one set for each assumed combination of rates of return to the various levels of education. Each of these could be viewed as an approximation to A′ as I have defined it, though none is the same as A′ except in the year used for deriving the rates of return. Deviations of Schultz's estimates from A′ arise from several causes. One of these is changes over time in rates of return,[3] another is shifts in the age composition of the various educational subgroups of the adult population,[4] and a third is changes in the relative importance of on-the-job training. Whether or

1. T. W. Schultz, 'Education and Economic Growth', in: Nelson B. Henry (ed.), *Social Forces influencing American Education*, Chicago, University of Chicago Press, 1961. (*Sixtieth Yearbook of the National Society for the Study of Education*, Part II.)
2. Schultz made rough estimates for each educational level and compared these with Gary Becker's estimates for college education. (See Gary Becker, 'Underinvestment in College Education]', *American Economic Review*, Vol. L, No. 2, May 1960, p. 346.) 'Internal rates' as computed by Becker are the discount rates that would equate the (differential) income stream with the estimated costs of the relevant education.
3. Schultz himself is fully aware of this, of course. However, direct estimates of A′ are available for selected years only, beginning with 1939. By presenting estimates based on several alternative rates of return, Schultz comes up with a range of results that should cover error arising from changes in rates of return.
4. This may be very important. Schultz disregards the age-education composition of the population, treating it as though there were no age shift within any educational category. On this point see my 'Human Capital: Concepts and Measures', op. cit., and the papers by Becker and Mincer referred to in footnote 2, p. 649.

not these deviations are of quantitative importance over any given interval of time, it is clear that Schultz made no attempt to include the effects of interactive influence; D′ is omitted.[1]

Starting from the opposite position, several economists[2] have compared estimates of national product over time with changes in capital inputs[3] and in quantity of labour, seeking to determine how much of the increase in national product can be explained thereby. The remaining, unexplained increases in product are then attributed to unidentified factors, among which are education, advances in technology, and changes in economic organization. One of these studies[4] attempted to identify a functional form for this 'third' composite variable, but without identifying its inputs except by imputation from its results. Like virtually all attempts at measurement, this necessarily assumes the persistence of some given basic pattern in economic structure within which growth is taking place. Attention is not directed specifically to education.

The approach suggested in the following pages has less mathematical elegance than the aggregative input-output technique, but it is focused upon education (including on-the-job training). As in all attempts at measurement of returns to given kinds of inputs, some arbitrary assumptions are unavoidable; ultimately the test of such assumptions must be in their reasonableness and their internal consistency. I have tried to fuse the two approaches just summarized, starting with the equations presented earlier. S′ was defined as that part of total income attributable to education, more strictly as that part of earned income so attributable. It was assumed tacitly that none of the returns reported in empirical data as property incomes was attributable to education, though some part (presumably most) of the incomes from proprietorships would fall in the earned-income category. It is of course arbitrary, and even false, to assume that earned incomes are independent of the quantity of capital; it is no less false, however, to assume that unearned incomes are independent of the quantity and quality of labour. As a first approximation, the most reasonable and pragmatically feasible solution is to assume that these interactions are mutually cancelling; the problem is then to identify A′, S′, and D′ as components of total earned income, Y′.

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1. This omission was deliberate, and not due merely to measurement difficulties. Schultz was presenting estimates that should stand up as minimal, avoiding possible upward biases.
2. A number of studies of this kind have been sponsored by the National Bureau of Economic Research; prominent among the pioneers have been Kuznets, Goldsmith, Abramovitz, Kendrik, and Fabricant. See also O. Aukrust and Juul Bjerke, *Real Capital in Norway*, International Association for Research in Income and Wealth. Bowes and Bowes, London, 1959 (Income and Wealth series, VIII), and Robert M. Solow, 'Technical Change and the Aggregate Production Function', *Review of Economics and Statistics*, August 1957.
3. The capital input measures used are inappropriate, problems of change in the quality of physical capital aside, because they are in fact measures of stores of values. This fact is clearly seen by Solow, op. cit.
4. Solow, op. cit.

Of necessity, $Y' = A' + Nb'$; it is the sum of earned incomes above the educational baseline and at that line (simplifying here to take the baseline average income as that accruing to people with 'no' education, and including in A' the total of all income differentials above that level). Each of these values, Y', A', and Nb' is empirically observable, at least in principle. Comparing these values for period $t - 1$ with those for period t, we derive their change between the two periods: $\Delta Y' = \Delta A' + \Delta Nb'$. Simplifying by assuming N to be constant, we automatically correct for changes in the quantity of labour. Empirically this correction can easily be made.

Unfortunately, this equation does not give us what we want, however. We need to know the breakdown of Nb' into Nb'_o and Nb'_e, the latter being the measure of D' which in combination with A' would give us S'. That is, we need to fill in the values in the equation $\Delta Y' = \Delta A' + \Delta Nb'_o + \Delta Nb'_e$, or $\Delta Y' = \Delta S' + \Delta Nb'_o$. It will be recalled that b'_o is that part of baseline average income not attributable to the indirect effects of activities of the educated population upon incomes of the uneducated. I suggest that while it is difficult to supply a reasoned analysis of Nb'_o, the most plausible value for $\Delta Nb'_o$ is zero; this amounts to assuming that all changes in b' over the time interval under examination stem indirectly from education (including that on the job), or that any changes in b' that are not attributable to education are neutralized in the total by net contributions of education to unearned incomes that have already been excluded. The assumption that $\Delta Nb'_o$ is zero gives a maximal estimate of S' only if net contributions of education to unearned incomes are zero or negative.

CHARACTERISTICS AND DETERMINANTS OF NON-PRIVATE MONETARY RETURNS

It was suggested earlier that, viewing education as a whole, D' is likely to be positive; it would be better to say that $\Delta D'$ is positive. This conclusion follows from the fact that b' has typically increased over time and from the narrowing of the ratio of incomes of the educated to the uneducated even though capital labour ratios associated with jobs held by the uneducated have almost certainly changed less than in the economy as a whole. Even if $\Delta Nb'_o$ is positive and significantly above zero, a sizeable positive $\Delta D'$ is indicated. If this is indeed the case, it follows that $\Delta A'$ significantly understates $\Delta S'$. Though Schultz's measure is not quite our A', this conclusion would apply equally to his estimates. That is, even excluding non-monetary private and non-private returns, his method would then yield estimates that are inherently conservative unless he used grossly exaggerated internal rates of return. I suspect one could identify many situations in which $\Delta D'$ has been both positive and large, among them the northern and more recently the southern sections of the United States.

However, there is currently a widespread debate in this country, one party to which would in effect maintain that there is a tendency to a negative $\Delta D'_s$, that is, a negative social-private discrepancy, with respect to recent expansions in post-elementary education. The debate has not dealt directly with the question of social versus private returns to education, but focuses at the moment on the question as to whether there is a secular tendency to growing unemployment among new entrants to the labour market who have not completed secondary schooling. If the answer is yes, it is further arguable that this could be at least partially explained by expansion in the proportion of youth completing secondary school. First, employers seem to have developed a strong preference for secondary school graduates over those with less schooling, whether the former actually are more productive or not. Second, it may be that the approach to universal secondary schooling is stimulating a restructuring of the economy through general adoption of more refined technologies. Taking averages per member of the labour force, not per employed worker, empirical measures would show a drop in average baseline incomes, b', under existing circumstances; if this is not merely temporary, the higher unemployment rate should of course be allowed for in measuring b'.[1] If this decline in b' is legitimately imputed to the spread in secondary schooling, then $\Delta D'_s$ is evidently negative and $\Delta A'_s$ is an overstatement of $\Delta S'_s$.

No one working on the economics of education has as yet attempted to consider the implications of such values of $\Delta D'$ for generalizations about social over- or under-investment in schooling. Attempts have indeed been made to compare private and 'social' internal rates of return, and to compare each of these with rates of return on corporate investment.[2] However, 'social' rates as estimated in these studies do not capture the components of D'. The rate are 'social' only in that the returns analysed are pre-tax and the costs with which they are compared to get internal rates of return are inclusive of public as well as private expenditures on education. Failure to take D' into account is hardly surprising in view of the difficulty of isolating it empirically, but I wonder whether the assumptions that must be made to do this are any less arbitrary than the tacit assumptions that a'_j, a'_k . . . are attributable solely to education, or so attributable after making some adjustment for ability, effort, etc., associated with education. Conceding that distortions or at least artificialities are introduced in any available set of assumptions by which elements in an economy are segregated from the general outline, it is time that a careful look be taken at the range within which $\Delta D'$ may fall under various conditions.

There is a second and even more important proposition that is sharply pointed up by recent developments. This is the whole problem of how to treat structural change. Putting this another way, returns to education

1. For a discussion of the treatment of unemployment in related connections see my 'Human Capital: Concepts and Measures'.
2. Primarily by Gary Becker and Lee Hansen, in unpublished work. However, see Gary Becker, 'Underinvestment in College Education', op. cit.

depend in large degree upon how the educated people are used, and how they are used is only in part a function of the distribution of education within the population. The problem of assessing returns to education (either social or private) is of course aggravated. But this is not all. Potential social returns from investment in education may be quite different from realized returns. Examination of the divergence between these and the causes of these deviations may have important policy implications having little connexion with the specific problem of allocating investments to education.

A MORE DYNAMIC VIEW

The static assumptions of the model were relaxed only partially in the last section. 'Organization' factors were brushed aside, yet many writers have attached great significance to various external economies or economies of scale in bringing about economic growth. Neither have I given more than passing attention to intergeneration effects of parental education. Finally, technological advance has crept into the analysis without explicit recognition. These elements become of increasing importance for total income growth when comparisons are made over cumulative time intervals. In the foregoing section some part of these was absorbed into unearned incomes, the rest into earned incomes (by assumption into S′ only, not Nb'_0).

It is often and justifiably argued that it is a gross exaggeration to attribute to education all the increase in national income not explained by increase in the size of the labour force and the quantity of physical capital. This objection is well founded, especially when one considers how many improvements in the quality of physical capital escape measurement. It does not follow, however, that the opposite position is tenable, namely, that only what is included in some current estimate of our A′ should be attributed to education. Quite clearly the contribution of parental education to the future efficiency of children is a deferred return to education that must be accounted for in taking a long-term view. Identifying the part of technological advance or of economies of scale to be credited to education is more difficult. Indeed, we lack even approximate measures of 'amounts' of technical innovation, and we have almost no insight into the relative part of sheer ability versus systematic effort in invention or productive adaptation of inventions. A considerable part of the effect of education upon economic growth lies in this sphere of innovation, and these contributions, like the non-educational elements in technical advance, emerge eventually in both earned and property incomes.

Technological improvement and economics of scale tend to go hand-in-hand and both involve structural transformations. Taking a long view (which may not be many years if educational advance is rapid), the interplay between education and economic growth is likely to involve economies

of scale and major structural changes.[1] I suggest that many of these transformations depend on the spread of one or another level of education as a necessary, but emphatically not in most cases as a sufficient, condition.[2] Some of the observed and confusing leads and lags in the relations between educational and economic advance may well turn on this point. Major steps in economic growth may be blocked until both the median level of schooling and the distribution of schooling among the parts of the population have passed certain thresholds. Perhaps less attention should be paid to the relation of education to individual earning power, and more to its role in facilitating the particular processes that go together under the umbrella phrase 'external economies'.

1. The fact that economic growth, especially in the early stages, normally means a considerable shift from subsistence to market activities, introduces a major bias into estimates of advance based on monetary measures alone. Just as in attempting to compare national incomes or *per capita* incomes among countries, it is obviously necessary to adjust for this, so that the real coverage of monetary measures will remain as nearly comparable over time as possible.
2. See Mary Jean Bowman and C. Arnold Anderson, 'Concerning the Role of Education in Development', to be published in a forthcoming symposium sponsored by the Committee for the Comparative Study of New Nations, University of Chicago. Also, by the same authors, 'The Role of Education in Development', in: *Development of the Emerging Countries*, The Brookings Institution, 1962.

THE CONCEPT OF HUMAN CAPITAL

M. DEBEAUVAIS

The term 'human capital' is of comparatively recent origin and relates to a concept which is still difficult to define scientifically or to analyse from the quantitative standpoint, for it associates two ideas which had hitherto been regarded as different in kind and had been studied under different disciplines.

As used by the economist, the word 'capital' covers a category of goods which are called 'productive' because they have the property of producing other goods; man, as the producer of these goods, plays his part as the 'manpower' factor which must be associated with the 'capital' factor in order to initiate the process whereby wealth is produced. Regarded from this angle, the two are independent variables.

From the standpoint of the other branches of humanistic studies, man may be a subject for research and measurement, but analysis in these disciplines is focused on his individual or social behaviour, and not on his wealth-producing function, which is seen as an aspect of *homo economicus* to be studied by the political economist. The education experts consider the essential aim of education to be the highest development of the intellectual and moral aptitudes of the individual, rather than the training of producers.

As in many other branches of social science, the division into these separate categories is at present being called in question on various sides.

In economics, research on the long-range growth of the American national product recently carried out by the National Bureau of Economic Research has shown that only a small proportion of economic expansion in the United States (from 30 to 50 per cent, according to the calculation methods adopted) can be explained in terms of the classical factors of production (capital, manpower and natural resources). This has led to a search for other factors of growth hitherto left out of account by the analysts. It is generally agreed that one of the most important of these factors appears to be the rise in the level of skill of the labour force resulting from the rise in general level of training and education. Of course, other factors of growth have been suggested, including technical progress and improved organization in individual firms and at the national level. All these elements are held to promote growth, but the difficulty is to determine the part

played by each of them separately, and to isolate them from one another; this is one of the newest fields of investigation for economic research.

If we consider only the 'education factor', it seems obvious that highly skilled labour will be more productive than unskilled labour, and that an hour's work by a trained worker who has had six years of primary education followed by three years of technical education will produce more goods, for instance, than an hour's work by an illiterate worker in the early nineteenth century.

It might seem somewhat surprising that such a common-sense hypothesis should not have been accepted by economists until quite recently.

We may account for this paradox by giving a highly simplified outline of the manner in which economic theory has viewed man as a producer. In considering the process of the production of wealth, the economists have concentrated on the factor of physical capital, on the implicit assumption that the men needed to exploit that capital would be available in the labour market at any moment, equipped with the necessary skills. In the event of a scarcity of manpower in a particular sector, wage variations would suffice to restore the balance between supply and demand.

The phenomena which mitigate the effects of competition and which are the result of the organization of the workers in trade unions—thus increasing their bargaining power—the incidence of unemployment and the existence of monopolies are all viewed as modifying this theoretical situation to some extent, but without radically invalidating it.

In planning, the desired increase in the product (over-all or sector) is analysed solely in terms of physical capital—that is, in the light of the amount of additional investment required to obtain an additional unit product. This ratio, known as the capital-output ratio, was adopted, for instance, in assessing the capital needs of the underdeveloped countries (in the light of population growth and the increase deemed desirable in *per capita* income) and the amount of foreign aid which would be necessary, the latter being equal to the difference between the total investment figure thus estimated and the volume of domestic savings regarded as possible.[1]

In attempting to define the role attributed to man in these theories of growth, we find that, as in so-called 'classical' economics, calculations concerning producers are made in elementary form, i.e., in terms of numbers of workers or in man-hours. The concept of productivity is used in their economic forecasting for the purpose of apportioning the general labour force between the different sectors of activity, and productivity is measured by comparing the output of each sector (expressed in added value or in physical units) with the number of workers (expressed in units) in the branch of activity concerned or with the number of man-

1. See in particular: Léon Tabah, in: *Population*, No. 27, INED, Paris, 1956; Millikan and Rostow, *A Proposal*, New York, 1957; Paul Hoffman, *100 Countries*, New York, 1961.

hours. The variations in this ratio which are noted over a given lapse o time express the increase in productivity and are extrapolated (linearly) for the period of the plan. It thus becomes possible, on the basis of the anticipated increase in sector output and of a hypothesis for an increase in productivity, to estimate the number of workers required for the sector concerned.

It will be seen that this method, which in any case is very imperfect, considers the individual as an interchangeable unit, without regard to his qualifications, and as the end-product of a calculation which would appear to measure the degree of mechanization of the production process, or the technical progress achieved, rather than the productivity of the individual worker.

Marxist economic theory puts forward a different concept of the relations between capital and the worker. Marx, in developing Ricardo's theory that labour is the source of value, touched upon the problem of skilled labour, explaining that this was distinguished from 'average social labour' by higher training costs. Since the 'production' of a skilled worker costs more in terms of working time, the value of his labour power is greater than that of the unskilled workman, and may be expressed as a multiple of this labour power. However, Marx carried his analysis no further in *Das Kapital*, merely pointing out that this distinction between skilled and unskilled labour is of little practical interest, since the effect of capitalist industrial techniques, according to him, is to reduce the importance of skilled labour by spreading assembly-line techniques in which the worker is subordinated to machines. This historical development of the workers' status during the first phase of the Industrial Revolution helps to explain why economic theory, whether classical or Marxist, considered the labour force from a purely quantitative angle, without taking professional skill into account. Moreover, as compulsory primary education became more widespread, the provision of the elementary education required of the worker was taken over by the community, whereas in earlier times vocational training had been the responsibility of the guilds. The result was that the nineteenth-century industrialists and economists were apt to ignore expenditure on training, which was not included in the calculation of a firm's production costs.

Thus, neither training costs nor the effect on economic growth of a rise in training standards were taken into consideration, so that the term 'human capital' was meaningless to the economist.

It was in a completely different context that the importance of the skilled worker in the production process recently came to occupy the forefront of attention—when an acute shortage of scientists, engineers and technicians became evident. It was now realized that the labour market was in no position to provide the highly skilled manpower needed for accelerated industrial expansion at a moment's notice, and that wage increases no longer sufficed as a means of adjusting the growing demand for highly skilled personnel to the supply, which was limited in the last

resort by the educational system. Industrial expansion, accelerated technological progress and the development of new industries are all contributing factors of the increased demand for engineers and technicians, not only in the production process itself but also, and especially, in offices and laboratories. Moreover, scientific and technical personnel are seen no longer as merely a short-supply area, but as a determining factor for the technical progress necessary to growth (pure and applied research, and the perfecting of new products and new manufacturing processes). At the industrial stage, at any rate, innovation has ceased to be regarded as the result of unforeseeable chance; it depends upon the considered policy of the undertakings concerned; training for personnel and the expansion of research services are among their constant concerns and are reflected in their costs. On the national scale, the supply of scientists, engineers and technicians is recognized as an essential element of economic power. The competition between East and West, especially since the conquest of space, has underscored the decisive part played by the production of such highly skilled personnel, and the 'challenge' is no longer confined to the volume of output or to the rate of investment. Numerous studies have accordingly been made, particularly in the United States and by OECD, with a view to estimating national requirements in scientific and technical personnel. They serve the useful purpose of perfecting the existing methods of forecasting manpower requirements and showing the necessity of adapting educational systems to those requirements, but suffer from the drawback, as far as the present problem is concerned, of covering only a very limited segment of the total labour force.

Before we can legitimately speak of human capital, we should be able to answer two preliminary questions:

Is a higher level of skill on the part of the labour force as a whole (and not merely a privileged section of it) to be regarded as a condition of growth?

Is this higher level of skill merely a necessary condition for economic growth, or is it a positive factor of development?

The experience of history suggests that the first of these questions can be answered affirmatively. It is found that the general level of training rises simultaneously with the economic level, and comparisons between different countries indicate a certain correlation between the share of the national income devoted to education and *per capita* income.[1]

It would be possible in this way to compare the increase in national expenditure on education over a given period with the increase in the national product, either during the same period or with a time-lag to allow for the effects to mature. But such comparisons are still unreliable, for the amount spent on education is still not accurately known, because of the difficulty of estimating the cost of private education. Except in a few countries where these data have been assembled in the past few years

1. F. Edding, *Internationale Tendenzen in der Entwicklung der Ausgaben für Schulen und Hochschulen*, Kiel, 1958.

(United States, United Kingdom, France, Italy[1]), the figures on which international comparisons are based are drawn from Unesco's statistics, which cover only public expenditure on education and, in most cases, only expenditure by ministries of education.

Analysis of the development of the vertical structure of employment points to the same conclusion: in industry, technological progress increases the demand for skilled and highly skilled workers, even in regressive sectors, where the total number of workers tends to diminish. The same tendency is to be observed in the public services, as is shown by the higher educational level demanded of senior, intermediate or junior personnel. However, studies conducted on the macro-economic scale with a view to analysing historical changes in the general level of training of the labour force have still to be made.

The second question goes right to the heart of the problem, for it is no longer concerned merely with establishing a correlation between the economic system and education—a correlation which could, in fact, be interpreted in two ways from the standpoint of causality: either education is one of the causes of economic growth, or else the increase in the national product makes it possible to increase the expenditure on education. Nor is it sufficient to show that manpower is indispensable to the development of physical capital, and that to obtain a desired degree of growth, additional manpower must be trained up to the various levels of skill and in the numbers required by the technical composition of the new capital. For by doing this we should merely be showing that the human factor is a negative condition of development, in the sense that a shortage of manpower at certain levels of skill constitutes a bottle-neck impeding growth. It might then be argued that once the balance between the supply and demand for skilled workers had been restored, the optimum educational level determined by the general technical level of a given country would be exceeded; any subsequent rise in the level of training would then cease to contribute to further economic development, and would merely be economically unproductive expenditure. Another limiting factor might also be invoked—that of ability, the effect of which would be to apply to education a law of diminishing returns under which the rise in the level of training for an ever-increasing proportion of the active population would involve ever higher expenditure. For the moment these are purely theoretical problems, for even the most advanced industrial countries seem to be a long way off these limits. Nevertheless, they have a certain interest when it comes to an attempt to define the concept of human capital and study the relationship between economic growth and manpower, taking into account the level of skill. Until such time as the problem can be posited in measurable quantitative terms, all that can be stated is that the

1. See, in particular: (for United States) T. W. Schultz, in: *Journal of Political Economy*, December 1960; (for France) INSEE, *Coût et Développement de l'Enseignement en France*, Paris, INSEE, 1958; (for the United Kingdom) John Vaizey, *The Costs of Education*, London, Allen and Unwin, 1958.

role of the more highly skilled personnel is not confined to exploiting physical capital; they are also responsible for conceiving and perfecting the inventions or innovations which push back the frontiers of present-day production techniques and thus make further growth possible.

None of the hypotheses advanced here can at present be confirmed by quantitative analysis, but they all help to guide research in new directions.

In the field of education, the concept of human capital originated with the first attempt to establish a connexion between educational and economic development. In the underdeveloped countries, and in certain industrialized countries, the spontaneous or deliberate increase in school enrolment has resulted in the application to education of the techniques of economic forecasting and planning. Work along these lines has so far been directed mainly to calculating the cost of education in order to work out operating or investment costs over periods of several years, in the light of the anticipated increase in enrolment. Since this objective has much in common with those of the research already described, various economists were prompted to start considering the subject of education from the standpoint of financing. One practical result of this work is already apparent: in countries which have drawn up an educational plan and *put it into application*, the establishment of targets expressed in precise figures has led to a more rapid increase in educational expenditure than in other countries; this is the case, for example, in France, Tunisia, Mexico and India. Requests for funds have been based on precise calculations of the current and non-recurring expenditure needed in order to meet the selected targets, and this has given the ministries of education a basis for discussion with their respective treasuries which afforded them better prospects of success than was formerly the case with the traditional type of requests for increased appropriations submitted annually by each recipient of funds from the State budget.

But once educational targets began to be fixed in the light of educational requirements and no longer in order to produce an automatic increase in the previous figure for expenditure, the problem of finance took on quite different dimensions; indeed, the estimates which have been tentatively made at the regional level are so large that they far exceed the possibilities of the countries concerned combined with those of outside aid. The Karachi Conference organized by Unesco (December 1960) made an estimate of the cost of enrolling the entire school-age population of Asia (exclusive of China) by 1980; this showed that it would take $36,000 million to achieve satisfactory enrolment in primary education alone up to that date. For the programme adopted at the Addis Ababa Conference (May 1961) for the development of primary, secondary and higher education in tropical Africa, the present expenditure on education, estimated at $500 million in 1961 (including $150 million in the form of outside aid), would have to be increased to $1,154 million in 1965 and $2,600 million in 1980. The Santiago Conference (March 1962) yielded information on the basis of which a similar estimate can be made of Latin American needs in the

matter of educational finance; it indicates an analogous increase. It is possible, of course, to question the calculation methods by which these figures were arrived at, just as the use of the capital-output ratio in estimating the total volume of investments required to ensure growth in the underdeveloped countries has also been questioned. But the main value of these regional estimates is that they specify the order of magnitude of the expenditure which would be necessary to meet minimum educational requirements if the methods hitherto followed are maintained.

The impossibility of meeting such demands leads to a search for criteria enabling an order of priority to be established in the light of available resources. What proportion of the national income should be devoted to education? What should be the choice of objectives within the educational system itself? These problems bring us back to the questions already raised at the economic level. It is no longer merely a question of estimating the cost of education in terms of desirable aims; we have to decide whether education is to be regarded, in national accounting, as an item of consumer expenditure, or as a social investment, or as a productive investment. Only in this last hypothesis would it be proper to speak of human capital, for educational expenditure would in that case become the cost of training the individual in his capacity as a factor of economic growth. If this concept is adopted, it will be possible to apply a rational criterion in making appropriations for education, due account being taken of the country's financial resources, the stage of development it has reached and the economic targets it has set itself. We would thus have a method of assessing the social return of the various investment projects, including those concerned with education, which would be infinitely more satisfactory than the method of 'expediency costs', whereby the value of a social investment (education, housing, public health, etc.) is assessed by comparing it with the productive investments which must be given up in order to make way for it.

The problems involved in research into economic growth, the dearth of highly skilled personnel and the development of education all help to give definition to the concept of human capital. However, none of these methods of approach at present enables that concept to be satisfactorily analysed. In consequence, research along these various lines employs the concept as a working hypothesis and not as a scientifically established economic category. We shall now describe briefly some of the attempts now being made to confirm this hypothesis.

The over-all method, referred to earlier, seeks to discover a correlation between total expenditure on training and the gross national product, or between an increase in educational expenditure and an increase in that product; and it presents both practical and theoretical difficulties. If series are established covering a long period, account will have to be taken of structural changes: the quality of the education provided, the extent and nature of the knowledge acquired, the combination of the factors involved and their respective costs (buildings, equipment, salaries) may have

developed along different lines; in considering the gross national product, account will have to be taken of changes in the economic situation—medium and long-term cycles—which affect the relationship with educational expenditure which is less sensitive to such fluctuations.[1] Pending such time as these obstacles can be overcome by constructing homogeneous series (by weighting the educational quantities and calculating trends so as to leave fluctuations out of account), it will nevertheless be possible to relate educational expenditure to the gross national product, probably in the form of an elasticity ratio, although this will not answer the question whether education is to be regarded as consumption expenditure or as investment expenditure. If this kind of research is to confirm the hypothesis of 'human capital', the necessary time would have to be allowed for the investments to mature (the formation of individuals takes longer than that of physical capital) and a criterion established for the break-down of educational expenditure into the portion which meets consumer needs and that which covers vocational training. However, we still have a long way to go before we can calculate a capital-output ratio applicable to individual manpower for the purpose of determining the volume of educational investment necessary to obtain a given increase in the national product.

Comparisons between different countries are also of great interest, but they, too, provide no scientific answer to the problem raised. Comparative tables have been drawn up by Unesco and OECD[2] to show the relationship between educational expenditure (or school enrolment) and the gross national product, or between educational expenditure and the national budget, total public expenditure or total gross or net investment. What they make it possible to do, chiefly, is to compare the efforts made by individual countries in the field of education, for it is only if other factors are included to account for the distribution of the figures that correlation becomes significant.[3]

The comparisons are useful for assessing the possibilities of increasing educational expenditure, or for setting national or regional targets, but not as a means of establishing that the gross national product, or its annual rate of increase, is in direct ratio to the share of the national income devoted to education.

These investigations undoubtedly add to our knowledge of educational expenditure in different countries, and are encouragement to greater national efforts, but they cannot be used as an argument to show that economic growth depends on the formation of human capital. That proposition would imply, in fact, that all educational expenditure produces the same effect: in other words, that educational systems are incapable of

1. See John Vaizey, op. cit.
2. OECD, *Policies of Economic Growth and Investment in Education*, Paris, 1962.
3. Reference should also be made to the work of Mr. M. Ramirez, which establishes, for nine countries, a close correlation between the average number of years of school attendance completed by the active population and the level of productivity.

improvement. On the contrary, it would appear that one of the essential purposes of educational development is to make the most effective use of the resources devoted to it. The optimum in this respect seems by no means to have been attained, whether in pedagogical efficiency (internal criteria) or economic efficiency (external criteria). It is in this direction that economic research should make its main contribution.

Efforts have been made, taking another line, to express human capital in quantitative terms, on the assumption that the over-all level of vocational skill in a country can be measured by the number of years of study completed by the whole of the active population. Professor Schultz[1] has established, for example, that the 'stock of education' of the labour force in the United States rose from 216 million years of study in 1900 (an average of 7.7 years per worker) to 776 million years in 1957 (an average of 11 years). Weighting this with a coefficient for 'equivalent years of study', totalling 152 days of school attendance a year,[2] we obtain a ratio of 116 million years in 1900 to 740 million years in 1957, or an annual increase of 3.3 per cent; but according to the classical analysis of the factors of economic growth, only the increase in the labour force (measured by the adjusted number of man-hours worked) is taken into account—an increase which amounts to only 0.8 per cent a year for the same period.

This 'stock of education' can also be expressed in monetary terms, if we calculate the total operating and investment expenditure for all types of education (primary, secondary and higher) in the public and private sectors, following the classification adopted by Unesco.[3] Total expenditure on education is then divided between the inactive and active sections of the population, and the figure thus obtained expresses the cost of production of the stock of education of the labour force, which Professor Schultz estimates for the United States of America at $248,000 million for 1940 and $535,000 million for 1947, on the basis of constant 1956 prices. This gives a series which can be included in the economic calculation together with the series for investments in physical capital. But several questions need to be considered.

1. Is it possible to regard all expenditure on the education of future workers as investment expenditure? In view of the impossibility of distinguishing the proportion of education which satisfies cultural needs from that which confers vocational skill, it seems preferable to consider that all education given to the labour force helps to determine the technical skill of the producers, just as the whole of that same education helps to

1. T. W. Schultz, 'Education and Economic Growth', in: Nelson B. Henry (ed.), *Social Forces influencing American Education*, Chicago, University of Chicago Press, 1961. (*Sixtieth Yearbook of the National Society for the Study of Education*, Part II.)
2. According to a method described by C. D. Long in *The Labor Force under Changing Income and Employment*, Princeton University Press, 1958.
3. *Manual of Educational Statistics*, Paris, Unesco, 1961, p. 240. A more precise method, enabling an analysis to be made of the economic components of a given system of education, has been proposed by I. Svennilson (OECD, op. cit., p. 69).

raise their cultural level. Education performs this dual function simultaneously for the individual and for the economy.

2. Should account be taken of 'income foregone', that is, of the wages a student might have received had he entered the labour market immediately instead of continuing his studies? The importance of this question lies in the fact that this 'income foregone', according to Professor Schultz's estimates, appears to exceed the direct cost of education. Objections have been made to this estimate of indirect (or rather fictitious) costs: on the scale of the national economy, it would not seem justified to set aggregates such as the gross national product or the real expenditure on education against a sum representing work not done; and even on the individual scale, decisions concerning the extension of studies involve many other factors of a psychological and sociological nature which are at least as powerful as economic motives. Moreover, the possibility of choice is restricted, chiefly by the supply of education (places available at schools), selection methods, family living standard, etc. It is true, where planning is concerned, that State decisions on matters such as the extension of compulsory schooling or the increase in the number of places available at schools have the effect of diminishing the labour force; but all that is necessary in that case is to allow for these external factors in forecasts of the active population, without bringing in the concept of 'income foregone' or having to face the difficulties involved in estimating it.
3. A fundamental objection to the attempt to express the stock of human capital in terms of quantity may also be made by citing individual differences, such as unequal abilities for which the number of years of education provided for each individual are no yardstick; by ascribing the major part of vocational training to the experience acquired in active life; or by adducing a tendency for the general level of studies to decline, or, alternatively, to rise. We shall not go into the details of these arguments, but merely point out that economic calculations relate only to what can be measured in monetary terms, and that on the macro-economic scale it is averages that matter.

Once we begin to study man as a form of capital, we must consider not only the cost of training him, but also his economic profitability. Though it is true that men cannot be bought, like machines, an attempt can be made to measure their profitability in the light of the wages they receive. For the United States, a comparison between the cost of educating a man and the total amount he will receive in wages during his active life has been made by G. S. Becker[1] for the three levels of primary, secondary and higher education. Becker estimates that the 'rate of interest' is 14.3 per cent for a person who has continued his studies up to the end of secondary school, and 9 per cent for one who has continued them up to the fourth university year.

1. G. S. Becker, 'Underinvestment in College Education', *American Economic Review*, Vol. L, No. 2, May 1960.

S. Strumilin[1] made use of a similar method as far back as 1924 in calculating the profitability of education on the basis of the differential wages of Soviet workers. This method of evaluation is also described by B. Hoselitz[2] and F. Perroux.[3]

Using these methods, it is possible to define the elements of the individual profitability of educational expenditure, provided that only that borne by the individual is taken into account; but, in fact, the bulk of educational expenditure is borne by the community. Furthermore, these calculations of profitability are governed by a particular wage structure, unless it be assumed that wages always provide an accurate measure of the economic profitability of the labour of each individual. For these reasons it is difficult to transpose such studies of individual profitability to the macro-economic scale, although this is the main issue.

Attempts have also been made to analyse the profitability of human capital, on the national scale, by seeking to define the human factors of increased productivity. B. Horvat[4] distinguishes four component factors—individual consumption (inasmuch as it satisfies minimum human needs); health; social organization; knowledge (education). In countries in process of development, the situation with regard to the first three of these factors constitutes an obstacle to development, and any improvement in consumption (food, housing, etc.), health or social organization produces a rise in the level of productivity. But once the threshold of satisfaction is reached, additional expenditure will no longer be reflected in increased productivity. In the case of education, on the other hand, there would appear to be no upper limit, and investment in that sector is a decisive factor of growth in every society. Viewed thus, any increase in the national product depends simultaneously on material investment and on investment in the human factor, the latter representing, in the final analysis, the limiting factor for productive investment. Thus the concept of capital absorption capacity seems to be linked to the level of development of the human factor, in that the volume of investment is determined by the stock of education of the country concerned.

Before they can become the subject of quantitative calculations these propositions call for further investigation of the conditions governing the satisfaction of minimum human needs. They open the way to the inclusion of human costs, in Professor Perrouxs sense of the term, in considering economic development policies.

The analysis of manpower requirements is another field in which economics and education meet. While it is not yet possible to calculate a 'human capital output ratio' which would make it possible to estimate

1. S. Strumilin, *La Planification en U.R.S.S.*, Paris, 1947.
2. B. Hoselitz, in: *Tiers-Monde*, No. 1-2, Paris, 1960.
3. F. Perroux, 'Note sur le Niveau d'Aspiration et le Niveau d'Attente', *Revue des Sciences Économiques*, September 1961, p. 9.
4. Branco Horvat, 'The Optimum Rate of Investment', *Economic Journal*, December 1958.

the volume of investment in training required to reach a given target of growth, attempts have at least been made to ascertain shortages of skilled personnel and to define short-term and long-term requirements so that an order of priority can be established in the field of education. The International Labour Organisation has for several years been engaged in standardizing the classification of occupations,[1] using this method of analysis for estimating the needs of the economy as far as vocational training is concerned. For the purpose of medium-term forecasting, countries having centralized economies use the method of balances in drawing up manpower plans in accordance with the balances established for supplies and finance. In France, the Planning Commission has a Manpower Committee which is responsible for translating the planned targets in terms of employment, and in the light of the growth forecast for each sector of the economy, and of the hypotheses for increased productivity in each sector. The object of its work is not merely to define the conditions required for a balanced supply and demand in employment, but also to anticipate bottle-necks in the supply of skilled personnel and suggest remedies.

However, these medium-term forecasts have not succeeded in establishing a link between the economy and education except in the limited sphere of vocational training. This is because other types of training take much longer (from five to fifteen years) to become adjusted to the development of economic needs: the periods required for school construction and for teacher training, for example, have to be added to the time taken for training pupils. This explains why most educational plans have been drawn up without regard to manpower requirements.

Latterly work has been done to formulate—though still empirically—methods of establishing long-term forecasts of these requirements. It is not possible, in fact, to use the same methods here as for medium-term forecasting: the techniques of linear programming are not employed when it comes to making forecasts covering a long period, nor can hypotheses for productivity be based on the extrapolation of past trends, owing to such still unforseeable factors as the development of technological progress. F. Harbison has estimated Nigeria's requirements in intermediate and senior supervisory staff in 1970[2] by formulating a series of 'reasonable hypotheses' concerning growth in each sector of economic activity and assuming that productivity would remain unchanged. The Puerto Rico Planning Bureau adopted the hypothesis of a 6 per cent annual increase in the national income from 1955 to 1975, dividing this increase between eight sectors of activity; and it also assumed that by 1975 the productivity level in Puerto Rico would be the same as that of the United States in 1950. In Italy, SVIMEZ used a similar method to estimate manpower needs for 1970, assuming that by that date the productivity level would be comparable to

1. *International Standard Classification of Occupations*, Geneva, 1958.
2. F. Harbison, in: *Investment in Education*, Lagos, Federal Ministry of Education, 1960.

that of France in 1950. In France, the Manpower Committee recently made one estimate of requirements in 1970 by employing a method resembling that of SVIMEZ, and another based on the employers' forecasts; but the two results are not comparable.

Although these first attempts to forecast training requirements are of dubious accuracy it is already possible to draw from them certain methodological indications.

At the outset a system of classification for the analysis of human capital must be selected, capable of application to both economic categories and those of the educational system.

The active population should therefore be divided into sectors of activity corresponding to those used in the national accounting system, thus making it possible to use tentative long-term accounts. It should also be classified horizontally by educational levels, and not according to categories of occupation, which are too numerous and too ill defined from the standpoint of training. This means that for each country, equivalences would be established between the levels of vocational training corresponding to the principal stages in the educational system—primary, short secondary (including technical education), extended secondary, and higher. The workers can thus be differentiated according to the number of years of their training (actual number, and that deemed desirable at the end of the period forecast). Incidentally, there is nothing to prevent the use of separate sub-categories for types of training characteristic of certain special types of education, such as vocational training, technical education, higher scientific education, and so on.

Clearly manpower statistics will have to be reinterpreted if such a classification is to be made, for they have so far been based on very different occupational criteria. For example, the labour force for the French manufacturing industry would need to be classified in the following categories:

1. Unskilled or semi-skilled workers: seven-years' study with, in some cases, an additional few months of vocational training at the compulsory schooling level.
2. Skilled workers, foremen and clerical staff: ten to eleven years' study (technical and commercial education, secondary vocational training, etc.).
3. Technicians and skilled clerical staff; twelve years' study (level of extended secondary education, either technical or general).
4. Senior technicians and highly qualified clerical staff; fourteen years' study.
5. Engineers and senior administrative staff: sixteen years' study (level of the *licence* or of the engineering colleges).
6. Engineers and highly qualified administrative staff: eighteen years' study (level of the *écoles d'application*, or the doctor's degree).

It may be preferable, in countries in process of development, to make a distinction between illiterate workers (category 1), semi-skilled workers (complete or partial primary education), skilled workers (short secondary education or technical education), intermediate technical and administrative staff (extended secondary education) and senior technical and

administrative staff (higher education). These levels of study may be raised, incidentally, by an educational policy adapted to the needs of the economy—which may be reflected in increased productivity, with or without an increase in capital.

'Human capital' can in these circumstances be represented in the form of a graph consisting of a pyramid with five or six levels for each sector of activity, and expressed in monetary terms according to the cost of training. The pyramid resulting from totalling the data for each sector will give the general profile of the active population of the country concerned at the beginning and end of the period covered by the forecast, thus making it possible to determine the changes to be made in the pyramid of the educational system in order to modify the structure of the labour force.

The application of these methods is fraught with many difficulties, of course: long-term productivity hypotheses are still highly unreliable; tentative long-term accounts have been attempted only in a few countries; a census of the population rarely includes (as it does in the United States) an indication of the number of years of study completed; the criteria to be used for specifying desirable changes in the distribution of training levels remain vague; and little is known about the rates of internal promotion, often very high, which modify the equivalence of levels of vocational skill in relation to levels of training. Moreover, it is difficult to determine the optimum level of expansion of any educational system in terms of a given target for economic growth, since both require the largest possible additional number of qualified workers. A model with two sectors—teachers and non-teaching workers—would need to be prepared in order to make clear what distribution of human resources between education and the economy is desirable.

The present uncertainties arise from the fact that only recently have training problems been studied from the economic angle, and that only now is the field of long-term forecasts beginning to be explored. It is already possible, however, to form some idea of the progress that might be made in the analysis of the human factors of growth—progress which will enable us, in the near future, to determine more rationally the desirable relationships between the different levels of the educational system, the priorities to be established and the financial and human resources to be devoted to training people for economic development.

This method of studying education as a means of preparing people to play an active part in the economy will also make it possible to direct educational reforms in accordance with society's new needs. The yield from educational systems, considered as industrial undertakings, appears low partly owing to losses represented by failure at school and repetition of classes, and partly owing to the very slow progress in methods of training. Efficiency has not been such an overriding consideration in education as in the other sectors of the economy, and the 'propensity to innovate'[1] is

1. F. Perroux, *L'Économie du XX^e Siècle*, Presses Universitaires de France, 1961.

weaker there—as is only natural for an institution whose mission is to preserve and pass on knowledge and values. There is no doubt that great progress can be made, as concerns the efficiency of teaching, the organization of a sector which employs an ever larger proportion of the labour force, and the more judicious use of the time of the pupils, who, in the most advanced industrial countries, already make up one-quarter of the population.

Concern with the development of human resources also leads to a broadening of the concept of education; teaching adults to read and write in countries where a considerable proportion of the population is still illiterate, and continuing education in all communities now developing at an accelerated pace, might well be considered as conditions of economic growth, and would then more easily secure recognition as priority objectives of development. The mobilization of the unemployed labour force (disguised unemployment), which has sometimes been referred to as a 'human investment', may also be considered in relation to training: it has been found that the profitability of work thus carried out without capital (or with very small investment) depends largely on the number and quality of the personnel supervising this unskilled labour force. Where there is one foreman for every hundred workers, only low productivity tasks can be undertaken (earthworks, road repairs): but if this force includes a higher proportion of skilled and semi-skilled workers, more productive work (building, etc.) can be accomplished. It can be argued, in this extreme case, that education multiplies employment, in the sense that the expenditure on training skilled workers makes it possible to employ a much larger number of workers on productive tasks.

In the foregoing observations, the human factors of increased productivity have been considered only in terms of education. We have thus inevitably neglected the other elements, in particular pure and applied research, which has been under study for some time from this same point of view. It should merely be noted that research is one of the components of the level of higher education, which produces both highly skilled senior staff and research workers. From this point of view, this category is seen to be a strategic sector of educational systems, since upon it depends the capacity to innovate and to apply innovations and the ability to extend the present frontiers of technological progress, social progress and economic growth.

As we have seen, the work done in different disciplines appears to converge towards a common concept—that of the cultivation of human resources as a factor and objective of development. Can we conclude from this that the concept of human capital is now scientifically established? Mary J. Bowman[1] and R. S. Eckaus[2] have listed the analogies that may be

1. Mary Jean Bowman, Human Capital: Concepts and Measures, in: Hugo Hegeland (ed.), *Money, Growth and Methodology*, Lund (Sweden), C.W.K. Gleerup, 1961.
2. R. S. Eckaus, *On the Comparison of Human Capital and Physical Capital*, MIT, Center for International Studies, March 1961.

drawn between human capital and physical capital. As we have seen, the resemblances between them are numerous; the stock of human capital can be measured by years of study, the cost of its formation can be calculated and the increase in productivity resulting from its growth can be measured; and its amortization can be represented by the amount of expenditure on training required to renew the stock of manpower; investment in training can also be likened to physical investment, and its volume and nature determined in respect of an economic development target.

But these resemblances have their limits; while human capital and physical capital are both required for the production of goods, and can therefore be regarded as factors of growth, man obviously presents irreducibly specific characteristics which it would be superfluous to seek to demonstrate. Men are not bought and sold, man remains the master of his own labour power (at any rate at the individual or micro-economic level); and last but not least, man is not only a producer, but the end-object of the economy, the very goal of development.

Seen against this wider background, the term 'human capital' resumes its place as a useful and to some extent operative concept which has made it possible to focus economic analysis on a hitherto over-neglected factor of growth and to underline the need to maintain a balance, to determine an optimum, between physical investment and the training of human beings. We can restore man to his due place in the economic system and in the community without going to the length of reducing him to a machine.

TEACHING METHODS AND THEIR COSTS

Productivity of present educational systems

CHARLES BENSON

In this paper I shall make some observations (a) on factor costs in the schools and (b) on efforts that have been made to measure the returns from education. The discussion will be limited to public elementary and secondary education in the United States of America. To restrict the discussion to one country is admittedly to give it a somewhat 'provincial' scope. However, that we deal only with public elementary and secondary schools is less restrictive, since these institutions represent the largest single educational activity in the United States and, I believe, display major problems of resource utilization in clear and extreme forms.

COSTS OF INSTRUCTION

In 1957-58 total expenditure on public elementary and secondary schools was $13,500 million. Approximately three-quarters of the sum was applied to current operations; one-quarter was spent on capital outlay (land, buildings, new equipment) and interest. Of current expenditures ($10,300 million), the largest share, i.e., $6,900 million or 67 per cent, fell under the functional classification of instruction. The remaining categories in the current budgets covered such operations as transportation services, operation and maintenance of physical plant, health services, administration, etc.[1] In the comments to follow I shall deal mainly with instructional expenditures, for two reasons. First, a certain amount of the effort to provide shelter (and, say, health services) for pupils and teachers would in any case have to be made in a modern society, regardless of whether the persons so sheltered (or nurtured) were engaged full-time in educational activities; second, in so far as instructional and non-instructional expenditures *are* related, it is more likely to be changes in the former than in the latter, that lead to changes in the volume of auxiliary services.

1. *Biennial Survey of Education in the United States, 1956-58,* Office of Education, U.S. Department of Health, Education, and Welfare, 1961.

Instructional expenditures in terms of real costs

Let us consider growth in instructional expenditures during the period 1929/30 to 1957/58. In current dollars, the size of the instructional budget changed by a factor of 5.2, i.e., from $1,318 million to $6,901 million. This rise reflects inflation, growth in the student population to be served, changes in standards of attendance, and, presumably, some gain in quality of inputs. Certain peculiarities of the educational budget should be noted before attempting to measure movements in real costs. Salaries of instructional personnel are the largest single item: $1,250 million in 1929/30 and $6,368 million in 1957/58. (Instructional salaries represented 95 per cent of total instructional expenditures in 1929/30 and 92 per cent in 1957/58.) The ratio of students to instructional staff is relatively constant. For example, in 1929/30, there were 24.9 students in average daily attendance per staff member; in 1957/58, the corresponding figure was 22.3.[1] This is a difference of only 10 per cent over a twenty-eight-year period. It follows that the process of deflating the salary portion of the instructional budget by the average of teachers' salaries will show an almost constant flow of real imputs per pupil into the educational activity.[2]

I am willing to assume that a rise in teachers' pay has some effect in raising the calibre of staff. That is, I do not believe that rises in average teachers' salaries should be regarded wholly as inflation. Accordingly, I have prepared estimates (Table 1) of the real inputs in the instructional programme, per pupil per day, using the average of all earned income in the United States as the deflator for the salary portion of the budget.[3] (The remainder of the instructional budget—for books and a wide variety of supplies—is deflated by the U.S. Department of Labor's wholesale price index; this whole non-salary component, as mentioned, is a minor item as compared with the salary expenditures.) Instructional expenditures in constant (1949/50) dollars are shown to have risen from $.748 per pupil per day in 1929/30 to $.915 in 1957/58, an increase of 22.3 per cent in real inputs. Advocates of higher spending on education are not likely to be impressed by such a gain, however, especially when *per capita* gross national product in constant (1954) dollars went up by 60 per cent during the same years.

The gain of 22.3 per cent was not spread evenly over the grades. The period 1929/30 to 1957/58 was marked by a much more notable increase

1. These and all similar data in this article were taken from the following issues of the *Biennial Survey:* 1928-30; 1938-42; 1948-50; and 1956-58.
2. For example, see the estimates of Werner L. Hirsch in: 'Analysis of the Rising Costs of Public Education', Study Paper No. 4 in: *Material Prepared in Connection With the Study of Employment, Growth, and Price Levels,* Joint Economic Committee, U.S. Congress, 1959. Use of own-salary deflators (or, what is the same thing, measurement of real inputs of public employees by man-hours) is the standard practice, of course, of the national income accountants of the U.S. Department of Commerce.
3. These salary data are prepared by the U.S. Department of Commerce and are listed as average annual earnings per full-time employee.

TABLE 1. Instructional expenditures per pupil per day in current and constant dollars, selected years, 1929/30 to 1957/58

	Current dollars[1]			Constant dollars[2] 1949/50 = 100		
Year	Salaries	Other expenditure	Total	Salaries	Other expenditure	Total
1929/30	0.340	0.017	0.357	0.719	0.029	0.748
1939/40	0.360	0.013	0.373	0.822	0.026	0.848
1949/50	0.730	0.054	0.784	0.730	0.054	0.784
1957/58	1.210	0.101	1.311	0.829	0.086	0.915

1. Deflated by index of average annual earnings of full-time employees in the United States, 1949/50 = 100.
2. Deflated by U.S. Department of Labor, Wholesale Price Index, with base shifted to 1949/50.
Sources: Office of Education, U.S. Department of Health, Education, and Welfare; Office of Business Economics, U.S. Department of Commerce; Bureau of Labor Statistics, U.S. Department of Labor.

n secondary enrolments (up 79 per cent) than in primary (up 21 per cent). From first-hand observation, I would judge that expenditures per pupil are usually some 30 per cent higher in the secondary grades than in the primary; it is, however, difficult to obtain national data on this point. In any case, it is highly likely that the increase in real inputs per pupil per day in the primary grades was considerably less than 20 per cent over the last twenty-five years. Whereas the average annual rate of increase in real inputs for elementary and secondary instruction together was 0.7 per cent, that for elementary alone may well be close to 0.5 per cent.

Differences among the states

The figures I have noted above are national averages. Actually, there are fifty school systems in the country, one per state. Expenditures of the systems are highly correlated with individual state income. The differences in instructional expenditures between the rich and poor areas are worth investigating. Table 2 lists instructional salary expenditures per pupil per day in current dollars for five high-income and five low-income states. The differences are quite large, larger probably than can be accounted for by differences in cost of living and by differences in the non-monetary advantages of location of work. Hence, while it appears true that the real inputs in education have increased during the last twenty-five years, it also appears true that the geographical distribution of educational opportunities is quite uneven. In this connexion it is worth noting the substantial differences in expenditure levels *within* the states as well, i.e., from one school district to another.

THE PRESSURE TOWARD HIGHER STANDARDS OF INSTRUCTION

Citizens in the United States have not been extremely cost-conscious with respect to public services. As Robert C. Wood has stated, '. . . few inhabitants . . . of the nation . . . have ever looked to their local governments to

TABLE 2. Instructional salary expenditures per pupil per day in five rich and five poor states, current dollars, 1929/30 and 1957/58[1]

States	Salary expenditures		Absolute change
	1929/30	1957/58	
Rich			
California	0.52	1.44	+ 0.92
Connecticut	0.39	1.42	+ 1.03
Delaware	0.35	1.56	+ 1.21
Nevada	0.45	1.41	+ 0.96
New York	0.53	1.74	+ 1.21
National Average	*0.34*	*1.21*	+ *0.87*
Poor			
Alabama	0.19	0.78	+ 0.59
Arkansas	0.18	0.74	+ 0.56
Kentucky	0.21	0.78	+ 0.57
Mississippi	0.18	0.63	+ 0.45
South Carolina	0.21	0.76	+ 0.55

1. Rich states are the five highest in terms of *per capita* personal income in 1960 : the poor states were similarly chosen. Ranking by income is quite stable from one point of time to the next.
Sources: Office of Education, U.S. Department of Health, Education, and Welfare; Office of Business Economics, U.S. Department of Commerce.

"optimize" or "maximize" anything'.[1] Taxation is opposed, but the resistance to it is focused on the degree of alleged public 'inefficiency', not on the question of whether too large a volume of services has been provided. On the other hand, voters occasionally demand a larger volume of services but, when they do so, they usually fail to make a connexion between such expansions and the increase in taxation required to finance them.

In the post-war period we have seen a considerable increase in demand for higher standards of instruction in the local school systems. In part, this is a matter of public acceptance of the ever-higher goals set by professional educators.[2] Such acceptance comes naturally to the people of the United States of America, because of their long-standing belief that educational opportunities should be widely distributed. Of late, the view that education of high quality has an important bearing on economic strength and, even, on national defence has also gained acceptance. Lastly, many parents feel acutely the need for improvement in schools so that their children may have a better chance to gain admittance to a satisfactory college, such admittance having become quite highly competitive.

1. Robert C. Wood, *1400 Governments*, Cambridge (Mass.), Harvard University Press, 1961, p. 198.
2. See Charles R. Adrian, 'Metropology: Folklore and Field Research', *Public Administration Review*, Summer 1961, p. 156. He states, '... "shortages" exist in considerable part because they are defined in terms of the standards of the professionnals in the various fields and we may be sure these are standards we can never catch, for they disappear before us like gossamer on an autumn wind'.

The response of local school boards to the demands for higher standards of performance has not been to hire more teachers per 100 pupils, i.e., there has been no serious effort to reduce class size, except in cases where the number of pupils per teacher far exceeded normal standards. Such an attack would have required increases in tax levies far above the traditional pattern of advance.[1] Given that citizens of the local district benefit in uneven measure from increases in educational output (e.g., parents receive more benefit than non-parents) and given that, owing to the differences in level of support in a decentralized structure, the aggrieved taxpayer can always point to some other district which 'has just as good schools at half the cost of ours', the traditional pattern of advance in tax rate cannot be seriously violated.

In most districts the response has been rather to offer somewhat higher teachers' salaries (nationally, the advance in the average of teachers' pay has been about 5 per cent a year for the last ten years) and to provide improvements in physical plant, albeit in the conventional structural forms. More recently, the progressive districts appear to have come to the following conclusions: (a) that the actions of the individual district with regard to salary have very little effect on the calibre of the candidates attracted to teaching, i.e., on the character of basic recruitment to the field; (b) that there are limits to the quality of staff that can be drawn from the existing supply of teachers' services; and (c) that the conventional type of schoolhouse may not serve to accommodate new instructional practices that may he brought about by advances in educational technology. Thus, we find some school districts responding to the rising demands in ways that are highly eclectic and frankly experimental.[2]

The changes in instruction might be divided into three categories: (a) revision of curriculum, (b) redeployment of staff, and (c) use of new physical devices. As an example of revision of the curriculum, I would cite the proposal of the Illinois Committee on School Mathematics (the committee draws its membership from the Colleges of Education, Engineer-

1. For example, suppose a district has 1,000 pupils, a pupil-teacher ratio of 25 to 1, and an average teachers' salary of $5,000. It will have an annual teachers' salary budget of $200,000. Now, suppose the district considers whether to cut the pupil-teacher ratio to 20 to 1. This must be done district-wide, not school-by-school, since gross inequalities within the schools of a district are intolerable. The salary budget would increase in the order of $50,000. In addition, it would be necessary to build new classrooms, unless the district had idle ones, which is unlikely. Any lesser adjustment of the pupil-teacher ratio, however, would probably be regarded as trivial by both staff and voters. It remains true, nonetheless, that teachers appear to work less than a full year in their regular jobs. The U.S. Department of Labor (*Monthly Labor Review*, October 1961) has reported that 23.5 per cent of married males in teaching hold two jobs during the regular school year. A large proportion probably take on extra summer work. The marginal cost to a school district of garnering some of their extra hours for teaching might well be less than average cost.
2. The changes are eclectic in the sense (a) that they are not promoted by class interests, as was the earlier vocational school movement, and (b) that they are not embraced within any single 'philosophy of education', as were the changes that occurred under the 'progressive movement'.

ing, and Liberal Arts and Sciences of the University), with respect to content and methods of instruction in the subject.[1] Normally, if a school board institutes such revisions of the curriculum, a certain amount of retraining of staff in the subject is required. By redeployment of staff I refer to such practices as the use of the ungraded primary, contract correcting,[2] team teaching, and a hierarchy of subject specialists. As for the third category, some of the newer physical devices being put in use are television, language laboratories, and teaching machines.

It is too early to measure the returns of these various changes. One difficulty, of course, apart from the general one of estimating the yield of a service activity, is that any change in process in the schools is likely to yield a somewhat different set of products. That is, not only must one try to measure whether certain skills, capacities, etc., were developed, to a greater or a less degree, but also one needs to identify, if possible, which of the old products disappeared altogether and what new ones were provided.

Indeed, it is difficult to take what should be the easier first step, namely, to find what the new processes cost as compared with the old ones, for school accounting, traditionally, is rather primitive. This failure of the schools to apply the techniques of cost accounting may well result from the voters' lack of interest in public costs (provided the annual increase in the tax bill is no greater than usual). Further, the innovations are often priced to school districts at less than full cost. For example, a person already teaching in a school district may volunteer as a team leader; he or she receives, let us say, a modest extra stipend. Had the district prepared a job description of the team leader's role and sought a suitable candidate in the market, the cost might well have been several times greater. In the same context, the cost of innovation is often underwritten in part by foundations and universities in connexion with their own educational research programmes.

Lacking any measure of the costs and benefits of alternative schemes of instruction, how does a district decide to embark on a venture? First, someone in the district must become aware of the new practices, thus it must be one which is included in some kind of communication circuit. Secondly, with or without benefit of subsidy, the innovation must be absorbed within the traditional pattern of cost advance. Thirdly, the present staff of the district must see that the innovation offers some possibility for improvement in instruction. Fourthly, the present staff must feel that chances of serious harm being done to students are slight.

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1. See Max Beberman, *An Emerging Program of Secondary School Mathematics*, Cambridge (Mass.), Harvard University Press, 1958. A similar group is the Physical Sciences Study Committee, established initially at the Massachusetts Institute of Technology.
2. 'Contract correcting' is simply the practice of engaging the services of housewives in a community on a part-time basis to correct the English themes of students. This practice allows the regular teacher to assign a larger volume of writing to his students.

MEASUREMENT OF RETURNS

Even as rich a country as the United States faces difficult questions with regard to the allocation of resources to education. How much of the various kinds of educational services should be provided? The professional educator often appears to urge 'more and ever more'. The economist remains sceptical and argues that there are strong competing demands within the public sector itself and even within the sub-category of public investment in human capital. It is not clear, for example, whether the long-run return from education is greater than that from health services or internal migration—with respect to such investments in certain groups of the population, at least. Fortunately, work is well under way on assessment of returns on investment in human capital. I shall call this the macro-economic, or aggregative, approach to measurement.

There is, however, another major task of measurement which I shall call micro-economic. As we have noted, school boards are now in the position where they must make explicit choices of the means to accomplish the given ends of the schools. It is no longer up to the teacher, enclosed in the four walls of the classroom, to decide how best to carry on his or her function. Choices affecting the use of specialized human resources and the use of complex types of equipment—and which affect the whole school district in quite fundamental ways—are at present being made by the boards in the absence of clear measures of the costs and benefits of alternative schemes. There is an obvious need for data to help guide the allocation of resources *within* the educational activities.

The macro-economic view

The general approach is to relate 'additional lifetime earnings to the costs of the education associated with such earning. . . '.[1] That is, if high school graduates have lifetime earnings which exceed those of persons with, say, only eight years of elementary schooling by x dollars, and if the total cost of the (four) years of high school is y dollars, the ratio of x to y is an estimate of the return from secondary school education. In the United States this work can be said to have been begun by Harold F. Clark, of Columbia University, in his *Life Earnings in Selected Occupations* (1937). In the last few years it has received great impetus from Theodore W. Schultz, of the University of Chicago, and from Gary S. Becker and Jacob Mincer, of Columbia University.

1. T. W. Schultz, 'Education and Economic Growth', in: Nelson B. Henry (ed.), *Social Forces influencing American Education*, Chicago, University of Chicago Press, 1961 (*Sixtieth Yearbook of the National Society for the Study of Education*, Part II). See also, Gary S. Becker, 'Underinvestment in College Education?', *American Economic Review*, Vol. L, No. 2, May 1960, and Jacob Mincer, 'Investment in Human Capital and Personal Income Distribution', *Journal of Political Economy*, August 1958.

To date, the estimates of returns from education compare favourably with those from business capital. For example, Schultz estimates, using 1958 data, the return on high school education to be 11.8 per cent. The average of return on all business capital could be set at about 8 per cent. For college education, Schultz judged the return to be 10.96 per cent.[1] These estimates, though tentative, suggest that it might be good policy to see that the terms on which education is financed be made more nearly equal to those under which business capital is itself financed.

Admittedly, the estimates of returns are focused solely on the 'producer's good' component of education. That is, schooling is viewed as an intermediate product in the same way as a machine tool. There is also a consumption component; hence, the yields are necessarily underestimates of the returns from education. This is not a fair ground for criticism. But some other questions may be raised. It is perhaps doubtful whether there is a clear enough separation of the education variable as distinct from such variables as motivation, nepotism, and barriers to entry into certain of the higher-paying occupations.

Let us say, however, that the yields might be taken as a useful guide to aggregate investment in education (provided, of course, that the marginal returns do not drop too far below the averages). I still question whether the market can be relied upon as a suitable guide to what particular kind of education should be expanded or contracted. For instance, will the market tell us how medical training should be distributed as between practitioners and scientists? I fear not, just as I do not think that the market provides reliable information on the proper allocation of resources toward investment in the physical instruments of research. However, mistakes in the allocation of types of physical capital can be more quickly and easily rectified than can mistakes in the allocation of training opportunities.

The micro-economic view

It is easy to state the conditions of efficient allocation of resources in education in general terms.[2] It is not easy to apply the tools of economic analysis to real situations in the schools. The outputs are multidimensional and hard to measure. The inputs cannot be assumed to be homogeneous, but it is difficult to evaluate the qualitative differences in these inputs.

A certain amount of pioneering work in relating costs and benefits has been done by Paul Mort and his associates at Columbia University.[1] Mort has sought to determine how 'adaptable' school districts are in changing their processes of instruction and in offering a larger number of products. In general, he has found that adaptability and expenditure per pupil are

1. Schultz, op. cit.
2. C. S. Benson, *The Economics of Public Education*, Boston (Mass.), Houghton-Mifflin Company, 1961, Appendix C.

positively related. However, Mort's approach includes no serious attempt to evaluate the yield to the student (or to the society) of one set of products as compared with another, nor does it offer a means of evaluating the relative efficiency of one set of processes as compared with another.

More recently, Joseph A. Kershaw and Roland N. McKean have suggested that systems analysis can be applied to the schools. In a simplified example, they propose that one might evaluate innovations of assumed equal dollar cost (change in pupil-teacher ratio, change in salaries of teachers, expansion of the guidance programme, etc.) in terms of the apparent effect on pupil achievement scores.[2] For the given increment in the size of the school budget the type of change that had the greatest positive effect on scores of the students generally (or on that class of students in which the school authorities had the greatest interest) would be preferred.

My own feeling is that refined judgements about allocation of resources in education can be made only when the teaching process is subject to close scrutiny. There do not yet seem to be available means of measurement which are both effective and not unduly disruptive of the process itself. One particular innovation, however, may open the way to observation of at least some parts of teaching activity; I refer to teaching machines.[3] These devices can record student responses to the specific items of programmed instruction. Further, a central machine could serve as storage of the data concerning the individual students for research purposes. Such data might make it possible to find what parts of the subject being taught are learned quickly and which parts are mastered with difficulty by students of different levels of intelligence and of different socio-economic backgrounds. It might be possible to see to what extent proficiency in particular aspects of one subject, say, mathematics, strengthens the ability of a student to learn another, say, physics. It might even become possible to judge the relative efficiency of the various kinds of non-machined instruction, thus the better to judge what specific types of specialized human resources should be employed in the schools and how they should be employed. The ultimate goal would be a more efficient use of the student's time, the scarcest of all resources in education.

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1. Paul R. Mort, Walter C. Reusser, and John W. Polley, *Public School Finance*, 3rd ed., New York, McGraw-Hill Book Company, 1960, Chapter 5; Lorne H. Woollatt, *The Cost-Quality Relationship on the Growing Edge*, New York, Teachers College, Columbia University, 1949.
2. Joseph A. Kershaw and Roland N. McKean, *Systems Analysis and Education*, Research Memorandum 2473-FF, Santa Monica (Calif.), The Rand Corporation 1959. Kenneth Deitch has made a similar proposal for evaluating alternative programs of expenditure in higher education. See his 'Some Observations on the Allocation of Resources in Higher Education', *Higher Education in the United States*, Seymour Harris (ed.), Cambridge (Mass.), Harvard University Press, 1960.
3. For a discussion of teaching machines, see Eugene Galanter (ed.), *Automatic Teaching: the State of the Art*, New York, John Wiley and Sons, Inc., 1960.

EDUCATION AND ECONOMIC DEVELOPMENT[1]

W. Arthur Lewis

INTRODUCTION

Poor countries cannot afford to pay for as much education as richer countries. They have therefore to establish priorities in terms both of quantity and of quality.

The requirements of economic development help in setting priorities, but they are not overriding. Education was not invented in order to enable men to produce more goods and services. The purpose of education is to enable men to understend better the world in which they live, so that they may more fully express their potential capacities, whether spiritual, intellectual or material. Indeed, through the centuries the traditional attitude of 'practical' men towards education has been that it unfits its recipients for useful work. Certainly, most people would agree that education is desirable even if it contributed nothing to material output.

From the standpoint of economic development, one may distinguish between types of education which increase productive capacity and types which do not. Teaching an African cook to read may increase his enjoyment of life, but will not necessarily make him a better cook. Education of the former kind I have called 'investment education', while the latter kind is called 'consumption education'. From the standpoint of economic development, investment education has a high priority, but consumption education is on a par with other forms of consumption. The money spent on teaching cooks to read might equally be spent on giving them pure water supplies, or radios, or better housing, and must therefore compete in the context of all other possible uses of resources. In this perspective the needs of economic development help to determine the minimum amount which must be spent on education. How much to spend above this minimum depends on how rich the society is, and on competing claims. This article is confined to seeking to discover the nature and limits of investment education.

1. This is a substantially revised and extended version of a paper presented to the Unesco Conference on the Educational Needs of Africa, held at Addis Ababa from 15 to 25 May 1961.

ABSORPTIVE CAPACITY

It is fundamental to this approach that the amount of education which 'pays for itself' in a poor country is limited. Some confusion has been caused by applying to these countries the conclusions of statisticians who try to measure the yield of education in rich countries, and who emerge with such conclusions as that the yield of investment in humans exceeds the yield of investment in physical resources. In the first place, investment in humans is not to be equated with education, as normally conceived in institutional terms. Human capacity is improved by education, public health, research, invention, institutional change, and better organization of human affairs, whether in business or in private or public life. To attribute all improvements in productivity to education would therefore be more than a little naïve. Secondly, rich countries have a greater capacity to absorb the products of schools than have poor countries; so even if we could isolate the average yield of various types of education in rich countries, this would throw no light on the marginal yield of similar types in poor (or for that matter in rich) countries.

An over-supply of educated persons is a familiar feature in poor countries: e.g., the over-supply of university graduates in India in the 1930's, or the over-supply of primary school graduates in some West African countries today. An education system may very easily produce more educated people than the economic system can currently absorb in the types of job or at the rates of pay which the educated expect. This is a short-period phenomenon. In the long run the educated learn to expect different jobs and to accept lower rates of pay. But the long run may be very long, and the jobs accepted may gain very little from the education received.

Part of the difficulty of absorption is because the education system produces the wrong kinds of education. The balance between primary, secondary and higher education; between general and vocational studies; between humanities and sciences; or between institutional and in-service training—all these need to be blended in the right proportions if education is to be a help rather than a hindrance to economic development. Because the pattern of education was formed many centuries before the modern technological revolution occurred, most education systems give too little weight to the natural sciences and technology, whether at primary, secondary or higher levels, so that a surfeit of persons trained in literary studies, side-by-side with an acute shortage of persons trained in scientific, biological or mechanical arts, is a feature of several countries. Careful survey and planning are needed if the education system is to produce the balance of skills which the community exactly needs at its particular stage of development.

Nevertheless, the problem is not wholly or even mainly one of balance. The main limitation on the absorption of the educated in poor countries is their high cost, relative to average national output per head. In a country where most people are illiterate, the primary school graduate, whose only skills are reading and writing, commands a wage much higher than a

farmer's income. A university graduate who, in a rich country, commences at a salary about equal to a miner's wage, may in a poor country receive five times a miner's wage. In consequence all production or provision of services which depends on using educated people is much more expensive, in relation to national income, in poor than in rich countries. The poor countries may need the educated more than the rich, but they can even less afford to pay for or absorb large numbers of them.

In the long run the situation adjusts itself because the premium on education diminishes as the number of the educated increases. Either the educated have to accept less, or else they are unable to resist the pressures which cause the wages of the less educated to rise faster than their own. The grumbling of the middle and lower middle classes as their privileges diminish is a universal phenomenon, and not infrequently has political consequences. Upper classes based on land or capital have always favoured restricting the supply of education to absorptive capacity, because they know the political dangers of having a surplus of educated persons.

The situation is particularly acute in Africa, where senior administrative salaries have been considerably above similar salaries in Europe, in order to attract European recruits. In consequence, the range of personal incomes is wider than anywhere else in the world; much wider than in Asia, where senior salaries are only about half of their European equivalents. Now that Africans are taking over the top administrative jobs, they are asking, in the name of the sacred principle of non-discrimination, to be paid the same salaries as Europeans, as if it were necessary to spend 50 per cent more on them to attract them away from positions in Europe. Many African politicians have condemned this ridiculous proposition, which handicaps development by making it unnecessarily expensive and places an unnecessary burdan on the mass of the population. The ultimate outcome cannot be in doubt, but much passion will be expended on the way.

As the premium on education falls, the market for the educated may widen enormously. Jobs which were previously done by people with less education are now done by people with more education. The educated lower their sights, and employers raise their requirements. Primary school teaching illustrates this admirably. In the poorest countries, the requirement is completion of a primary school education. At the next level, it is completion of a secondary education. In most American states it is now completion of a college education; and in one or two American cities one cannot become a primary school teacher without an M.A. degree. Similarly, ten years ago, people wondered what the United States would do with its flood of college graduates; but as the premium on college graduates has diminished, business men have decided to hire increasing numbers even for jobs requiring no special skill.

As a result of this process an economy can ultimately absorb any number of educated people. It follows that it is erroneous, when making a survey of the need for skilled manpower, to confine one's calculations to the numbers that could be absorbed at current prices. One ought to produce

more educated people than can be absorbed at current prices, because the alteration in current prices which this brings about is a necessary part of the process of economic development. On the other hand, this adjustment is painful, and fraught with political dangers. Like all social processes, it requires time for relative smoothness.

PRIMARY EDUCATION

To give eight years of primary education to every child would cost at current prices about 0.8 per cent of national income in the United States, 1.7 per cent in Jamaica, 2.8 per cent in Ghana and 4 per cent in Nigeria. The main reason for this wide difference is that, while the average salary of a primary school teacher is less than one-and-a-half times the *per capita* national income in the United States, a primary school teacher gets three times the *per capita* national income in Jamaica, five times in Ghana, and seven times in Nigeria. If the cost of education is to be kept within taxable capacity, widespread provision of education belongs to a stage of development where the premium on education has already diminished to reasonable proportions.

Apart from its cost, universal primary education, if attained with speed, raises problems of absorption. In a community where only 20 per cent of children enter primary school, and only 10 per cent finish the course, the demand for primary school graduates is such that they command considerable salaries in white-collar jobs. If the number entering primary school is pushed up from 20 to 80 per cent of the age group within ten years, as has happened in some West African countries, the result is frustration. The children pouring out of the primary schools look to the town for clerical jobs, and are disappointed when they do not find employment. The towns fill up with discontented youths, faster than houses, jobs, water supplies, or other amenities can be provided, and urban slums and delinquents multiply while the countryside is starved of young talent.

The situation is sometimes blamed on the failure of rural schools to adapt their curricula in such a way as to orientate rural children to rural life. This, however, is only part of the problem. The primary school leaver's expectations derive not from the curriculum but from the status which his immediate predecessors have enjoyed. In a developed economy the wage of an unskilled labourer (which is all that primary education produces) is about one-third of the average income per occupied person; but a primary school leaver in Africa expects about twice the average income per occupied person. Obviously, if literacy became universal it would be impossible to pay every literate person twice the average income. If the primary school leaver is to get twice the average income, he can fit only into those parts of the economy which yield twice the average income, and the rate of absorption of primary school leavers then depends on the rate at which these modernized sectors of the economy are expanding. He will fit into a revolutionized agriculture, with modern practices and equipment, but it is useless to expect

him to fit into the three-acres-and-a-hoe farming of his father. Any good primary school will widen a child's horizon and create expectations which primitive farming cannot fulfil. So even if rural schools concentrate on rural life, their products are bound to suffer frustration unless the whole social fabric of agriculture is being modernized at the same time.

Cutting the cost of education by reducing the length of the primary course makes absorption still more difficult. Several African countries have now adopted a six-year primary course. This means that hordes of youngsters are turned on to the labour market, aged twelve, with high expectations and low skills. In part this is a borrowing from British, French or American systems, where universal six-year primary education is followed by universal schooling of some secondary type for at least a further three years. In the absence of this secondary stage, African countries would do better, from the standpoint of absorption into the economy, if they gave primary education to fewer children for a longer period of, say, eight or nine years.

The limited absorptive capacity of most West African economies today —especially owing to the backwardness of agriculture—makes frustration and dislocation inevitable if more than 50 per cent of children enter school. This, coupled with the high cost due to the high ratio of teachers' salaries to average national income, and with the time it takes to train large numbers of teachers properly, has taught some African countries to proceed with caution; to set the goal of universal schooling twenty years ahead or more, rather than the ten years ahead or less associated with the first flush of independence movements. Such a decision is regarded as highly controversial by those for whom literacy is a universal human right irrespective of cost, or who feel that it is better to be taught by untrained teachers than not to be taught at all, or who see in the frustrations generated by the incapacity of the current social fabric to absorb, the very stuff which will promote needed change rapidly. On the other hand, considering that in most African territories less than 25 per cent of children aged six to fourteen are in school, a goal of 50 per cent within ten years may be held to constitute revolutionary progress.

SECONDARY EDUCATION

If the poorer countries tend to expand primary education too rapidly, their failure to make adequate provision for secondary education is a major handicap to economic development.

The products of secondary schools are the officers and non-commissioned officers of an economic and social system. A small percentage goes on to university education, but the numbers required from the university are so small that the average country of up to five million inhabitants could manage tolerably well without a university of its own. Absence of secondary schools, however, is an enormous handicap. These schools supply the persons who with one or two more years of training (in institutions or on the job)

become technologists, secretaries, nurses, school-teachers, book-keepers, clerks, civil servants, agricultural assistants and supervisory workers of various kinds. The middle and upper ranks of business consist almost entirely of secondary school products, and these products are also the backbone of public administration. To have to import large numbers of people at this level, paying them in salaries and allowances two to three times more than what they could get in rich countries, is a blow to most development schemes. In industry it makes production costs absurdly high. In public administration it puts many desirable schemes—such as agricultural extension or nursing services—beyond the range of taxable capacity. While, as for democratic social life, the absence of a good sprinkling of educated people, serving voluntarily in public agencies (local government, co-operative societies, etc.) and acting as an informed public opinion, exposes society too easily to deception and corruption.

When one compares the countries which have become independent since the second world war, there is a clear difference between those whose business and public affairs are still run mainly by expatriates, under ministers of the country, and those which are really competent to run their affairs at all levels, because their secondary schools have supplied streams of people for intermediate and higher posts in business and administration.

The proportion of the population needed in secondary schools is a function of the level of development. If we include nurses, secretaries and school-teachers, the proportion of the adult population holding jobs for which a secondary grammar school education is now normally considered an appropriate preliminary is about 5 per cent in Jamaica. This is higher than the proportion who have actually completed secondary education. It represents the number of jobs for which a secondary education would now be expected. In African countries the current proportion is very much smaller, because the subsistence sector is so much greater. The number who have received secondary education is only a fraction of 1 per cent, while the number holding jobs for which a secondary education is considered appropriate is probably between 1 and 2 per cent.

One can calculate the percentage of the age cohort who should receive secondary education from the formula

$$x = \frac{n\,(a + b + c)}{m}$$

where x = proportion of age cohort to be recruited; n = ratio of number of secondary-type jobs to adult population; m = ratio of number in age cohort to adult population; a = normal percentage wastage of nationals of the country; b = abnormal wastage due to replacement of expatriates; c = percentage rate of growth of the number of secondary-type jobs.

Of these c is the most difficult factor to assess. In a community such as the United States, which is already nearly saturated with secondary-type jobs, the rate of growth of numbers cannot much exceed the rate of growth of population. In a community like Jamaica, where the modernized

sector of the economy employs only about half the population, and is still making inroads into the numbers engaged in subsistence farming, petty trading and domestic services, secondary-type jobs probably grow slightly faster than the normal rate of growth of national income, since they depend mainly on the growth of the public sector, and of other service industries. The current growth rate in Jamaica is probably about 6 per cent per annum. In West Africa, where the modernized sector is still smaller, its expansion relative to the whole economy is still faster (especially as public services are growing rapidly) and secondary-type jobs may be growing by as much as 8 per cent per annum. In this area too, the proportion of expatriates in secondary-type jobs is abnormally high, and a large wastage figure may be expected; say, 15 per cent of that proportion in each year. One may thus guess that the percentage of the age cohort required in secondary grammar schools is:

$$\text{In Jamaica} \qquad x = \frac{0.05\ (0.02 + 0 + 0.06)}{0.04}$$
$$= 10.0 \text{ per cent}$$

$$\text{In Nigeria}^1 \qquad x = \frac{0.01\ (0.025 + 0.005 + 0.08)}{0.045}$$
$$= 2.4 \text{ per cent}$$

These ratios are just about consistent with the demand for secondary education on the part of parents. In most of the poorer countries at present, parents of about 8 to 12 per cent of the children who start primary education want these children to go on to secondary education of the grammar school type; and where government schools are not provided, many private schools of very poor quality, charging low fees, spring into existence to meet the demand. If good grammar schools are provided for 10 per cent of children entering primary school, this will just about meet both parental demand and also absorptive capacity.

The obstacle to providing secondary education in West Africa is not so much recurrent cost as capital cost. Recurrent cost is abnormal, for reasons already given. Cost per teacher is thirty times *per capita* national income in Nigeria, compared with twelve times in Jamaica, and with only twice in the United States. Nevertheless, even in Nigeria to provide grammar school education for 5 per cent of the age group costs a little less than 1 per cent of national income. The fantastic burden is the cost of building schools. One can build a good secondary school in England for £50,000; but the cost of a school for a similar number of pupils in Ghana may be £250,000. This is because many West Africans have persuaded themselves that only boarding schools are appropriate to Africa. The argument runs as follows. 'To get a fully specialized staff, a school must have twenty teachers. Therefore it must have 500 pupils. Therefore,

1. This is an average for the whole country. The situation differs widely in the three regions.

assuming 5 per cent schooling, it must draw from a population of 70,000. Since very few African towns have a population exceeding 10,000, it follows that most African towns cannot support a day secondary school. Therefore the solution has to be boarding schools.' A boarding school, complete with dormitories and staff houses, costs £250,000. The argument can be attacked at either end. Must a secondary school have twenty teachers? If, instead, it started with only six teachers, one could build a series of day schools in three times as many small towns. Even when the school has to be large, the British solution is boarding, but the American solution is the school bus, which is hardly known in Africa. Some financial sense is badly needed in planning secondary schools in Africa. It is obviously absurd to take the line that Africa's way to secondary education must be through building 'Etons' for the majority of African children.

Grammar schools are not by any means the only, or in numbers even the chief, form of secondary education. If one follows some authorities in reserving the term 'primary' for education up to age twelve, and in using the term 'secondary' for all education between twelve and eighteen, then some secondary education should be provided for all children who complete primary education, since such children are not ready for the labour market at twelve. Children who do not go on to grammar school pass into secondary schools with a practical bias, known as 'middle', 'intermediate', 'central', or 'modern secondary', or into the practical streams of 'comprehensive' schools, or again, in the French system, into the 'first cycle' of secondary schooling. Except in the United States of America, the great majority of children end their schooling here.

A few of these children are ready, at about age fifteen, to pass into vocational schools, for full-time technical training. It is hard to judge how large this group should be. People possessing the skills taught in such schools—building, metal working, engineering—comprise from 2 to 8 per cent of the working population in less developed countries, but it does not follow that 8 per cent of children should enter such schools. The traditional training for these trades is a system of apprenticeship. In the United States of America, where nearly 70 per cent of children are kept in school until age seventeen, vocational schooling has had to be a substitute for on-the-job training up to that age. Elsewhere, it is probably cheaper and more effective to rely on apprenticeship; to put not more than 2 per cent of the age cohort through full-time courses, and to arrange part-time courses for the rest.

Actually, in poor countries half the age cohort should enter agriculture. Primary and intermediate schools in rural areas have an agricultural bias, but they see the child through at most to age fifteen. Governments provide farm schools to train agricultural assistants for government service, but very few provide courses for students who wish to farm. Probably the ideal is for the child to start farming at fifteen, and then around age eighteen to go to a practical farm school for about six months to observe modern techniques. It is true that agricultural extension can be done on farms by

peripatetic agricultural assistants, but this is not an adequate substitute for an intensive course for bright young farmers, any more than 'training-within-industry' is a complete substitute for vocational schools.

When the grammar school children leave school, between sixteen and eighteen, they are ready for specialized training. The great majority will go straight into employment, and receive on-the-job training as clerks or technical assistants. Others need preliminary training of, say, from six months upwards to become secretaries, medical technicians, nurses, agricultural assistants, primary school teachers, junior engineers, or as the case may be.

Very few of the poorer countries make adequate provision for this specialized but sub-professional training. This is because the supply of educational facilities is not properly planned in relation to the needs of economic and social development. The making of 'manpower surveys' is spreading as a remedy for this defect. The technique of making such surveys is still rudimentary. Asking employers how many people they intend, or would like, to employ in various categories yields interesting answers, but these answers do not necessarily add up to absorptive capacity. It should be possible, from examining the manpower statistics of different countries in different stages of development, to produce some coefficients which would act as a check on the results yielded by questionnaires. But basic work of this kind is only just starting in the universities. Meanwhile it is clear that even rudimentary manpower surveys help governments to appreciate the need for specialized training facilities for people between ages sixteen and twenty, so greater use of such surveys is certainly to be commended.

ADULT EDUCATION

The quickest way to increase productivity in the less developed countries is to train the adults who are already on the job. Education for children is fine, but its potential contribution to output over ten years is small compared with the potential contribution of efforts devoted to improving adult skills.

This field is almost wholly neglected. In the government hierarchy it belongs not to the ministry of education but to the ministries of trade, agriculture, mining, health, communications, community development and others. Most of these ministries are too busy making new regulations and processing forms, to regard adult education as a major part of their functions.

Yet there is ample testimony to what adult education can achieve, whether in the form of training-within-industry, evening classes, or sandwich courses in urban centres; or in the form of agricultural extension, health programmes, or community development in rural areas.

Experience shows that the secret of success is to make adult education

into a popular mass movement. There is not much point in offering adult classes if adults do not wish to attend classes. The Danish folk movement, or the Russian literacy campaign or any other adult education movement has been successful in so far as it has stirred the imaginations of the people, and created a mass desire to learn. Some popular African leaders, such as M. Sékou-Touré of Guinea, understand this very well, and are therefore likely to succeed in getting adult education, in one form or another, to contribute substantially to economic and social development. Elsewhere, adult education languishes as much for want of understanding as it does for lack of funds.

UNIVERSITY EDUCATION

The number of university graduates who can be absorbed at low levels of economic development is relatively small. The proportion of jobs in Jamaica for which a university education is now considered normal corresponds only to about five per thousand of adult population; and the corresponding figure for Nigeria, according to Professor Harbison's count[1], is only around one per thousand of adult population. We can apply to these figures the same formula and the same rates of growth as for secondary education (leaving out the coefficient for expatriate wastage, since the number of expatriate graduates does not decline with independence; there are fewer pensionable civil servants, but more expatriates on contract). We may thus guess that the proportion of the age cohort who should graduate from the university is:

In Jamaica $$x = \frac{0.005\ (0.022 + 0.06)}{0.035}$$
$$= 1.17 \text{ per cent}$$

In Nigeria $$x = \frac{0.001\ (0.028 + 0.08)}{0.04}$$
$$= 0.27 \text{ per cent}$$

The answer we get for Nigeria corresponds to about 2,200 students leaving the university each year, and is not far from Professor Harbison's estimate. The answer for Jamaica, if generalized for the area served by the University College of the West Indies, gives an output of 900 students a year, or a total undergraduate body, allowing for wastage, of about 3,300 students, compared with the current total of 980 students at UCWI.[2]

1. Cf. *Investment in Education* (Ashby Report), Lagos, 1960.
2. The total number of West Indians in universities is about 4,000 of whom 3,000 are in British, American or Canadian universities. Allowing for the longer degree courses in North America, and for the fact that a very large proportion of the students in North America are part-time students, the annual output of West Indians from universities is now probably about 900. The current shortage of graduates is due to the fact that a large proportion of those who qualify in

The postulated increase of 6 per cent per annum would bring this figure up to 5,500 students by 1970.

Most of the new African countries do not at present have enough students to justify building a university; it is cheaper for them to send their students abroad. In a country with a population of two million, putting say 0.5 per cent of the age cohort into university, the total student number comes only to 700. This is quite uneconomic for a university with the broad range of faculties which is usually sought. A liberal arts school of the American type is economic with 500 students, but to be economic a British-type combination of faculties of arts, science and social science needs about 1,200 students; medicine needs 300 students, and agriculture and engineering need 200 each. This makes about 2,000 students in round figures. All the universities founded in Africa since the war have been costing from three to five times as much per student as it costs to run a university in Europe.

In so far as these exorbitant costs are due to abnormally high staff/student ratios, ranging upwards from one to three, as against one to eight in Britain, or one to twenty in liberal arts colleges, they are temporary, and will pass as student numbers expand. But this is by no means the only cause. In British universities the average cost per teacher is about £4,000 a year. In universities in British tropical Africa the cost per teacher exceeds £6,500 a year. This is mainly because the teachers, two-thirds of whom are recruited in Britain, have to be paid higher salaries and given better allowances then they get in Britain, and cost the African universities, including passages, at least £1,500 a year more than they would cost in Britain. Even the African teachers are paid about £1,000 a year more than the African civil servants of equivalent education. On top of this, these universities are not sited in towns, where they could use public facilities (and contribute the maximum amount to public life) but have in every case been sited away from towns, where they have to maintain their own police, telephone exchange, electric power station, sewerage disposal, transport and other services, and have therefore to carry a service organization about five times as large as is carried by an urban university. For the same reason the capital cost, in terms of student hostels and houses for the teaching staff, is abnormally high, largely owing, no doubt, to the extravagant housing standards which have been traditional for Europeans in tropical Africa.

As it happens, the capital cost of African universities seems likely to be met mostly by grants from the treasuries of Britain, France and the United States; but the recurrent cost is an immense burden, except to the

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North America do not return to the West Indies: there is also considerable imbalance as between faculties. The West Indian university problem is not to have more students enter university (apart from the postulated increase of 6 per cent per annum) but to provide more university facilities in the West Indies, both to fill the gap of the students who do not return, and also because UCWI has more to offer to West Indians than they can get in foreign universities, in terms of suitable curricula as well as of emotional balance.

extent that it is met by France in the former French territories. (Costs in the West Indies are similarly extremely high.) The situation is very different in India, or in Egypt, where university lecturers are recruited locally, and cost no more than other nationals of equivalent education. Just as African educators want to build 'Etons' for every secondary school child, so also they have loaded on to the backs of their tax-payers, who are among the poorest in the world, the most expensive universities in the world outside North America.

However, even if the cost per student were no higher in Africa than in Britain, the cost to Africa of training a student in Africa would still exceed the cost to Africa of training him in Britain. This is because an African student in Britain pays only a small fraction of the cost of his training; the rest is met by the British tax-payer's grant to the universities. So long as tuition fees in Europe are negligible, it will always cost an African economy more to train students at home than it would do to send them to similar universities in Europe. (One can send a student for £600 a year, whereas even with utmost economy the tuition and maintenance cost at a British-type African university will not fall below £1,000 a year.) It is not possible for a large country to place all its students overseas, but this is feasible for a small country, especially while the percentage of students for university training is still small. From the economic point of view, therefore, one must ask: why should a small African country (or the West Indies) have its own university, when two, three or four times as many students could be sent abroad for the same money?

The chief reason why it is worth while, from the economic point of view, to have a university at home, even though it costs more than sending students abroad, is that the function of a university is not confined to teaching students. If it were merely a question of teaching, there could be no doubt about the answer. For though one can argue on either side in terms of the atmosphere of a home university, or the suitability of its curricula, or the advantages of foreign travel, the net result of such argument fades into insignificance beside the possibility of sending five students abroad for every three who might be trained at home (assuming the most economical arrangements). Only if foreign aid provides all the capital and a third of the running expenditure can a purely teaching university justify itself on economic grounds.

Apart from teaching, a university contributes to its community through the participation of its teachers in the life of the country, and through its research into local problems.

A poor country has very few educated people. To have in its midst a body of one or two hundred first-class intellects can make an enormous difference to the quality of its cultural, social, political and business life. This, however, depends on participation. If the university is built in the bush, and isolates itself as a self-contained community, it misses a tremendous opportunity of service. Countries rich in income and talent can afford to have their universities in the countryside. But the universities of poor

countries should be in the heart of urban centres, where they can do most good. The opportunities for participation are immense: membership of public boards and committees; contributions to professional societies; guidance of teacher-training colleges; availability for consultation by administrators and business people; membership of musical, dramatic, artistic and other groups; journalism and radio work; adult education classes. If the staff of the university is not giving active leadership in all these fields, it would be cheaper to close the place down, unless it is also doing excellent research.

A country needs to have some research institutions, whether it has a university or not. If the same people do teaching and research, only a part of the university cost should be charged against teaching. The question therefore arises whether teaching and research should be combined.

The British theory that every university must regard itself as primarily a research institute with students, doubles the cost per student. A research institute type of university has a staff/student ratio of one to ten (excluding medicine) with a maximum teaching load of ten hours a week; whereas a university where the staff are not expected to do research can have a staff/student ratio of one to twenty, with a teaching load of twenty hours a week. A university which adopts the British ratios must insist that any staff member who does not make significant research contributions must be fired. For a poor country in Africa or elsewhere to load itself up with the expense of a British-type university, and accept from its teachers that they should be judged primarily by research results, would be folly of a high order.

One can argue persuasively that the first university in any poor country should be of the research institute type, provided that the research test is rigidly applied to its staff. However, as student numbers expand, it becomes progressively harder to justify the multiplication of these expensive structures in poor countries. The great majority of those entering a university are not research students, and do not need to be brought to the frontiers of knowledge. What they need is a broad education, to fit them for administration, commerce, or teaching up to fifth-form level. For this, the American conception of a liberal arts degree (which combines science, humanities and social studies) is much more relevant than the British Honours degree. There should be at least one university engaging in high quality research, and offering high quality Honours degrees, on the basis of high entrance standards. But, as numbers expand, the majority should be diverted into liberal arts colleges.

Here the teacher/student ratio can be halved, and since one does not need top-flight researchers, teacher salaries can be more in line with salaries in the public services.[1] If in addition most of the students live at home, one can get the cost of a student down to perhaps two-thirds of what it would

1. The British practice of paying all university teachers according to a single scale would not be appropriate to a country which has different kinds of universities.

cost to send a student abroad. To mitigate the prejudice which exists in British circles against such conceptions, one can add that, as in the United States, any graduate of one of these liberal arts colleges who displayed special talents could go on to the major university for postgraduate training.

Similar principles could be applied to professional training, but with less justification. In every profession there are at least three layers; top-flight researchers, professionals and sub-professionals. In agriculture, there are specialists, general agronomists, and agricultural assistants trained in farm schools. Medicine has specialists, general practitioners, and a third layer of nurses, dispensing chemists and medical technologists. Engineering has its scientists, its professional engineers, and its third layer of technologists.

The proportions in which these layers are combined are different in rich and poor countries. The rich countries can afford to spend much more proportionately on research than the poor countries, so the need for top-flight scientists and specialists is proportionately greater. Such men also need long periods of stimulating work in first-class laboratories abroad, so the universities of poor countries should not try to put too much of their resources into superior training of first-class men. The bulk of their work must be the training of the second layer.

The ratio of numbers in the second to numbers in the third layer is also smaller than in rich countries. Because of the high cost of engineers, doctors and agronomists, one employs fewer of these and more technologists, nurses and agricultural assistants, who therefore carry greater responsibilities. This is reflected in the ratio of jobs for which a degree is currently considered necessary to jobs for which a grammar school education is considered appropriate, which is more like one to ten in poor countries, compared with one to five in Europe.

Because of the high cost of training graduates, it is sometimes suggested that the universities in poor countries should lower the standards of professional training, on the grounds that it is better to have, say, a hundred three-quarter trained doctors, who can be spread over the countryside, rather than seventy well-trained doctors, leaving 30 per cent of the population without a doctor. This has been done in some places. The alternative policy is to mass-produce not the second layer, but the third, and in the process even to up-grade the training of the third layer. One then floods the countryside not with low-grade dentists, but with high-grade dental assistants; not with poorly trained agronomists, but with well-trained agricultural assistants. If this policy is adopted, the corollary is to up-grade the training not only of the third layer, but also of the second layer. For the second-layer professional now has many more third-layer people working under him; he assigns to them more of the routine work, and concentrates to a greater extent on the more difficult tasks. His administrative responsibilities are also greater. From this it follows that he needs an even sounder training than his professional colleague in Europe. It is indeed quite arguable that, what with language difficulties, greater administrative responsibilities, and the need to work in isolation from specialist advice

and laboratory analysis, professionals require at least one more year of training in poor countries than they do in rich countries.

I have written at some length on university education because the economic aspects of this subject are very different in poor countries from what they are in rich countries, and are nevertheless so seldom considered. It tends to be assumed that what is right in Britain must also be right in Nyasaland. Even in Britain, university people are not good at seeing themselves in their social context; most of the best of them are too busy teaching and doing research to worry about such an abstraction as the social and economic context of a university, and when such people arrive in the tropics, it is easier for them to continue old patterns than to invent new ones. The subject is fraught with difficulty, and merits widespread informed discussion.

ADMINISTRATION AND THE ECONOMICS OF EDUCATION

HOWARD HAYDEN

> The treatment of currently or potentially productive human beings as capital and/or wealth has a long history in economic literature.
>
> *American Economic Review*, Vol. LI, No. 5, 1961, p. 1026.

> My primary job is not the reformation of society but the bringing of happiness to some few children.
>
> A. S. Neill, *Summerhill*, 1962, p. 23.

Maintaining equilibrium whilst still responding to the impetus of a variety of active but not always converging forces is one of the major objectives of good administration. It is not easily achieved in a field such as education in which progress is apt to be generated by reacting to a variety of doctrines, one after another; in which the single-minded innovator frequently proves more potent than the traditionalist majority; and in which values are apt to fluctuate considerably in accordance with current political trends.

Consider the present situation, a functional approach to which was possibly first explored as long ago as 1940 with the establishment of Sir Frank Stockdale's Development and Welfare Organization in the West Indies. The newly emergent countries of the world, the young nations of Africa, the developing nations of Latin America and Asia, have clamant needs in widely scattered areas: they need the institution of modern organs of central and local government; the intensive development of agriculture; a wide network of communications; the rapid expansion of health services; a thorough overhaul of financial machinery; and a dramatic spread and intensification of their education systems.

These objectives are both complementary and competitive and, very properly, they are now being treated as a complex of social and economic development. Based as it must be on financial resources, actual or potential, this development necessarily involves the establishment of concepts according to which priorities can be allotted.

Within this situation, education is becoming increasingly pervasive. It is urgently desired by public opinion as a mystique, as the magic formula which will solve all problems. It is the means to mastery of the vast new

fields of knowledge which have been opened up during the last fifty years. It is the production line which will deliver administrators and educators, engineers and doctors, plumbers and fitters, in the required quantities.

Among educational values, the major emphasis at present is being placed on this development and deployment of the human resources of the country. The argument is simple; its truths are self-evident; its mathematical proof yet to be established. It is socially necessary that standards of living should be raised; it is economically necessary that production should be increased to meet the bill; the means to this end is the production of the necessary manpower. Thus education becomes not a consuming service but an investment in human resources. It pays to educate, a simple fact which had not escaped the classical economists. There is a certain amount of evidence to suggest that it also pays to be educated. Nevertheless the greatest incentive to securing higher proportions of national budgets for educational purposes is, in the present climate of economic development, the belief that an educated community is a more productive community.

This concept naturally appeals to a minister of education submitting his estimates to a development committee, a planning authority or a treasury. It is a factual case; it can be illustrated by figures, figures both of the number of models to come off the production line in a given number of years, and figures showing what the production line itself is going to cost in terms of a percentage of the gross national product. It is a business-like argument.

Thus there has emerged a double concept of educational values. It is today a commonplace to see education as a form of overhead in economic development. The Ashby Report on the development of education in Nigeria is entitled *Investment in Education.* Consequently, education has become a major factor in economic planning and its end products of trained manpower, expertise and productive attitudes (as in the case of the entrepreneur) are attracting an increasing share both of national income and of foreign capital. Nevertheless, and it is here that the administrator is required to induce his state of equilibrium, lip-service at least is still paid to the old values of education as a consumer service: the development of personality and character and of the capacity to lead and enjoy the full life, the building-up of spiritual and aesthetic values. On the one hand is the planner's concept of the mobilization of manpower in terms of productive enterprise, on the other the teacher's vision of the happy child. But the two may be seen to be complementary. It is the administrator's task to appreciate the dependence of the second concept upon the opportunities made possible by the first, and to ensure, so far as he is able, that societies of necessity preoccupied with materialist concepts should still preserve a place for the less negotiable values.

The administrator's hand has of course been considerably strengthened by economic expertise. In providing capital for development, he is less susceptible to budgetary cuts than when his offering was considered a desirable but expensive service. Furthermore, the interpretation of the role

of education in economic development has led to an analysis of educational needs (largely, it must be admitted, in quantitative terms), which has given him a firm basis for establishing his budgetary requirements. As an example of this practice, reference may be made to the Conference of African States on the development of education in Africa convened jointly by Unesco and the Economic Commission for Africa at Addis Ababa in 1961, when continental targets of educational expansion were established and costed. The following hypotheses were used for calculations of the long-term plan based upon the aim of achieving the agreed goals by 1980: six-year universal, compulsory and free primary education and an average pupil/teacher ratio of thirty-five to one; 30 per cent of the pupils completing primary studies to be admitted to second level schools and 20 per cent of the pupils completing a secondary education of six years to proceed to higher education; total pupil wastage to be reduced to 20 per cent at the first level and 15 per cent at the second level.

These targets were costed and the process afforded all the African ministers of education a solid basis for the preparation of individual country plans which could be supported from studies and calculations made during the Conference; a similar process has subsequently taken place at a conference of Asian ministers of education in Tokyo.

Nevertheless, these targets are self-imposed and plans based upon them have to face competition, and in some measure have to be subordinated to collaboration with other major sources of investment. Health services, in particular preventive medicine, are essential to maintain human resources at a maximum of efficiency (as with education, there are also other factors to be brought into equilibrium). Agriculture must be developed to feed the new industrial areas and swell the productivity of the countryside. Without improved communications the newly produced wealth can neither be distributed nor marketed. The economics of development are not limited to the educational field.

This situation, clearly seen, has, however, the advantage of drawing attention to the necessity for the integration of departmental activities at the second, or interministerial, level of planning. A new school is no longer an isolated answer to a demographic demand, but one element in the development of a community through the activities of local government organization, a health clinic, a co-operative group, an agricultural extension service and a new feeder road. The picture is synthetic, but the reality by no means unattainable.

Within ministries of education, concentration on the economics of education has had a marked effect. In the first place this has lent coherence to many hitherto unco-ordinated operations of the ministry. Thanks to the long-term financial policy necessitated by economic planning, programming has become more secure in contrast to its earlier somewhat spasmodic development based upon yearly targets set within national budgets, the amounts of which could never be easily forecast. A logical basis for determining the rate of expansion of the various levels of the system has been afforded

by the over-all targets of the plan and the more detailed knowledge of manpower requirements in every section of society. Rightly, more emphasis has been placed upon 'planning', which may perhaps be defined as a process of forecasting future developments and making phased preparations to meet them. Many ministries have been able to establish or strengthen planning units capable of dealing with demographic projections, the setting-up of a statistical service and the assembly of data (including the results of current educational research) needed for the framing of policy and for subsequent evaluation.

Planning operations are likely to fall into four main categories:

1. The compilation of a tentative long-term plan, for presentation by the minister to the national over-all planning body, and the subsequent modifications of such a plan in the light of discussion (this major activity may occur perhaps once in ten years).
2. The preparation of short-term programmes representing stages in the execution of the long-term plan and, possibly the modification of the plan as future circumstances demand.
3. Continuous liaison with other ministries and bodies in the public sector concerned with education.
4. Machinery for the evaluation of the current plan and its progress.

Such concepts, it may be considered, call for trained specialist assistance to be placed at the disposal of the experienced departmental heads of the ministry rather than for the creation of a new type of master-administrator at whose skilled touch the many pieces of the educational mosaic slip smoothly into place.

In its specific activities the work of ministries is developing in a number of consequential directions. Thus, the tendency to view education as the mechanism for producing manpower at all levels has switched emphasis, or at least priority treatment, from universal compulsory primary education to education at the second level, particularly in its technical aspects. This move has in turn affected teacher-training programmes and curriculum content. Here again a stage of equilibrium has to be established.

The concept of education as an economic force has naturally raised the question of its productivity—of the efficiency of existing systems, and it may well be thought that this is not an irrelevant question when billions of dollars of external aid are being sought for the extension of these systems. Among factors now coming under examination are pupil drop-out and wastage at all stages, the maximum use and deployment of trained and semi-trained teaching personnel, the contribution of methodology to economy and efficiency in the employment of educational resources, the functional planning of buildings and the optimum use of plant and equipment, and the nature of administrative organization and procedures, particularly in relation to policies of centralization and decentralization.

The examination of teaching methodology, not unaccompanied by some wishful thinking induced by the lure of new and largely mechanized techniques, and though bedevilled by some dim concept of automation as a

solution to the universal problem of the shortage of teachers, has nevertheless not been without significance, particularly in respect of the problem of the optimum ratio of teachers to pupils at various stages of learning, based upon a careful examination of the full potentialities of teaching aids in such situations. Certainly nothing can be more welcome than experiment in this particular area, though it is scarcely proper and certainly unprofitable to anticipate the results of what must involve a long and extensive programme of research. Incidentally, it is worth noting in this context that one tendency of the present trend in educational thought appears to involve an accent upon teaching rather than research at the universities.

The expansion of educational services and the shift of emphasis towards the content of education rather than to its influence has also led to increased emphasis on a number of consequential activities. For example, the curriculum content has been re-examined with particular attention to the prerequisites in general education for all types of specialist education. Procedures of selection, pre- and in-service training programmes for teachers and the construction of functional low-cost school buildings have also been given special consideration.

At the same time there appears to be some danger that 'consumer elements' in educational activity, such as school meals services, school medical services and special education for handicapped children, may be neglected in the face of the claims of more obviously productive activities: there is a tendency in modern theory for these values to be acknowledged but for their cost to be omitted in the subsequent *per capita* calculations.

The value judgements inherent in this phase of the assessment of education appear inevitably to be weighted in favour of the more utilitarian values. An emphasis upon the content of education and upon the acquisition of skills is indeed no bad thing in itself and any critical examination of such an attitude should be directed upon the means taken to achieve this end rather than upon the end itself. Nevertheless, a society which considers material success an adequate motivation for developing its education system is likely to encounter quite as much difficulty from its frustrations and failures as impetus from its ambitious successes. If material progress is to be a main objective of education, it is still essential that it be seen as a contribution of knowledge, skills, capacities, attitudes and faith, developed in a complex environment conditioned by a number of other factors. For example, in a predominantly agricultural economy in which no major agricultural revolution through mechanization is likely to prove practicable, the solution necessary to keep people working contentedly and efficiently on the land does not lie in teaching agriculture in the schools (incidentally a task at which the teachers may be less proficient than the pupils), but rather in the favourable climate induced by land reforms, short-term credits, and the provision of extension and co-operative services. In these circumstances, the development of the individual personality and the integration of the individual with the community in which he lives are likely to make quite as much contribution to the success of the movement as any

specific skills which could be taught in schools. Here the major contribution of education to economic development is scarcely as materialistic as might be claimed, since it may well lie in the cultivation of attitudes rather than of crops.

The administrator may therefore insist that the more closely education is integrated with other forms of development, the more necessary it is to ensure that his own plans include all aspects of the educational process: the establishment of half a dozen technical schools is not likely to offer a complete response to the demands of economic development upon his system.

Moreover, in his shaping and execution of educational policy the administrator is by no means unsupported as he strikes a balance between the value judgements of the economist and the educational psychologist. The question of the less material values is probably safe in the hands of the public who, despite the possible shortcomings of their own education in these areas, expect religious, ethical or moral training to form an essential part of the school programme. The teacher, too, by vocation and, it has to be admitted, as a result of the meagre recognition given to his services by society, is scarcely likely to give undue weight to purely material success as the criterion of the good life.

The concept of education as a contributing factor to economic growth has great significance in the present 'development decade'. It is of particular value in drawing attention to the necessity for the development of education at the second and third levels. The administrator must remember, however, that education is concerned with human beings as well as human resources, and that the right of every child to education is not solely a matter of economic organization. It is perhaps also desirable not to lose sight of the fact that the best planned system depends upon a number of external factors: a major change in the economic profile of a hitherto agricultural community, an almost universal reluctance to indulge in manual labour, or a political coup, are apt to dislocate the most meticulously planned schemes.

The significant function of the economist as one of the instruments for educational administration is not merely to advocate a policy which ensures that the right number of bricklayers or botanists will be available in any given year at a feasible cost. It is to add counsel which will aid in shaping a policy designed to ensure that the educational system, in contributing to the national economy, is in turn enabled by that economy to offer more and more children a wider range of educational opportunities in accordance with their interests and their capacities.

ECONOMIC AND SOCIAL ASPECTS OF THE PLANNING OF EDUCATION

H. M. PHILLIPS

In what follows, planning means the process of setting out in advance a pattern of action to bring about given over-all national policies by the closest possible articulation of means and ends. It refers to what supreme commanders do before battle is joined, and does not cover the instructions they receive from their political masters, or the detailed operations of battalions or even whole corps, after the plan is launched. That is a separate subject of study, though the two are frequently mixed. The word 'operations' is used for the latter activities, though they too require careful consideration and forecasting as part of the over-all plan. Indeed the essence of a good over-all plan is that it evaluates as many operational alternatives as possible. Similarly every plan must contain in it a substantial margin for manoeuvre. In the economic perspective there is always some Blücher on the horizon advancing with a new piece of technology that may change the order of battle.

The need for planning arises from two basic reasons. First, that education is the main means in the hands of a society for influencing its future value system and its stock of knowledge and skills. Economic and social development requires certain basic values and attitudes, and an ever-increasing application of skills both productive and social. The extent to which these requirements are met depends greatly on the manner in which the educational system fulfils its role. Secondly, the operation of the educational system utilizes a large proportion of a country's existing stock of educated talent and, in developing countries, a major part of public expenditure. Since both the use of talent and the distribution of public expenditure are major problems of resource allocation, questions concerning the size of the educational system, as well as its nature, enter into the heart of over-all economic and social planning.

Within these two broad considerations there are a number of allied facts with important implications which are touchstones on which planning measures have to be tested. The first is that in its task of forming future values and skills, the educational system is functionally interlocked with its socio-economic environment through such factors as job opportunities, the role of the teacher in the community and the influence of the community on the teacher. Thus any plan must be economically and socially orientated.

The second is that the educational system should be a coherent whole with a functional interrelation between its sectors if it is to work efficiently. Thirdly, although there exist certain necessary technological relations between its sectors, there are substantial areas of choice as to the size, composition and interrelation of those parts, i.e., resource allocation is an internal as well as an externally conditioned problem for educators. Fourthly since educational planning deals with people and not commodities, it cannot be assumed that they will be passive. The preferences of parents and pupils in the end govern entry into the different educational sectors and subjects of study. Besides, education is inalienable and cannot be sold by the individual possessor of it. Planning therefore involves taking into account psychological factors and incentives. The fifth is that the demand for education falls into two parts, the one productive and the other of a 'consumption' or social nature. When Professor Schultz made his calculations of the returns on education in the United States of America, he assumed that 50 per cent of education was consumption, and halved the cost to take this into account.[1]

Measures of educational planning have to be tested against this set of facts. For example, the fourth fact (parents' and pupils' preferences) means that the manpower approach to educational planning can never be sufficient. It is not possible to envisage a world in which preferences happen to be identical with needs. So long as freedom of choice of profession exists and academic freedom in respect of subjects of study, plans cannot be based on the hypothesis that educational supply and economic and social demand can be identical. Education must therefore always be planned to a certain extent in excess of occupational demand, just as full employment has to be planned to allow for frictional unemployment.

There exists no long-standing tradition of close application of the principles of resource allocation to education. If educational systems are viewed as 'industries' or 'services' in the economic sense, it emerges that there is substantial room for an increase of output by rearrangements of physical facilities, adjustments of curricula, increased vocational guidance, etc., without a reduction of standards. These inefficiencies in resource allocation are not due to lack of social conscience on the part of educators, but rather the opposite; they are an accurate reflection of the demands which society has hitherto placed upon them. The new factor is the belated 'discovery' in the last few years of the extraordinarily important role education plays in national policy, whether it is a matter of economic and social development, or one of maintaining a particular ideology and level of scientific development in a competitive struggle of ideologies. The sudden revealed demands for education go so far beyond what has ever been experienced over the same periods of time before that the objectives

1. T. W. Schultz, 'Education and Economic Growth', in: Nelson B. Henry (ed.), *Social Forces influencing American Education*, Chicago, University of Chicago Press, 1961, p. 75. (*Sixtieth Yearbook of the National Society for the Study of Education*, Part II.)

can only be reached by new means. Few people are in favour of planning in itself. Equally, few societies (except those which have reached affluence and perhaps not even those) can be sure of obtaining the direct results without the foresight and articulation of means and ends which planning involves, though the means used in planning will be adapted to the ideology of each society. Even people who are uncertain about the notion of planning as applied to their own societies are frequently exponents of educational planning in countries operating with very limited resources.

The need for planning can be illustrated by the following examples. Three vast areas (Africa, Latin America and Asia) are engaged in trying roughly to double the proportion of their gross national product spent on education over periods ranging from ten to twenty years. The sums involved are huge, and the danger of waste is commensurate. One larger European country is planning to double its university population in twenty years. These cases show the magnitude of the operations involved. Another example, illustrating the constraints on educational expansion which cannot be overcome except by planning, is the following. One country found it needed to increase it supply of scientific and technical personnel by about 70 per cent. It ascertained that about one-third of its student population at present took the necessary basic studies so as to be able to enter this category, and wished accordingly to increase the proportion of students in those subjects to 50 per cent by 1970. But the greater the increase in students, the greater the number of teachers required; thus threatening to curtail the existing insufficient supply of such personnel for industry. When a balance was found between the constraint represented by the supply of teachers and that represented by maintaining the minimum requirements of industry, a target of a proportion of 40 per cent of the student population was arrived at. Other constraints which need evaluation are the size of the class, the teaching methods, the physical plant, the minimum size of the student body, the allowance which has to be made for 'drop out' and wastage, and, as we saw above, the imbalance between students' preferences and a country's occupational needs. The planning process involves the projection of requirements and their evaluation in terms of such constraints.

The task for the technician in the science of planning is to assemble the data and show their implications under various political, social and economic hypotheses. Planning of any kind is impossible, however, unless objectives are reasonably clearly specified, can be regarded as given for a suitable period of time, and are of a kind that can be achieved by planning. Specification of the objectives arises at the early forecasting stage, since the technician has to have a number of minimum political assumptions on which to proceed. The final objectives should be fixed when the forecasts have been produced on alternative hypotheses and their consequences estimated. At present the precision of definition of educational ends required for detailed planning is frequently absent at both the forecasting and the decision stage.

As regards the time period for planning, five years is usual for economic planning on the basis that, apart from a crisis, electoral opinion and world conditions can be expected to remain foreseeable during that time. The planning of education, however, requires a time perspective of fifteen years, since this is the time it takes to create the human and physical resources for the operation of educational systems. This awkward difference in time period is partially offset by the modern tendency of economic plans to survive changes of government and to be carried on by civil services and technocrats leading to 'perspective planning' based on long-term forecasting. A further offset is that both the number of young people who will enter the labour force in fifteen years' time and those who will enter it at the end of their higher education at the age of twenty-one (this year's babies and this year's school entrants at six), can be determined in advance, since both groups are already born. The time period does not therefore present an insoluble problem in relating education to economic and social development, though it presents some special difficulties.

The question arises as to the feasibility of achieving the aims of educational policy by planning, since clearly not all of them can be so achieved. Fortunately there is room for many different degrees of educational planning according to the nature of the society involved, and it is not necessary to envisage the calamity of a vast bureaucratic control of the scholastic profession. Some will rely on more technocratic or centralized methods of collecting information, others may base themselves on past experience, or on data obtained from new surveys regarding regional and local preferences of pupils, parents, school leavers and the demands of employers. The area which has been least studied, despite a certain burst of activity in the last two or three years, is the means of relating educational planning to economic and social development. In this area the economist can help on two levels of analysis. First, as regards the problems of cost and financing and the impact of the educational system upon the national output of goods and services, i.e., cost benefit relationships falling under 'the measuring rod of money'. Secondly, in so far as educational planning involves 'a relationship between a multiplicity of ends and scarce means that have alternative uses' (Lionel Robbins' definition), the economist can aid the educator to determine the interrelationships which will maximize the use of educational resources for educational ends. Both levels of analysis are dependent upon there being substantial areas of alternative use of resources and of choice and substitution.

The educational system itself is not, of course, substitutable. Every society must have an educational system, and no civilized society is known today to spend less than about 1 per cent of its gross national product on education, and none more than about 6 per cent. Between these two percentages, however, important possibilities of resource substitution arise, not only as regards the size of the educational effort as compared with other programmes, but inside the educational system itself. In terms of social development, education is in competition for scarce resources with

health and housing programmes. On the economic side it competes with other infrastructure services like transport, and with the formation of physical capital. A *prima facie* area of substitution is the amount of training to be undertaken in the formal education system, as compared with the amount to be undertaken in employment in industry.

In the United States, a sample survey by the U.S. Department of Labor[1] has revealed that the average period of workers' formal schooling was 10.1 years in 1950 while the average period spent on in-service training was 1.72 years at that time. These proportions have changed slightly since 1940 and there is no reason to suppose that they are invariable. There are, however, serious limitations as to the extent of substitution possible without loss of efficiency. This is demonstrated by Professor Strumilin's figures in his article published earlier in this volume, which indicate the large superiority in productivity of workers who have had adequate formal schooling plus vocational training in industry, as compared with those who have had an insufficient number of years of school but longer training on the job. Equally, once a man has received his formal education and his on-the-job training, there is no substitute for the experience acquired over the years in his work.

There is an important area of possible substitution in respect of teaching methods, techniques and aid. These items cover the technology of education —radio and television as compared with direct teaching, the cost of facilities, the use of buildings on a shift basis, etc. In respect of the financing of education also, alternatives of choice arise as to sources to be tapped—central or local, governmental or private, voluntary or compulsory, or both. Then there is a crucial choice facing the over-all economic planner, i.e., the industrial technology to be introduced to carry out the development plan: whether this should be labour intensive or capital intensive, and whether (of particular interest to the educational planner) it should be 'education intensive' or otherwise. In coming to decisions on such choices clearly the planner must know the potentiality of the educational system of his country and the cost of remodelling it, since this will affect the cost benefit ratios of the different alternatives. The educational planner has to contribute to the making of this choice.

Finally there are many choices as to selection procedures and criteria for admission to the different educational levels which will influence the supply of students, costs, and standards required for economic purposes to respond to the social demand for education. Choices exist also as to the extent to which each level may be treated as an end in itself, or should be regarded as a stepping-stone in a selection process. Is primary education ever an end in itself for the majority of people in a poor country, or must there always be provision for those who wish to and can go on to higher levels? The economic and social consequences of such choices have to be evaluated as

1. *Estimates of Worker Trait Requirements for 4,000 Jobs*, U.S. Department of Labor, Bureau of Employment Security, U.S. Employment Service.

part of the planning process. Similar issues needing evaluation are what is the appropriate level of 'wastage' in respect of each level or type of system, and to what extent 'drop out' is the necessary price of widening opportunities for education. The figures of 'wastage' for African educational systems as a whole amount to as much as 20 per cent of the enrolment. Figures for Niger show that from the first to sixth year of study 54 per cent of boys and 65 per cent of girls abandon the primary school course.[1]

Care should be taken not to set rigid systems and standards and then to regard short falls in achieving them as failures. Short falls may be of two kinds, those caused by standards being set in excess of the possibilities of the teaching facilities (i.e., bad planning), and those which are a legitimate result of the interaction of the educational system and the socio-economic environment. The African 'wastage' contains both elements. What may be called 'legitimate wastage' relates to children and young people who drop out of education in order to meet the economic and social needs of their environment, family duties, etc. Studies involving both educators and sociologists are needed to analyse the problem of legitimate wastage, a phenomenon best described by a neutral phrase such as 'frictional adjustment between the education system and the environment'.

The formulation of educational plans must take into account substitution possibilities at two stages: (a) keeping as independent the relationships which flow from given national policies, and working only with the other variables; and (b) testing the implications of changes in these relationships themselves.

The number of variables to be included is usually limited by lack of data, and an important task lies before educational statisticians to improve this situation. In practice, choice is limited by the prevailing constraints and the time taken to overcome them. Suppose a country has an educational policy of making all its adult citizens literate in x years, and of securing compulsory primary education of, say, six years' duration for all its children in y years. A new factor is introduced in the form of a development programme to increase the pace of industrialization, which would call for more secondary and technical education. Under the original hypothesis the planner would examine the resources available and say whether the requirements could be met or what the short fall would be. Under the new hypothesis the problem would be to assess the effect of a shift in the combination required for the industrialization programme. It might lengthen the period during which the original ends have to be achieved. Alternatively, it might shorten the period because of the increased revenue obtained through the industrialization programme.

What are the means available for finding answers to the choices posed, and what are the limitations to them? Decisions on the optimum allocation of national resources to education, as compared with direct investment of

1. R. van Waeyenbergue, *Planification de l'Enseignement; Analyse de la Situation.* Unesco Mission to Republic of Niger, 1961.

production in other social services or physical capital, lie outside the economics of education and are the concern of the economic planner. But both the over-all planner and the educator are interested not only in the size of the educational investment but in its efficiency, since a reduction of unit cost is equivalent to an increase of resources allocated. Many educational systems use their resources below capacity, partly due to the socio-economic environment and to traditional attitudes which consider that education falls outside economic allocation approaches, and partly from the failure to adopt adequate criteria of selection. In one country, out of 100,000 who sat for the matriculation examination in 1959 only 3 per cent passed, and only 30 per cent of students at the universities passed their annual examinations.[1]

The process of integrating the educational plan with the over-all economic development plan presents special difficulties. The strategy of the over-all plan may be one of balanced growth or of moving from one selected imbalance to another. The educator may be asked to adjust his planning to a strategy based on the belief that the country is on the threshold of a development stage which has to be reached by a special push in a particular sector of investment. This will involve careful study as to whether education, as a piece of planned social infrastructure, can or should take part in such 'special pushes', except in respect of certain limited parts of the systems. At this point substitution processes, such as in-service training, have to be studied and the degree of sacrifice assessed. The first step is to find a common discourse, preferably in quantifiable terms, between educational planners and over-all economic planners to bring about the necessary integration. This involves training programmes in which educators will be co-opted into the processes of economic development planning and economists will be initiated into the problems of educational planning. It involves also the establishment of planning units concerned with these processes, both in the central planning organization and in ministries of education.

In estimating the forward relation of educational planning to economic and social development, the following stages are necessary:

1. Making projections of the future size and age composition of the population and the movement of the economy in as much detail as possible by sectors. Failing detailed projections, at least a profile of the economy is necessary based on two or three broad hypotheses.
2. Turning the economic data into requirements in respect of different occupations. Alternatively, if there is sufficient data to carry out manpower surveys, an estimate of the future occupational composition of the population can be made from the forecasts of employers of the need for qualified manpower, and from the extension of existing trends of

1. Hla Myint, *The Role of Institutions of Higher Education in the Development of the countries in South-East Asia*. Unesco/I.A.U. Committee of Experts, Kuala Lumpur, 23-27 February 1962.

employment. Where this is possible it is also an index of the economic profile required under 1. Many difficulties are involved in manpower surveys of this kind. The number of employers who can look forward fifteen years is limited. There is a tendency for employers to exaggerate their forecasts in periods of labour scarcity and to minimize them when labour is abundant, while professional associations tend to do the opposite.

3. Turning the occupational data so obtained into its educational component. The number of classifiable occupations is of the order of 1,350. Difficulties which arise in this form of projection are that there are no fixed relations between occupations and education, except over broad categories and in a limited number of professions. Classification of skills by educational components can produce 300 items in advanced economies. But for practical planning purposes, the educational classifications of occupations can be reduced to between ten and fifteen. Even smaller groupings are possible, according to the degree of detail which the other factors in the planning process permit in any given case. An addition must be made for non-workers.
4. Forecasting the measures required to produce these educational characteristics in the population through schools, institutions, and on-the-job training.
5. Determining the optimum relation which should exist between the different sectors of the educational system in order to produce the required numbers of students at the different levels.
6. Studying the incentives required to guide pupils into those particular studies and school-leavers into those occupations, including changes in the wage structure and prestige of different occupations (as we saw above, students' and parents' preferences have to be foreseen and guided).
7. Forecasting the required flow between the levels, on alternative pedagogical standards and selection criteria.
8. Studying the likely results of alternative technologies of teaching. The number of teachers per class will influence the amount of teacher training required and the size of the investment in secondary and higher education.
9. Establishing what elements have to be maintained or introduced into the educational system to exploit fully the 'external economies' flowing from investment in education, such as research, the development of elites and innovators, the formation of stable responsible middle classes, and the promotion of managerial, entrepreneurial and social skills in the population.
10. Assessing the unit costs of different types of educational technology and means of developing the educational system, and comparing them: e.g., large colleges or small; should new universities be placed in dense population areas or spread out over the country in small towns?

Clearly the forecasting required goes well beyond that derivable from even

the best economic projections or manpower surveys. Such projections and surveys have to be seen against a pattern of norms derived from experience and country studies. Among such norms are the following: (a) the proportion of gross national product devoted to education both globally and (if possible) by sectors; (b) the proportion of public revenue so spent; (c) the proportion of public investment made in education and its different sectors; (d) the proportion of investment in education and its different sectors as compared with over-all investment; (e) the proportion of the population enrolled at the different educational levels; (f) the same proportion corrected in the light of information as to attendance, and (g) the proportion of the student population receiving instruction in different levels and types of education.

Naturally this information has to be interpreted in the light of the special conditions of each country, and should always be cross-checked with the results of manpower assessments and occupation and educational requirements deduced from the economic perspective. But it is possible to establish patterns and trait clusters of educational development by comparisons between countries at various income levels. Economic indices against which to set the demand patterns which emerge are the statistics of growth of gross national product per head (or of *per capita* income), viewed in the light of the facts as regards income distribution. Social indices are more difficult to apply, the best for practical use being those set up by the United Nations Expert Group on Standards and Levels of Living and utilized with the help of ranking techniques. It is necessary to incorporate movement in the analysis, either by tracing patterns for intervening periods of the long-term perspective (say fifteen years) or by recourse to norms. These must be based on what is known as to possible rates of expansion, e.g., the number of years it takes to produce different levels of attainment, including not only pedagogic factors and demographic factors but also teacher training (it is known that certain of the advanced countries, France, U.S.S.R., United States, have increased their over-all teaching force by 50 per cent in ten years), the construction of school buildings, etc. On the demand side there are similar norms as to rate of expansion known from experience, which can be applied, corrected for the state of development of different countries. Professor Harbison[1] has estimated that the ratio of annual increase of higher level manpower to the annual increase of national income should usually be of the order of three to one; that scientific and engineering grades should grow numerically three times as fast as the labour force; that the sub-professional grades requiring secondary education should grow six to nine times as fast; and clerical grades and craftsmen twice as fast. Obviously this cannot be true for every type of economy and the estimates themselves need further research. But it is necessary

1. Frederick Harbison, 'High-level Manpower for Nigeria's Future', in: *Investment in Education* (The Report of the Commission on Post-School Certificate and Higher Education in Nigeria), 1960, p. 50-72.

to go through this kind of exercise, combined with the previous types of analysis mentioned above, in order to obtain practical results.

Little has been done so far to construct a series of actual and possible norms of the kind indicated, but progress is being made as statistics come forward and the number of reports of survey missions grows. Inter-country comparisons, like most tools, can be dangerous as well as useful unless they are studied in terms of relative cost and variation of economic and administrative structure, as well as of demographic analysis of the differences in age structure of different countries. For instance, children of five to fourteen years of age make up 25 per cent of the population in Latin America, but only 17 per cent in Western Europe, i.e., in Latin America one out of four people should be in school while the proportion for Europe is one out of six; and Professor Arthur Lewis estimates that the cost of giving primary education to every child is 0.8 per cent of national income in the United States and 4 per cent in Nigeria.[1] The collection and use of data of this kind delimits the area within which the precise target is to be found by detailed study or informed judgement, rather on the principle of bracketing techniques developed in naval gunfire. Until further results have been obtained by research into the returns on educational investment no alternative methodology exists. Since the statistics are varied, the use of rank correlation is recommendable and also the study of clusters of measurable traits which might form patterns.

Two major research attempts have been made so far to show the returns on education. The first (the 'third factor' approach, based on the residual in the production function) suffers from the difficulty that no evidence exists of what would have been the effect of alternative combinations of human and physical capital. The second (the 'earnings differential' approach) suffers from the difficulty of relating private earnings with social income, and of equating actual with optimum national totals of individual earnings, as well as from the difficulty of holding constant variations in such items as intelligence and family position which, as well as educational attainment, are determinants of earnings. This does not mean such research is not of the highest value. Professor Becker, for instance, has now adjusted his well-known figure of 11 per cent return on secondary and higher education (including public costs) to 9 per cent in the light of data he has collected on the intelligence variable.[2] The problem is how to apply such results to one of the newly developing countries, particularly as the analysis presupposes full employment and detailed census data. This type of analysis is not yet ready to be included in the tool kit of the educational planners of the developing countries, though it is important both as a contribution

1. W. Arthur Lewis, *The Strategy of Educational Development in Relation to the Economic Growth of Underdeveloped Countries. Priorities for Educational Expansion*, OECD Policy Conference on Economic Growth and Investment in Education, Washington, 16-20 October 1961.
2. Gary Becker, 'Underinvestment in College Education?', *American Economic Review*, Vol. L (2), May 1960, p. 340.

to economic science and as a measure of the contribution which education makes to economies already achieving high development levels.

Once a pattern of educational development is adumbrated by the methods indicated, the question of finance has to be faced by the planner. Even though the educational plan arrived at may be economic in the sense that it is necessary for development and would not involve an excessive allocation of resources which could be better used elsewhere, it does not follow that the necessary finance can be found. Because education has to be largely financed from current revenue, since teachers' salaries make up three-quarters of the cost, financing possibilities depend on the efficiency of the fiscal system. Here again, reference to norms is helpful. Low-income countries raise on the average about 14 per cent of their national income in revenue, while high-income countries raise about 21 per cent. The part of the financing that requires foreign exchange, which may amount to 5 to 7 per cent of the average over-all educational plan, is dependent on the country's balance of payments position. The educational plan which has been adumbrated may, accordingly, have to be cut back to the extent that the fiscal system cannot be improved or foreign exchange obtained, or means found to reduce the call on revenue or foreign exchange. Means of reducing the demands on the public budget consist of extending the fee-paying sector of educational finance, increasing voluntary teaching, e.g., in literacy campaigns, discovering untapped local sources of financial initiative through special contributions from industry, and special local taxes, and by obtaining outside bilateral or multilateral aid.

Apart from cases where governments make direct contributions to the budgets of other countries (e.g., metropolitan countries to their ex-colonial territories), international grants and loans are at present envisaged in terms of financing tangible capital such as buildings and teaching equipment. But over-all loans may contain an educational component, and this aspect of international financing has not yet been fully studied or developed. At present the educational planner has to look to internal sources for the overwhelming proportion of finance and to external aid for technical assistance and for physical equipment. Grants or loans for physical equipment from abroad will usually be restricted to the proportion of finance for which foreign aid is required, and to cases where it can be shown that the real resources exist for carrying out the plan envisaged if the fiscal resources can be increased to bring them into action. It does not follow, of course, that the whole of the amount of the foreign exchange involved in such a loan or grant would accrue to the educational system. Any foreign currency beyond the actual foreign exchange component of the educational plan would have to be distributed according to the country's foreign exchange priorities, and the project compensated in internal currency. The educational planning process involves integration of this kind with over-all financial planning.

It will be seen that the final educational plan must be feasible pedagogically, it must attempt to 'optimize' the contribution of education to

economic and social development, it must show the necessary priorities as between its sectors as well as its priorities in the country's over-all plan. It must also give a timetable for carrying it into effect, and it must contain a sufficient area of manœuvre so that it can be reviewed periodically and adjusted.

It will have been noted that the planning of education in relation to economic and social development involves many disciplines; education, economics, sociology, statistics, psychology, administration, as well as a closer definition of the political goals of education. The extent to which these disciplines can be called upon in the precise planning of education, as distinct from their exerting a general influence on the judgements of the planners, depends upon their capacity to provide measurable data for planning purposes. Much more research is required in all of the disciplines concerned, as well as a closer definition of educational aims.

It is necessary to extend the link between studies by economists and those in other disciplines, such as sociology and psychology, deeply concerned in the educational process and able to contribute by techniques of social survey, public opinion polling, etc. Development economists are finding themselves increasingly involved in contacts with those disciplines and there has been a great advance in empirical sociology since Professor Hicks pointed out that before the economist can apply his analysis he has to look round for a sociologist and 'usually there isn't one'. The use of the various disciplines will vary according to the different stages of the planning process. In the quantitative aspects of planning, economic and demographic techniques come to the fore; but at the stage when the ends to be taken as given are discussed, and in evaluating the impact of the plan at the level of the individual and the community, there is a very special role for sociology, political science and psychology.

When economists began to work closely on educational planning, doubts arose in the minds of some educators as to whether this would result in a materialist approach to education. As we saw above, economics is the science of optimum use of scarce resources for given ends, and economists are unlikely to interfere with educational values. It is a science which was invented by professors of moral philosophy in the eighteenth and nineteenth centuries in response to the Industrial Revolution, and chairs of economics are a twentieth-century innovation. Most economists look forward to the time when their science will be reduced to 'a position of secondary importance', when the 'problem of want and poverty and the economic struggle between nations' will be seen to be 'nothing but a frightful muddle, a transitory and unnecessary muddle' (Keynes). The threat to the conservative educator comes in reality not from the economist but from the non-conservative and innovating educator. Research is already on foot in educational circles into such questions as the development of the pupil's intuition as part of the teaching process, and behind the innovating educator the moral philosopher will always be active in this sensitive field. On the subject of intuition Aldous Huxley recently made the following comment

in an interview with a French journalist: 'Quand je vais voir les étudiants du MIT, je les trouve très préoccupés par le problème de la spécialisation scientifique et nullement fermés à un enseignement spiritualiste. Ils craignent de créer des savants non civilisés. Vingt-cinq pour cent du programme sont consacrés aux humanités, histoire, littérature, sociologie. Je leur dis : Tout ça, c'est très bien, mais où aboutissez-vous ? Vous mitigez une éducation scientifique symbolique, par une autre éducation également symbolique, mais verbale. Il est temps d'inventer les humanités non verbales.'[1]

1. Danielle Hunebelle, 'L'Univers Spirituel d'Aldous Huxley', *Réalités*, No. 195, April 1962, p. 78.

B. DOCUMENTS

UNESCO ECONOMIC ANALYSIS UNIT

In June 1961 the Executive Board of Unesco approved the setting-up of an Economic Analysis Unit in the Department of Social Sciences to study the role of education, science and technology, and mass communication in economic development.

The role of the Economic Analysis Unit has been defined as follows: (a) to stimulate studies and research projects by outside scientific bodies; (b) to undertake selected studies mainly with the help of outside consultants and institutions but also utilizing the staff of the Unit itself and information available within Unesco; (c) to advise the Office of the Director-General and other Unesco departments on economic development matters; (d) to be available for consultation by international organizations or Member States on request.

The Unit's work dealt mainly during the past year with the first and second of these activities, and took the form of providing advice and memoranda concerning operational needs. Among the particular tasks undertaken were the briefing of missions to Member States, analyses of specific aid requests from developing countries, preparation of documentation for conferences and other action in support of the work of the Programme Departments of Unesco. The Unit has also collaborated in the preparations for setting up regional institutions for the training of personnel in the planning of education in relation to economic development, and a projected institute in Paris for the same purpose. With the help of consultants a manual is being prepared to assist international missions in their work of advising governments on the economic and social aspects of education and planning. Work has also been undertaken, under contract with an outside institute, on the economic and social implications of mass illiteracy and the cost of programmes for its eradication, for presentation to the Unesco General Conference to be held in November 1962. A volume is in preparation with the help of outside consultants from France, the U.S.S.R., the United Kingdom, and the United States of America, of selected *Readings in the Economics of Education* presenting the thought of eminent economists, from the classical period to the present day, on the question of the relation between education and economic development. The Unit is also sponsoring an historical study in Japan of the part education has

played in the economic and social development of that country, and a similar project is planned for Sweden and certain other countries.

Some longer-term research projects to be sponsored by the Unit as resources become available include studies of the concept of human capital; the role of education in the transition from subsistence to cash economies; economic aspects of the technology of education; problems of financing education and making new resources available; problems of the allocation of investment, both between education and other items and within the educational sector viewed in relation to educational planning; the role of education in forming middle-class entrepreneurial groups; education and incentive and motivation; education and innovation and imitation; the returns to be derived from investment in education and in scientific and technological research; the economics of science and international programmes of scientific co-operation; economic and social aspects of modern technology and its transference to newly developing countries; and the economics of mass communications.

The Unit is collaborating closely with the United Nations and the Regional Economic Commissions and Specialized Agencies concerned. It works for the most part through contracts with outside consultants and research institutions, but it also includes research analysts and economists on its staff and co-operates closely with the Statistical Division and the Applied Social Sciences Division and with other Programme Departments, in particular the Department of Education and its Educational Planning Unit. The United Nations have seconded an economist to work with the Unit for a year, and an economist from the Economic Commission for Africa spent two months working with the Unit on the preparation of material relating to the financing of education in Africa. A joint working group has been established with the ILO on the forecasting of manpower needs and their educational implications. A number of consultants from different countries have assisted the Unit in various aspects of its work.

PART TWO

THE WORLD OF THE SOCIAL SCIENCES

I. CURRENT STUDIES AND RESEARCH CENTRES

SOME TRENDS IN UNPUBLISHED SOCIAL SCIENCE RESEARCH IN SOUTH AFRICA

PIERRE L. VAN DEN BERGHE

The major aim of this paper is to condense and make more widely available some of the unpublished research findings in South African social science.[1] This survey is by no means exhaustive, as it deliberately excludes a number of fields, such as purely demographic, anthropological, economic, historical, or theoretical studies. Works having a direct or indirect bearing on 'race relations' constitute the main focus of the present paper, which thus complements a recent survey of published South African literature [50].[2]

Before starting on a review of the literature in question, a few remarks on the general conditions of social science in South Africa are necessary. Due to the nature of South African society, social science research in that country is strongly 'problem-oriented'. As a society in an acute state of tension and conflict, South Africa constitutes an ideal laboratory. At the same time, however, research suffers from a number of handicaps. The universities have very limited financial resources, and what money is available is devoted to undergraduate teaching rather than research. Consequently the number of graduate students, many of whom are on the teaching staff, is small. Furthermore, the government, through its *apartheid* regulations, greatly hinders research, particularly among Africans. Recent years have witnessed an exodus of academic personnel, thereby causing a rapid deterioration in the quality of the English-speaking universities.

The political climate of the four Afrikaans universities has stifled much research and independent thinking with the result that, of these, only Stellenbosch has achieved a respectable academic standing. In addition, the use of such a limiting language as Afrikaans at these universities has narrowed the intellectual horizon of the students. Finally, racial segregation, which has always been present to some degree in all South African universities, including the ex-'open' universities of Cape Town and the Witwatersrand, has introduced artificial barriers between students of different pigmentation. In this respect as in many others, recent Govern-

1. The present study was undertaken with the help of a grant from the Laboratory of Social Relations, Harvard University.
2. The figures in brackets refer to the bibliographical references at the end of the article.

ment legislation has further aggravated the situation by compulsorily excluding all non-White students from any institution of higher learning worthy of the name.

With the exception of anthropology where such outstanding names as Shapera, Gluckman, Monica Wilson, Philip Mayer and Hilda Kuper come to mind, the behavioural sciences in South Africa have remained relatively undeveloped. Sociology as a postgraduate discipline is practically non-existent outside the University of Natal (under Leo Kuper) and the University of Stellenbosch (under S. P. Cilliers). Psychology, while it counts a greater number of practising professionals, is weak outside the Universities of Cape Town, the Witwatersrand and Natal. Economics Departments have devoted much of their efforts to rather uninspired rent, housing, wage, and cost-of-living surveys. Political science has concentrated on 'Native Administration', i.e., the study of 'tribal authorities' and the State machinery of oppression to which Africans are exposed. This subject has produced such prominent scholars as Jack Simons at Cape Town and Julius Lewin at the Witwatersrand, but has remained rather sterile elsewhere. In addition to the universities, one must mention the Government-sponsored Centre for Scientific and Industrial Research (CSIR) and the Institute for Personnel Research under Simon Biesheuvel. The former sponsors a number of social science projects, but usually with political strings attached, while the latter largely devotes its energies to industry-sponsored research such as personnel selection on mines.

A brief survey of research of the present type necessarily involves a great amount of condensation and of arbitrary selection and classification. We may begin with a series of psychologically-oriented theses dealing with performance on various sorts of test. These theses can be subdivided into those which used African mineworkers as subjects [1, 6, 16, 44] and those based on samples of schoolchildren [5, 20, 23, 24]. The former works grew out of the development and administration of performance tests intended to sort out migrant African labourers into the job categories where their productive potential can be exploited to the maximum. De Ridder and Hudson both find that test performance improves with work experience and education, and decreases with age. Hudson reports significant differences between various tribal groups, with the Xhosa, Pondo and Basuto scoring lower on the whole than other groups. Adendorff, on the other hand, finds that tribal differences are slight and mostly non-significant. However, they follow a consistent pattern: e.g., Basuto tend to be quick but inaccurate workers; east coast Africans are slower but more accurate, etc. In short, intertribal differences are not very great, and where they are significant, they are probably due, as Hudson suggests, to selective factors in migration. As wages on the South African mines are intermediate between the lower wages in the more backward territories of Rhodesia and Mozambique and the higher wages in South African secondary industry, one can plausibly suppose that foreign Africans are positively selected,

while South African mineworkers constitute the bottom of the local employment barrel.

In the test studies of children, three investigators (Knight, Lloyd and Logue) report that White schoolchildren score higher on IQ tests than Coloured, Indian or African children. The differences in mean scores between racial groups range from twelve to twenty-one IQ points. The authors attribute these differences to the fact that the segregated non-White schools are vastly inferior to the White schools, and that the tests were not administered in the mother-tongue of most African and many Indian children. The Lloyd study finds no significant difference between Indian and African scores, but also reports that, as a result of coaching, Africans improve their performance on a re-test to a much greater degree than either White or Indian children. A fourth study [5] comparing Coloured and White children on an Assertion-Submission test, shows no significant racial difference, but finds a significant sex difference among Coloureds which is not present in the White sample. Finally, an electroencephalographic study on a group of forty-seven African children suffering from *kwashiokor* (a vitamin-deficiency disease) shows that 36 per cent of the subjects exhibit abnormal patterns in the temporal region. Such anomalies are almost non-existent in a control sample of adequately nourished children. The investigator concludes that EEG changes traceable to *kwashiokor* can lead to psychopathology and hinder mental development. He suggests that the nutritional factor be controlled in studies of racial group differences in intelligence.

Four studies dealing with inter-group contact and attitudes provide interesting information on a topic which has otherwise been relatively neglected in South Africa. Three of these [10, 18, 22] were written at Stellenbosch and belong to a more extensive series of works on the Cape Coloured, under the supervision of S. P. Cilliers. Du Toit analyses relations between Coloureds and Africans on the Cape Peninsula, and finds that Coloureds have largely adopted the negative attitudes of Whites towards Africans. Contact between the two groups is mostly secondary and casual, with Africans in a subordinate position. Coloureds exhibit considerable social distance towards Africans, while the latter resent Coloureds for their 'superior' attitude. Coloureds view Africans as ill-mannered, loud, dirty, strange and untrustworthy. What interracial contact takes place is largely confined to intellectuals who generally believe in a common non-White liberatory struggle, and to unskilled industrial workers. Miscegenation is uncommon, and generally involves Coloured women living with African men. Such women are ostracized by the Coloured group which views miscegenation with Africans as immoral and detrimental to Coloureds.

Kellermann's thesis deals with Coloured attitudes towards Whites. The author reports that the general climate of tension in White-Coloured contact has an unfavourable influence on attitudes. However, contact with well-disposed Whites leads to a more favourable view of Whites by Coloureds. Subjects who are well disposed towards Whites also want more

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egalitarian contact with Whites. Le Roux studies attitudes of upper-class Coloureds in the Western Cape. He concludes that his subjects hold conflicting norms between their Coloured membership group and their White reference group. The conflict becomes most acute when Coloureds are closest to White cultural achievements, because of the impermeability of the colour bar. Contacts between Whites and Coloureds are mostly unpleasant and tend to foster bitterness and reinforce anti-White attitudes. Upper-class Coloureds generally view Whites as domineering, oppressive and insincere in their claims to help the Coloureds. Political organizations, while trying to slay down colour and to make a non-racialist appeal, also reinforce anti-White attitudes in so far as Whites are viewed as oppressors.

One of the most valuable of the theses reviewed here is that of Russell on an interracial neighbourhood in Durban. Recently completed under the supervision of Leo Kuper at the University of Natal, Russell's thesis complements the American interracial housing studies. The neighbourhood studied includes about 50 per cent Whites (mostly working class), 30 per cent Indians (white-collar and professional) and 20 per cent Coloured (working class and white-collar). The study excludes African servants and lodgers living in backyards. While some Whites avoid contact with non-Whites, the general feeling is that a limited amount of interaction is inevitable. This interaction, which mostly takes the form of visiting and helping neighbours, leads to friendliness and more favourable attitudes towards local Indians and Coloureds. Such feelings are not, however, generalized so as to include non-Whites outside the neighbourhood. Local Whites are, moreover, aware that most Whites outside the neighbourhood disapprove of interracial contact and this awareness leads to a deliberate avoidance of more intimate forms of association. There is no group norm in favour of interaction across the colour bar among local Whites, who, for fear of ostracism, are defensive about their interracial contacts. Furthermore, what contact takes place is not fully reciprocal. Whites receive help from non-Whites and enter non-White homes much more frequently than the other way around. Many Whites rationalize their contacts with non-Whites on utilitarian grounds, and in many cases, the 'helping' behaviour becomes mildly exploitative on the part of Whites because of the asymmetry in the relationship. Indians and Coloureds, as subordinate groups, are not free to initiate interaction for fear of rebuke and discourtesy, and this constitutes a further barrier to interracial association.

Such a brief summary cannot do justice to the many findings of Russell's work, but one major conclusion emerges: in Durban as in the American interracial housing areas, egalitarian contact and residential proximity lead to a reduction of prejudice—at least towards one's out-group neighbours. But the strong hostility to interracial contact in the larger White South African society prevents the generalization of favourable attitudes to non-Whites outside the local area, and limits the amount and the intimacy of contact within such area. The implication of this study seems to be that the techniques developed in the United States for the reduction of prejudice

can only have a very restricted effectiveness in a racialist society such as South Africa, where discrimination is socially and officially rewarded.

A number of theses, produced mostly at Stellenbosch, emphasize various aspects of local Coloured communities. Three parallel studies of Coloured mission stations in the Western Cape were conducted under Erika Theron at Stellenbosch [39, 42, 47]. They are mostly of a demographic and social work character, and are of little interest for basic research. They do, however, give some information on such topics as illegitimacy and miscegenation. Olivier's thesis [32] on crime and alcoholism among the Coloureds of Stellenbosch, which shows a high relationship between the two phenomena, is of a similar kind. Another two related studies of Coloured farm workers in the Western Cape [11, 41] are also predominantly demographic and provide statistics on family composition, illegitimacy, alcoholism and miscegenation. All of the above works corroborate the existence of a high degree of social disorganization among South African Coloureds. That disorganization, which is traceable to complex historical factors similar to those found among negroes in the Southern United States and the West Indies, expresses itself in such symptoms as illegitimacy, delinquency and alcoholism.

Two studies deal with religion among Cape Coloureds [19, 45]. The former finds that Coloured Christian groups follow the pattern set by the White denominations. Large churches assume a wider variety of functions than small sects, but have a lower percentage of members who are active in church affairs. Van Wyk's thesis is more impressionistic and comes to the conclusion that religious people are happier and 'fuller social beings', and that religion makes a great contribution to peace and harmony between Whites and Coloureds. An economic survey of a slum area reveals the abject poverty and high mortality of the urban Coloured working class [34]. Van Zyl [46] compares statistically a large sample of Coloured and White families, and finds that Coloured families are nearly twice as large as White families. Extra-marital cohabitation is much more frequent among Coloureds than among Whites, and decreases with better income and education.

Of great interest is a thesis on the social stratification of the Stellenbosch Coloured community [43] which, together with an earlier work on the same group [28] allows one to trace important changes in criteria of status. In the 1930s, McDonald reports the existence of three quasi-caste divisions within the Coloured group. These subgroups were based on physical characteristics (mostly skin colour, hair texture and length, and facial features), and were hierarchized according to their nearness to the dominant White group. Mobility on the basis of achievement was possible within these subgroups but not between them. Extra-marital affairs between Coloured women and White men were encouraged so that the offspring would approximate the White phenotype. In the 1950s, van der Merwe finds that physical traits no longer constitute important criteria of status. 'Respectability' and moral standards, combined with wealth, occupation, length

of residence and participation in social activities, are the major criteria of status today. It is interesting to note that a similar evolution has taken place among American negroes whose position in the United States most closely resembles that of Coloureds in South Africa.

A study of Coloured women working in a Cape Town clothing factory [49] also reveals a rather complex internal stratification. There is firstly an ethno-religious split between Muslim Malay women and Christian Coloureds, and secondly a three-class hierarchy. Some 25 per cent of the girls constitute the factory 'upper class' and are considered to be social pace-setters; another 60 per cent belong to be 'poor-but-respectable' class and strive to 'improve themselves', while 15 per cent make up a lower class fringe and are excluded by the other women from participation in social activities. In so far as they belong to Islam, Malays differ from Christian Coloureds in such things as position and emancipation of women, composition of family, and in-group solidarity. Religious intermarriage is rare, and generally takes the form of Christian girls converting to Islam in order to marry Malay men. Hurwitz's work [17] on the Coloured descendants of John Dunn in Natal is mostly of historical interest, while Carsten's doctoral thesis on a Bastard settlement near the Orange River in the north-west of Cape Province is still in progress.

Two related studies of a Coloured area in Durban [9, 27] are of great theoretical value in that they examine critically the concept of marginality from a psychological and sociological point of view respectively. Mann rejects the notion that Coloureds as a group exhibit more psychological marginality than Whites. Marginality is furthermore not significantly related to pro-White attitudes, to ability to 'pass' for White, to F-scale scores or to social distance as regards members of other racial groups. Dickie-Clark finds that Coloureds are completely 'White' culturally, and that whatever social 'marginality' may be said to exist results not from differences in values or outloook, but from their White-imposed situation of permanent inferiority.

In addition to Rabkin's thesis mentioned above, there have been several socio-economic surveys of various groups in different parts of South Africa. Cilliers [4] documents the poverty and overcrowding of Coloureds and Africans in Knysna (Cape Province). Eberhardt [12] gives data on urban Africans in the Johannesburg area (permanency of urban settlement, type of marriage, income and budget, overcrowding, etc.). As early as 1948, two-thirds of the adult Africans in the sample had lived in Johannesburg for ten years or longer. Of a similar type are the surveys of Bettison [2] on the non-White population of East London and of Roberts [36] on railway workers in Pretoria. A careful study of fertility and infant mortality in an African sample in Johannesburg [40] is one of the best of its kind. Fertility declines with length of urban residence but is not clearly related to socio-economic status. The crude birth rate is 44.39, and the infant mortality rate, 131 per 1,000 live births. The latter is undoubtedly below the national average for the African population.

Relatively few studies have been devoted to South African White groups. Watts [48] traces in detail the social ecology of Grahamstown, Cape Province, since the early nineteenth century, and its evolution from an important frontier centre in the 1840s to its present position as a quiet university town in the metropolitan region of Port Elizabeth. His work is mainly of historical interest. A study of the Jewish group of Cape Town [38] reports that the degree of integration of individuals in the Jewish community is positively related to socio-economic status and to integration in the general urban community of Cape Town. An older study of rural poor Whites in the Transvaal [7] is of limited interest because of its superficial and impressionistic nature. Gargett's thesis [13] is a strictly demographic analysis of religious census statistics of the White South African population, and achieves little more than casting doubt on the reliability of census-taking procedures, and making suggestions for improvement.

A group of related works in educational psychology or education at the University of Natal are concerned with Indian schoolchildren. Pillay [33] studies the development of moral ideas through content analysis of a large number of school essays written by children aged nine to eighteen. Among many other headings, he reports findings on race consciousness and attitudes towards other racial groups. Naidoo [30] compares rural and urban Indian children and rejects Piaget's three-stage theory of conceptual development in children. He finds that environmental factors determine development to a greater extent than maturation. In a study of Indian truant children whom he compares with a matched control sample, Naidoo [29] reports that truants come from poor homes with uneducated parents, have a poor scholastic performance but do not score significantly lower in intelligence tests. Finally, Rambiritch [35] makes a detailed study of the traditional philosophy of Hindu education in India, and of educational practice in White-controlled Indian schools in Natal.

Two students of Leo Kuper at the University of Natal [26, 31] have concentrated on specific aspects of African urban life as part of Kuper's general study of the African middle class. Magubane studies African voluntary associations in Durban, particularly in sport and politics. These associations are mostly controlled by a relatively small group of urban-educated Africans, and the membership of their committees shows much overlap. Through these associations, the urban élite finds the only channel for the expression of leadership and political aspirations in an otherwise White-dominated society; while the African rank-and-file finds an escape from White-imposed paternalism and a means of asserting its right to self-determination. Some of these voluntary groups are open to other racial groups, while others are restricted to Africans. Ngubo's thesis skilfully analyses the political and racial attitudes of African students at the University of Natal, and their position as a frustrated intelligentsia in relation to Whites, Indians and the mass of Africans. He documents the effect of racial discrimination and segregation within the microcosm of the university, the sources of tension and co-operation between African and Indian

students, and the main ideological currents on such issues as pan-Africanism and communism. Kumalo [21], another student of Kuper, astutely analyses the Government policy of *apartheid* with special reference to the education of Africans. He exposes 'idealistic' *apartheid* as an attempt to convince Africans that group inequality is morally justifiable, and, through quotations from prominent Government officials, he shows that 'Bantu education' aims at the perpetuation of White supremacy. He also presents the role-conflict of African teachers who, while opposing *apartheid*, have to follow the Government line in order to retain their jobs.

From this brief and necessarily sketchy survey of unpublished research on race relations in South Africa, many avenues for further investigation will readily suggest themselves. We may best conclude this paper with a few suggestions.

Some aspects of South African society are well documented through a number of studies. Rural Africans have been the object of many excellent monographs. The Institute of Race Relations and other organizations have published numerous papers and pamphlets on economic conditions and on the effect of legislation. The study of White politics is likewise well advanced through the work of Carter and others. Similarly, South African history, though generally slanted towards a White point of view, is reasonably well recorded. On the other hand, some fields are still almost virgin. Although most investigators have been Whites, little research has been done on White South Africans. The gaps in our knowledge of urban African society are only recently being filled by the work of Leo Kuper, Philip Mayer, and Monica Wilson. A definitive study of non-White politics still remains to be written. Social-psychological studies of racial attitudes are still few in number. Such topics as miscegenation, racial etiquette, role-expectation and conflict in interracial situations, the relationship between prejudice and religion, and the role of the churches in South Africa, to name only a few at random, must still be explored.

The enormous variety of subjects waiting for investigation and the unique position of South Africa as a laboratory of race relations should present scholars with a challenge, even though the practical lessons to be learned from that country are overwhelmingly negative. The virtual certainty of rapid change in the near future will further expand the scope for research in a situation which is unlikely ever to be reproduced elsewhere.

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TEACHING RACE QUESTIONS IN BRITISH SCHOOLS

MICHAEL BANTON

In February 1961 Unesco invited the author to promote and supervise a pilot enquiry to assess the usefulness of Cyril Bibby's book *Race, Prejudice and Education* (London, Heinemann, 1959; copyright Unesco) as means of eliminating race prejudice in the schools of the United Kingdom. The survey was conducted in the spring and a report submitted in the autumn. The present article is a synopsis of that report. The account of the survey,

the questions asked, and the responses, has been drastically condensed to allow for discussion of the conclusions at greater length.

THE SURVEY

Arrangements were made for eleven Edinburgh University students to approach selected schools in their home districts during their Easter vacation to request co-operation from seven teachers in each school. Copies of the book were to be sent to the teachers so that they could use it in whatever way they thought fit during the spring term. The instructions given to the interviewers were designed to produce a sample of different kinds of school, particular attention being paid to the selection of teachers of biology, geography and English; as each interviewer was to try to obtain the co-operation of three schools, the maximum number of interviews possible was 231. In the early summer, the students were to call again to learn the teachers' opinion of the book's suitability as a teaching aid. In nearly every case the approach to the school was made directly by the student to the head teacher, rather than through the local education authority. It was felt that the director of education was more likely to send interviewers to his best schools. Moreover, if the interviewers were introduced in this way teachers might feel that they were under pressure to co-operate, and this, while it might give a higher return, would mask the teachers' willingness to take an interest in the questions under consideration. The interview schedule was not designed to assess teachers' attitudes as individuals. An interview was arranged to last about half an hour so as to give an opportunity of finding out if they had read the book, how much they had learned from it, and in what ways the study of such a book might affect their teaching.

A total of 120 interviews were obtained. Close study of the resistance met by the students indicates that the overriding reason for the short fall was that schools could not make teachers available long enough for interviews owning to the many demands upon their time towards the end of the school year. In some cases, however, schools that could have co-operated declined to do so; this may have been the effect of apathy or intolerance on the part of the head teacher towards any proposal for teaching racial questions in school. However, only in London did schools show much sensitivity to approaches on this topic. The first London student visited and telephoned many schools before finding three that were prepared to assist. He wrote, 'Most were very chary of the whole business, and I received many lectures on how they had no colour bar in their schools, etc., etc.,. . . which was very interesting but not exactly helpful.' Elsewhere there was less difficulty.

The geographical distribution of completed interviews, listed by each student's area, was as follows: Inverness-shire, 10; Fife, 16; Edinburgh, 15; Renfrewshire, 4; Lancashire, 0 (no personal contact; correspondence

mislaid); Newcastle, 16; Leeds, 17; north-east London, 6; north London, 3; Hampshire, 12; Cornwall, 21. Of the 120 teachers interviewed, 32 taught in primary schools (5-11 years); 35 in junior secondary or secondary modern schools (11-15 years) and 53 in senior secondary or grammar schools (11-18 years preparing for university entrance). Of this group, 72 were men and 69 held degrees. Among the teachers in secondary and grammar schools, 12 were specialists in biology, 19 in geography, 21 in history, 18 in English and 18 in other subjects.

Obviously the 120 interviewed cannot be considered representative of the teachers of England and Scotland. Apart from the disproportionate number of grammar school teachers, many of the sample teach in the more progressive and better equipped schools where morale is likely to be higher. Such teachers may be more likely than others to think they have an obligation to guide their pupils on questions posed by racial differences. On the other hand, among the teachers who were interviewed a number regarded Dr. Bibby's book as irrelevant to their work and deplored the suggestion that teachers should show any interest in racial questions. It would therefore appear that, although our sample may be unrepresentative numerically, it is fairly representative of the different views to be found in British schools.

TOPICS IN TEACHING

Whether racial questions should be the subject of school instruction is an issue upon which opinions are divided, in Britain, but it has not been widely discussed. It would appear that, at the most, only one in ten of the teachers interviewed had heard the arguments for either side. In two schools out of twenty-four, the head teacher had encouraged the staff to discuss such topics with their pupils. Rather less than half the teachers interviewed said that they had in fact done so—chiefly in connexion with current affairs, scripture and history lessons—though in a casual and superficial manner. The topic had then been introduced deliberately by the teacher because he or she 'personally' thought it appropriate and not because there was a place for it in the curriculum.

After teachers had been reminded of Dr. Bibby's arguments the interviewers went on to ask if he or she had (before or after reading the book) discussed any of various topics in class, beginning with the biological aspects. Roughly half the teachers in grammar and secondary schools had referred to the interrelations of heredity and environment, and to the theory of evolution. Of the primary school teachers six had successfully dealt with the latter topic. Indeed, relatively more primary than grammar school teachers, in answer to another question, said they had explained that differences in the ways of life and temperament of peoples are independent of racial constitution. The teachers who had tackled the biological aspects were not differentiated from the remainder of the sample by region, type of school, level of the class or even (grammar school apart) the subject being

taught. It would appear therefore that the limiting factor for the development of teaching on race is not the nature of the topic or the sophistication of the class, but the enterprise of the teacher. It should be added, however, that many teachers found they had to concentrate hard to follow the biological passages in Dr. Bibby's book.

A similar query about instruction concerning the interrelations of race and culture was introduced among the questions dealing with the geographical aspects of the matter, and it is noteworthy that while twenty-one primary teachers out of thirty-three stated that they had discussed the topic, five out of the nineteen teachers of geography in secondary and grammar schools said that it was not raised in their lessons.

Dr. Bibby maintains that the teaching of scripture leads naturally to the discussion of the relevance of religious principles to the moral problems of international and racial relations. Most of the teachers concurred, often enthusiastically. That this was not necessarily a profession of faith is suggested by the response noted for one graduate, 'Yes—*wholeheartedly*. Although an unbeliever himself.' Questions about the person of Jesus play a most important part in most schools—especially primary schools. Many teachers said they had suggested to their pupils that Jesus was a coloured man. Many said, either directly or by implication, that such questions were of particular interest to the children. Those teachers who referred to the Jewish-Gentile distinction in the New Testament were concerned to point out that Jesus himself was Jewish and that his teaching was directed to Jew and Gentile alike. In effect, their teaching was directed against any racist interpretation. Those who did not refer to this distinction seemed for the most part to have refrained from doing so because they thought that attention should not be drawn to it.

Among the questions on the historical aspects, teachers were asked, 'From the standpoint of conventional history some people have a glorious past while others can point to very few major achievements. From this a number of writers have concluded that some nations are inherently superior. Is this a topic, do you think, on which a teacher needs to guide his pupils?' An overwhelming majority assented, over a third of them being critical of any approach in terms of 'our glorious past'. But, in view of terms of reference, the eighteen teachers (six of them history specialists) who replied in the negative are of greater interest. Two of them were primary teachers who said their pupils were too young; another was a primary teacher who explained that the syllabus was too restrictive; yet another was a primary teacher who believed that some nations *were* inherently superior: 'He apologized for being a very great Loyalist and said that he was perhaps biased but that some nations had to show the way.' (This man, a member of a right-wing political organization, was one of those most consistently opposed to the objectives of the book, but he showed little sign of personal prejudice against Jews or coloured people.) Some of the negative responses are misleading, as with the teacher who did not feel he had to guide his pupils on this because 'it comes out normally in the ordinary

course of things'. There is no evidence that any of the respondents favoured an outright racist interpretation of history, and the majority welcomed the arguments in Bibby's book as helping them to put cultural comparisons into perspective.

One or more teachers in nine grammar schools (out of eleven) and five secondary schools (out of six) said that questions about race relations were aired in extracurricular activities, for example, in debating societies. The range of organizations within which such questions had been raised was very wide.

REACTIONS TO THE BOOK

Whatever their criticism on specific points, the great majority of teachers (approximately five in six) said they thought *Race, Prejudice and Education* helpful and useful. Most of the secondary and grammar school teachers who had neglected these topics in the past would probably deal with them to some extent in the future and many of the remainder would improve their usual teaching. The quantitative analysis of responses regarding the probable influence of studying the book is not very reliable because, while some teachers stated that they had not read the book properly, others had either not read it or had done so only superficially and were trying to conceal the fact. However, forty-five teachers said they would deal with racial topics more thoroughly in the future; thirty said the book only confirmed their earlier views and would not make them change their teaching, though eleven of them added that they would probably deal with the subject rather better with its aid. Of the remaining forty-five only eight said they would not in future deal with any of these matters in a different way; the others thought the book of little relevance to their teaching, had not read it carefully enough, or gave no clear response.

Relatively few were enthusiastic about the book but the proportion of teachers who, on the other hand, might show strong resistance to teaching along the lines Dr. Bibby suggests is little greater—apparently less than one in ten. Only a few of these showed any tendency to think in racist terms. Consider the response of the only teacher to advance an argument fundamentally opposed to Bibby's. He was reported as saying 'the book's objective is to prove that there is no such thing as race and this is ridiculous. Race feelings go very deep and are complex. They are social rather than biological phenomena. We should be careful with the biological approach. Remember the use made of it by Hitler. Group feelings are feelings of race. I don't think Bibby would achieve the desired result by the methods he outlines. He is on the wrong tack. He's not involved enough and the book is antiseptic.' Later he added another comment which confirms the feeling that he holds somewhat contradictory opinions, 'The whole book is inadequate in dealing with the matter. It does not get down to the real problems.

Group loyalties and ways of life should not be destroyed. Intermixing is a threat to any way of life and this is how the problem arises. If Europeans don't want to mix they should not be forced to—but we have a moral duty to help others. I would like to follow this up in class because it's a vital subject and needs more thought and understanding. Most of the resentment on the colour issue comes from the coloured people who are most race conscious.' This seems to be a conservative view, rather than a racist one, nor is it representative of the teachers who showed resistance to the book's arguments. Most of them were simply unpersuaded that these topics should be dealt with in class or were unwilling to change their present teaching routines unless obliged to do so.

It would be unwise to rely upon the power of the most persuasive book to change an intricate and established social institution by inspiring the individual participants in it to alter their methods. Exhortation is of limited value and may easily work against itself. There was decided feeling among teachers that Dr. Bibby's book evinced a sort of high pressure salesmanship. He presses his case with such warmth that many felt they were being 'got at'; that he was oversimplifying some of the difficulties and neglecting arguments that might damage his case. In particular, many felt that the question of mixed marriages was not always so simple and that differences in social class and culture could complicate interpersonal relations more than he admitted. The seriousness with which most teachers treated the book must therefore be attributed not only to the book (many virtues though it has) but also to the impending interview with its implication that outside institutions consider the topic important and are interested in what happens in the classroom.

Although the teachers interviewed tended to be above average as to qualifications and probably as to teaching ability, a considerable proportion failed to grasp some of the most important arguments underlying Dr. Bibby's exposition. Many teachers outside London repeatedly said that the book would be helpful in some schools but that it was of little relevance to them because 'there is no colour problem in Fife' or Cornwall, Hampshire, Newcastle, Edinburgh, etc. This attitude goes quite deep: for example, one teacher explained that when discussing persecution and national antipathies in history there was 'no point' in drawing parallels with our own day because there was no racial problem in his town! Much thinking about racial questions in Britain is tied to local problems and practical issues. The use that teachers made of the book was also somewhat surprising. Some handed it out to their pupils—even thirteen-year-olds. Some taught a straight series of half a dozen periods on racial problems. Only a minority, one suspects, used it as it was intended—to help them touch upon relevant aspects when teaching their ordinary subjects. It is clear, both from specific and more general responses, that the great majority of teachers would welcome more detailed guidance upon teaching these matters, especially upon the kinds of issue to be raised with particular classes in particular subjects, and the way they should be dealt with. Dr. Bibby's book is much

closer to this goal than the handbook by Juan Comas,[1] also published under Unesco's auspices, but teachers would like something even more specific.

CONCLUSIONS

Race, Prejudice and Education can be strongly recommended as a teaching aid for use in British schools, in association with other measures, in a programme of the type envisaged.

It cannot be recommended 'as means of eliminating race prejudice in the schools of the United Kingdom' for three reasons:

1. With the possible exception of a few localities, race prejudice is not a serious problem in British schools. The important issue here is to consider the sources from which children can learn about other peoples and may acquire prejudiced attitudes. Three such sources are the mass media, the community in which the pupils live, and the teacher.

   An earlier enquiry (H. E. O. James and Cora Tenen, *The Teacher was Black*, London, Heinemann, 1952, copyright Unesco) showed that a group of English schoolchildren held unfavourable stereotyped images of other peoples derived largely from the cinema. In recent years, the influence of the cinema has probably been surpassed by that of television. Most of the teachers who referred to television influence thought that it helped give children a more favourable image of other peoples. Certainly it would seem that any tendency of the mass media to encourage prejudice amongst British children is becoming less marked.

   Whether prejudice is learned from the community depends to a considerable extent upon local circumstances. Of the regions covered in our survey it would seem that young people in some districts might learn anti-Semitic or anti-Catholic attitudes but that these would rarely take on a racist hue and might not necessarily cause hostility towards any other minority. The exception to this statement is London. There the racial question is interrelated with an acute housing problem and other issues on which opinion is sensitive. One London teacher in a neighbourhood much affected by West Indian immigration said that some of his pupils maintained that 'the Government should send them back where they belong', that they did not like coloureds 'taking our women', that 'blacks got money by running brothels', that they 'eat cat-food', etc.

   The great majority of teachers interviewed were far from unsympathetic or indifferent to the racial issue; they considered it one of the most important in the world today and were sympathetic towards the oppressed and undernourished. But this was a personal attitude which they would not press in their official capacity, therefore many of them avoided trying to prosyletize. Thus they laid themselves open to the charge that while

1. Juan Comas, *La Educación ante la Discriminación Racial*, Mexico, D.F., 1958.

they were not propagating negative attitudes they were doing less than they should to inoculate their pupils against prejudice should they be exposed to it by later events.

This charge could be pressed quite far. A key element is the belief of many teachers that racial issues are best presented from the moral standpoint, either because this is more readily apprehended by the pupil (a point that applies in primary schools with much force) or because of the teacher's personal convictions. When questions of 'colour bar' are raised many people—not only teachers—feel obliged to testify to their personal position immediately. In one school a teacher 'looked at the title of the book and on seeing the word "prejudice" said that she had no prejudice and refused to read the book'. This reaction may sound silly but it is not uncommon in Britain.

Essays set by teachers included such topics as 'Passive resistance', 'Is race prejudice worse than religious prejudice?', 'We humans', 'The colour problem', 'Why people dislike foreigners'. In many of their papers pupils expressed sympathy for coloured people in Africa and America. They did not see Jews or Catholics as deserving sympathy in the same way and this leads one to ask whether emphasis upon the oppression of negroes does not easily lead to an over-sentimental approach. The same attitude is reflected in the fact that many women teachers had felt obliged to discuss the question of mixed marriages with their pupils. The girls were too apt to categorize any reservations about such marriages as an expression of prejudice, and to feel that provided they loved a man, race did not matter. The teachers felt that the girls underestimated the difficulties.

The danger of approaching these topics from the ethical standpoint is that in most real life situations the right solution is less evident than it is in the classroom and a pure heart is not a sufficient guide to action. We know, also, that peoples' attitudes are very much subject to situational pressures: someone who is 'pro-negro' at one moment can easily become 'anti-negro' when his own interests are affected. If educational measures are to be effective, they must not only be directed to the classroom situation but to the situations in which pupils may later find themselves. They must try to ensure that even when people feel hostile towards negroes, Jews or some other minority, they do not fall into racist thinking. They must be such that when someone starts thinking in prejudiced terms (and under strong situational pressures most people would) a warning bell rings in the person's mind. To this end, unemotional and factual teaching is needed.

2. In districts where racial tension was present racial attitudes were learned outside the school and brought into the classroom. Consider the following extract from an essay by a London teenager: 'I don't think many White people like blacks because of their sloppey habbit's such as spitting and handling food, they alway's seem to make money quickly when they come over here. One moved into our street a couple of years

back, he only had an old rusty push-bike, then he started decorating his house, he is now married with three or four kids, he got rid of his old bike and bought a car then a brand-new Vauxhall Cresta, a Jaguar and now a big yankie motor, and as my father works very hard I don't see how this blackie can run car's, keep his family dressed and fead, and my father hasint got twopence after coping with us his family.' In such a situation the teacher's powers are limited. Even if he can keep the children tolerant in class and give them good reasons for remaining tolerant, a considerable proportion will learn prejudice as soon as they leave school. As long as there are acute tensions in the community no method of instruction can 'eliminate race prejudice in the schools' to any worthwhile extent.

3. During the course of the interview teachers were asked, 'Do any of your pupils show any pronounced attitudes towards other races or peoples?' Anti-semitic attitudes were cited by seven teachers (all in Leeds and Newcastle); five cited anti-Negro attitudes; three, anti-German; two (in Scotland) anti-Catholic; two, anti-American, and two (in Scotland and Cornwall) anti-English.

In Scotland it is not unusual to see walls plastered 'English go home!' or similar nationalist slogans. The student who went to interview teachers in Cornwall was surprised by the tendency of non-Cornish teachers to take her side and mention how difficult it was for them to gain acceptance in the locality. 'The Cornish people', she reported, 'are very insular and regard themselves almost as a "race" apart. English people are foreigners. I was told that there is much resentment against "foreigners" getting all the plum jobs.' Are such attitudes to be discounted as irrelevant to our enquiry? We doubt it. Much feeling against coloured people and Jews is not fundamentally different to suspicion of any kind of stranger. The aim of policy should not be to eliminate every trace of suspicion of immigrant racial groups but to reduce it to the same level as anti-Americanism in England, anti-English feeling in Scotland or Cornwall, or the countryman's suspicion of the newcomer.

The arguments for and against the teaching of race questions in schools have not received sufficient attention in British educational circles. Many teachers maintained that it was inadvisable to teach such topics, on two grounds. First, they considered that much of the material dealt with matters of opinion rather than matters of fact. Secondly, they thought that race as a biological phenomenon was only incidental to inter-group relations and that to emphasize the racial factor was often to create a problem where none existed before. We take these arguments in turn.

An interviewer in a Scottish school commented as follows upon a conversation with the deputy head teacher: 'She did say that she seldom gave expression to racial issues and pointed out that the one sure opportunity of such discussion was in debates. In these cases one of the speakers would have to make out the case for *apartheid*, against tolerance. She said,

however, that the subject matter was comparatively unimportant; it was the formulation of an argument. To tell the pupil who was arguing in favour of segregation that he was on the wrong side was only to hinder his performance in the debate.' Though this is an extreme case, many other teachers took a similar view in concentrating upon the clash of opinions rather than emphasizing that in this sphere there is a considerable and growing body of ascertained fact about the biology of race and the sociology and psychology of race relations. One objective of education must be to reduce the realm of opinion and extend that of fact. The proposal to extend the teaching of racial questions in school is an argument that this factual material is important for the education of people who will have to live in tomorrow's world; and that it is a topic on which pupils' knowledge can be objectively examined. This viewpoint was understood by relatively few teachers.

In the second place, teachers often doubted the relevance of biology and of racial variation to the problem as they perceived it. One interviewer reported that 'quite a few teachers implied that there was no race problem in Cornwall but that there might well be one if social anthropologists asked too many questions and made people more aware of racial differences'. Race problems only exist, it is said, when people are conscious of racial distinctions: therefore, do nothing to make them—especially unsuspecting children—conscious of race. There is an element of validity in this objection: obviously pupils should not be encouraged to attribute significance to differences of appearance which they think only incidental to human nature. But when pupils develop their contacts with the outside world, they almost invariably become 'conscious' of race as a socially significant attribute; to neglect it in school may make later adjustment the more difficult.

The solution to this problem is not to introduce instruction periods on race and racial relations. It is to re-examine existing curricula in biology, geography, history, religious knowledge, and possibly one or two other subjects to see whether the attention given to racial aspects is proportionate to their importance on the current world scene. Most observers consider that in the decades to come the political significance of race is likely to increase, not decrease; certainly this is no temporary problem. It will scarcely be denied that biology, geography and history, at least, have a contribution to make to the understanding of racial issues in the modern world. Are they in fact making it to the full? Are teachers who would like to develop their subjects in this direction hindered by curricula and examination requirements?

The argument in favour of teaching racial questions is not based on political expediency. The argument is that limited aspects of these questions should be taught for educational reasons. Inter-group relations, especially where racial differences are involved, have become more and more important as world communication has extended and domestic isolation has fallen away. When the boys and girls now at school are

grown up, international communication—and the attendant possibilities for friction—will be more intense. The argument for teaching race questions in school, therefore, is not the negative one of eliminating prejudice but the positive one of informing pupils about what biological and social science can contribute to the understanding of a problem that European countries must now take seriously.

If teaching on racial questions is to be developed in schools experts should first consider its detailed application in the curricula of particular subjects; the Ministry of Education and local education authorities would have to advocate such applications; then detailed guidance in pamphlet or other form should be made available to teachers; examination boards should bring these questions within the scope of the examinations set; and the first attempts in this direction should be closely studied so as to discover any unanticipated difficulties.

What are the chief obstacles? There can be no disputing Mr. Antony H. Richmond's statement that alleviating the present shortage of teachers and suitable buildings is a prerequisite for educational progress in general.[1] But we differ with him on some other points. He underlines the emotional obstacles, the questions of discipline and corporal punishment, the personality of teachers, the function of discussion groups, training 'workshops' and parent-teacher associations. We are more inclined to emphasize how the teacher's role influences his perception of the question and his reaction to it.

The teacher sees this topic from an entirely different viewpoint, for if it is to be introduced in schools he will have to teach it. For him it is *work*. Teachers already have a conception of their job, and of what work they have to do. When they have held these conceptions for thirty years or more, they are reluctant to modify them because this implies that their past practice has been at fault. Most of them will need guidance in palatable form if they are to change their routine. They will have to be convinced that these new concerns do fit within the subject they have been teaching. Most work in any occupation is in a sense routine—it has to be. Consequently, the teaching of these topics should be considered as much a part of the routine as the teaching of Pythagoras' theorem or the history of the Wars of the Roses.

1. Anthony H. Richmond, 'Teaching Race Questions in Schools', *Phylon*, Vol. XVII, 1956, p. 239-49.

THE INSTITUTE OF POLITICAL STUDIES, MADRID

PURPOSE AND ORGANIZATION

The Institute of Political Studies (Instituto de Estudios Políticos, Plaza de la Marina Española, 8, Madrid, 13) was established by a decree of 9 September 1939 and given legal status and functional autonomy so as 'to study, from the political angle and with scientific rigour, the problems and events of administrative, economic, social and international life' in Spain. Its investigations should therefore bear on the everyday facts of Spanish life with a view to guiding the Government in its political decisions by means of reports and preliminary draft laws. The Institute likewise carries out activities of a strictly scientific nature which, albeit indirectly, have the same purpose.

The Institute operates in the building which formely housed the Senate. It is entitled to make full use of the fine Senate library of over 100,000 volumes in addition to its own specialized library of more than 13,000 volumes. Nearly 1,500 periodical publications are regularly received by its periodicals room.

In order to ensure the smooth operation of the various services mentioned above, the Institute of Political Studies comprises the following organs: (a) Directorate; (b) Standing Committee; (c) Sections; (d) General Secretariat; (e) Technical Secretariat; (f) Directorate of Studies; (g) Co-ordination Council.

The *Director* is responsible for the tasks of direction, execution and representation involved in the Institute's normal operation.

Since its establishment, the Institute has had the following Directors: (1939-43) Alfonso Garcia Valdecasas, Professor of Civil Law at the University of Madrid; (1944-48) Fernando María Castiella, Professor of Advanced Studies in International Law at the University of Madrid; (1948-56) Francisco Javier Conde, Professor of Political Law at the University of Madrid; (1956-61) Emilio Lamo de Espinosa, Director of the Institute of Agro-social Studies; (1961) Manuel Fraga Iribarne, Professor of State Theory at the University of Madrid.

The function of the *Standing Committee* is to draw up proposals and programmes for the recurrent activities of the Institute and its sections and to act as permanent adviser to the Directorate. The Committee, under the chairmanship of the Director of the Institute, comprises heads of sections, the Secretary-General, the Technical Secretary, the Director of Studies, *Procuradores* representing the Institute in the Cortes and a maximum of five members appointed by the Directorate.

The *Sections* are the Institute's specialized bodies. They comprise a head, a deputy head, a secretary and a variable number of members and experts selected on account of their specialized knowledge, mostly from among university teachers and senior officials of Government departments. There are at present seven sections: political law; public administration; international relations; justice (criminal law, private and procedure); social and corporative organization; economic policy; financial policy and fiscal law.

The *General Secretariat* is the administrative body which, under the immediate supervision of the Directorate, is responsible for the internal administration of the Institute, in co-ordination with the Technical Secretariat. It comprises the following departments: general affairs, personnel, archives, registry and supplies; administration and supervision; publications (production, distribution and sales); public relations and information.

The *Technical Secretariat*, under the immediate supervision of the Directorate and in co-ordination with the General Secretariat, makes all internal arrangements relating to publications and to the Institute's scientific and cultural activities and for the dissemination of information concerning them. It comprises the following

departments: exchanges and cultural information; library, periodicals room and documentation centre; Secretariat department for periodicals and bibliographical information.

The *Directorate of Studies* under the supervision of the Directorate of the Institute is responsible for planning, in respect of each academic year, the courses and lectures to be held at the Institute. It comes directly under the Directorate of the Institute.

The function of the *Co-ordination Council* is to plan and supervise the activities and internal administration of the Institute. The Director is its chairman, the other members being the Secretary-General, the Technical Secretary and the departmental heads.

ACTIVITIES

Advisory function

The normal way in which the Institute carries out the task entrusted to it since its foundation, i.e., the provision of information and advice for the higher governmental bodies, is to transmit information and to frame preliminary draft laws. In this connexion, special mention should be made of the work done by the political laws, public administration, justice, social and corporative organization and economic policy sections. This activity has resulted in the preparation of drafts which are extremely important from both the political and juridical aspects, e.g., the *Fuero de los Españoles*, and other draft legislation relating to joint stock and limited liability companies, to forced expropriation, administrative procedure, etc.

Courses, study meetings and conferences

The educational activities of the Institute of Political Studies go back to 1941, when courses in political studies were organized in three sections: political science, political economy and international studies, supplemented in the following year by a public administration section.

A second phase began in 1948 with the systematic organization of studies in two sections: administration and sociology. Meantime, the foundation of the Faculty of Political Science and Economics at the University of Madrid made it pointless to continue the courses as originally planned and they accordingly became more specialized. Simultaneously with these courses, study meetings were arranged under the leadership of specially qualified members of the Institute assisted by scholarship holders of the Institute selected on the basis of competitive examinations.

One of the most significant results of these courses and study meetings has been the formation of work teams and the participation of young graduates of the Spanish University in the Institute's activities. At the present time, most of the teachers are also on the staff of university faculties and a number of former scholarship holders work at the Institute.

The Institute is about to initiate a new phase in the courses and study meetings through the facilities made available by the Fulbright Commission and the International Study Institution of the Middle Classes.

Among the Institute's cultural activities, mention should be made of the lectures recently organized on a regular basis: a course on 'Public Administration and the Contemporary State' was held in Barcelona and another on 'Political Experiments in the Modern World' in Madrid.

Institute reviews

The Institute began publishing periodical reviews at a very early stage with the *Political Studies Review* (the first number was issued in 1941). Subsequently the

Public Administration Review, *Political Economy Review*, *Social Policy Review* and *International Policy Review* appeared as separate publications.

Publications

The intellectual activity of the Institute of Political Studies is undoubtedly reflected best in its publications, since its different series have not only increased Spain's contribution to the social sciences in general but have also made available to Spanish students material to which they would not otherwise have had access.

The basic aim has been to introduce the best features of European culture into the Spanish environment. The fact that the Institute found it necessary to entrust distribution of its publications to its own publishing house (Librería Europa, Alfonso XII, 26, Madrid) affords the clearest evidence of the importance which it has acquired in this field. The catalogue of publications comprises more than 300 titles in several different series.

THE CENTER FOR RESEARCH ON ECONOMIC DEVELOPMENT (CRED)

University of Michigan

The Center for Research on Economic Development (CRED) was established by the University of Michigan in June 1961 to undertake and facilitate studies of the economic development of underdeveloped countries, of its determinants and consequences, and of the national and international programme designed to accelerate and guide it.

The Center is primarily engaged in research, though it also provides some advisory services as well as non-credit training in research methods. Instruction in the various disciplines and professions important for economic development is provided by the established departments of the University. In particular, the Department of Economics offers a doctoral programme in development economics.

The Center is a university-wide organization, drawing on the resources and facilitating the research and teaching of many different units. Most closely associated with the Center's activities are the departments of anthropology, economics, geography, history, political science, psychology, and sociology; the schools of business administration, education, engineering, law, natural resources, public health and social work; the institutes of social research, public administration and science and technology; the centers for Japanese studies, Chinese studies, Near Eastern studies, South Asian studies and Russian studies; the centers for population studies, research on conflict resolution, and tropical studies; and the research seminar in quantitative economics.

RESEARCH PROGRAMME

The Center's research is theoretically oriented and is primarily directed to increasing scientific understanding of economic growth and development in the less developed countries. It is concerned with the non-economic as well as the economic conditions, processes and consequences of economic development. It draws upon the data, concepts and methods of a variety of disciplines.

Along with studies of the 'natural history' of economic development and social change, special attention is given to studying the management of planned change intended to promote economic growth and related social and political objectives. Studies will therefore be made of the conditions affecting, the administration of, and the results of, action programmes undertaken to direct and accelerate changes in individuals, institutions, social relationships, technology, investment, etc. Among the particular topics studied will be the conditions for successful introduction of major change in the organizations and societies of other countries, including: leadership styles; motivation, morale and performance; communication and persuasion, decision-making; the effects of interpersonal relations on change; and methods of training Americans and host country nationals for the change-agent role.

The Center is concerned also with methodological research. Available data, particularly data in quantifiable form, are inadequate to answer many of the questions about economic growth, especially where these questions concern the psychological, sociological and other non-economic aspects of economic growth. One of the Center's principal concerns, therefore, is to find out what data are already available, how valid and reliable they are for research purposes, and how to obtain additional and more useful data. The Center will devote some of its resources to actually collecting or helping other agencies collect the kinds of additional data needed.

STAFF

Professor Samuel P. Hayes has been appointed as director of the Center for Research on Economic Development for a three-year term, effective with the beginning of the academic year 1961-62 and ending 30 June 1964. From 1953 to 1960, Professor Hayes was Director of the Foundation for Research on Human Behavior, in Ann Arbor, and he has been a professor of economics in the College of Literature, Science and the Arts since 1959.

An executive committee for the Center for Research on Economic Development has also been appointed, comprising: the Director of the Center, *ex officio*; Dean Roger W. Heyns, College of Literature, Science and the Arts, *ex officio*; for three-year terms, ending 30 June 1964: Dean Floyd A. Bond, School of Business Administration and Professor Gardner Ackely, Department of Economics; for two-year terms, ending 30 June 1963: Dean Allan F. Smith, Law School, Professor Stanley A. Cain, School of Natural Resources, and Professor Ferrel Heady, Department of Political Science and Institute of Public Administration; for one-year terms, ending 30 June 1962: Professor Rensis Likert, Institute for Social Research and Professor Robert E. Ward, Department of Political Science.

THE INSTITUTE OF GROUP RELATIONS

University of Oklahoma, Norman (Okla.)

The Institute of Group Relations was established in 1956 with Muzafer Sherif as Director, to provide formal organization and support within the University of Oklahoma for a programme of research which had been in progress since 1949. Within the framework of university provisions for facilities and staff, and with additional funds from non-profit, grant-awarding agencies, the purpose of the

Institute is solely the conduct and reporting of basic research on relations within and between human groups, on social attitudes generated by and affecting these relationships, and on social conditions and psychological processes pertinent to their explication.

The research programme of the Institute combines field study of natural groups and laboratory experiments, attempting whenever possible to integrate the two approaches to capture the validity of actualities in the field while utilizing the advantages of experimental methods and of measurement techniques developed in the laboratory. Thus, various research units have involved: (a) experiments in the field on the formation of groups and the subsequent relationships between groups in conditions conducive to inter-group conflict and to inter-group collaboration; (b) studies on social judgement involving systematic variation of the communications or social objects presented to individual members of groups with known stands or values relative to them; (c) laboratory experiments on perception and judgement processes as affected by specified object relationships and by social influences; (d) intensive study of natural groups and their members through participant observation in natural conditions and through adaptations of situational techniques developed in the laboratory to the requirements of actual interaction situations.

Currently, research activities are focused on two major projects, with smaller units in the laboratory as integral parts of them (for purposes of theoretical clarification or standardizing techniques to be applied). The first is a long-term study of natural groups in differentiated areas of several large cities in the south-western United States. Individual behaviour and group processes are studied intensively in relation to the specified ecological and socio-cultural conditions in which the groups have formed and are functioning. Areas within each city are distinguished as to rank through socio-economic and cultural measures. This project involves, therefore, collection and collation of data concerning the urban areas themselves, the prevailing values of their residents, groups within them selected for observation, and individual members of those groups. The second major project is continuing study of social attitudes and evaluative judgements.

The research staff includes, in addition to the Director, post-doctoral research associates who collaborate in supervision and conduct of research; pre-doctoral associates sufficiently advanced to pursue research collaboratively, rather than under close supervision; and graduate student assistants for whom the research activities also provide a training ground for formulation of problems and procedures in their own doctoral research.

The Institute has arranged and sponsored lectures and symposia involving critical evaluation of a problem area by leading social scientists and psychologists from other institutions of higher learning in the United States. The published volumes incorporating the papers of the last two of the symposia are listed below. In addition, research papers are regularly released before publication for circulation to interested colleagues as theoretical and research reports of the Institute. The most recent of these are listed below to indicate recent activities soon to appear in published form.

PUBLICATIONS

The following works have appeared since formal authorization of the Institute in 1956:

General publications incorporating summaries of research at the Institute

SHERIF (M.); SHERIF, C. W. *An outline of social psychology*. New York, Harper and Brothers, 1956.

——; HOVLAND, C. I. *Social judgment: assimilation and contrast effects in communication and attitude change*, 1961.
——; HARVEY, O. J.; WHITE, B. J.; HOOD, W. R.; SHERIF, Carolyn W. *Intergroup conflict and cooperation: the robbers cave experiment.* Norman (Oklahoma), University Book Exchange, 1961.

Publications based on symposia arranged by the Institute

SHERIF, M.; WILSON, M. O. (eds.). *Emerging problems in social psychology.* Norman (Oklahoma), University Book Exchange, 1957.
SHERIF, M. (ed.). *Intergroup relations and leadership.* John Wiley and Sons, 1962. (In the press.)

Published articles and monographs

HOOD, W. R.; SHERIF, M. 'Judgment and verbal report of an unstructured stimulus', *Journal of Social Psychology*, 1962. (In the press.)
HOVLAND, C. I.; HARVEY, O. J.; SHERIF, M. 'Assimilation and contrast effects in reactions to communication and attitude change', *Journal of Abnormal and Social Psychology*, Vol. 55, 1957, p. 244-52.
SHERIF, Carolyn W. 'Self-radius and goals of youth in differentiated urban areas', *Southwestern Social Science Quarterly*, December 1961.
SHERIF, M. 'Experiments in group conflict', *Scientific American*, November 1956.
——. 'Superordinate goals in the reduction of intergroup conflict', *American Journal of Sociology*, Vol. 43, 1958, p. 349-56.
——. 'Social psychology, anthropology and the "behavioral sciences" ', *Southwestern Social Science Quarterly*, September 1959.
——. 'Some needed concepts in the study of social attitudes', in: J. G. Peatman and E. L. Hartley (eds.). *Festschrift for Gardner Murphy.* New York, Harper and Brothers, 1960.
——. 'Conformity-deviation, norms and group relations', in: B. Bass and I. Berg (ed.). *Conformity and deviation.* New York, Harper and Brothers, 1961.
——. 'The self and reference groups: meeting ground for individual and group approaches', in: *Fundamentals of psychology: the psychology of self* (Conference report) New York Academy of Sciences, December 1961.
——; TAUB, D.; HOVLAND, C. I. 'Assimilation and contrast effects of anchoring stimuli on judgments', *Journal of Experimental Psychology*, January 1958.

Theoretical and research reports of the Institute

These are pre-publication reports available in multilithed form for limited distribution.

LA FAVE, L.; SHERIF, M. *Placement of items on a controversial social issue*, 1959.
SHERIF, M.; KOSLIN, B. L. *The 'Institutional' vs. 'Behavioral' controversy in social science with special reference to political science*, 1960.
——; SHERIF, C. W. *Theoretical and research reports on behavior in natural groups within differentiated sociocultural settings*, Reports 2 and 3. 1960.
SHERIF, C. W. *Established reference scales and series effects in social judgment*, 1961.
——. *Categorization in social judgment*, 1961.

II. REVIEWS OF DOCUMENTS AND BOOKS

DOCUMENTS AND PUBLICATIONS OF THE UNITED NATIONS AND SPECIALIZED AGENCIES[1]

I. UNITED NATIONS

GENERAL ASSEMBLY

INTERNATIONAL LAW

Yearbook of the International Law Commission, 1960. Vol. II. 1961, iii + 181 p., $2. (A/CN.4/SER.A/1960/ADD.1)
[Ej. Pr. Sc.][2] Reports and draft articles concerning consular relations and immunities, responsibilities of States, treaty law, *ad hoc* diplomacy. List of the Commission's activities and documents.

Statute of the International Law Commission. iii + 7 p., $0.25. (A/CN.4/4/REV.1)
[Ej. Pr.] Texts revised to take into account the most recent amendments.

NON-SELF-GOVERNING TERRITORIES

Educational facilities and training programmes in the non-self-governing territories. March 1962, 71 p. (A/AC.35/L.353)
[Ej. Pr. Dp.] Present situation with respect to educational facilities and special training programmes in several non-self-governing territories in Africa and the Caribbean area. Appraisal of their effectiveness in meeting needs.

ECONOMIC AND SOCIAL COUNCIL

HUMAN RIGHTS, DISCRIMINATION, FREEDOM OF INFORMATION

Study of the right of freedom from arbitrary arrest, detention and exile. January 1962, 314 p. including annexes. (E/CN.4/826)
[Ej. Pr. Sc.] A general study. Basic principles and constitutional standards relating to arrest, detention and exile, and to the independence of the judiciary. Procedures for applying them. Proposed international principles.

National advisory committees on human rights. January 1962, 34 p. (E/CN.4/828)
[Dp. Ej. Pr.] Replies from some twenty governments concerning the setting up of national advisory committees on human rights.

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1. Generally speaking, no mention is made of publications and documents issued more or less automatically—regular administrative reports, proceedings of meetings, etc. Free translations have been made of the titles of certain publications and documents for which the English title could not be secured in time. The titles thus translated are indicated by an asterisk (*) in the margin.
2. For explanation of abbreviations, see page 763.

Draft principles on freedom and non-discrimination in the matter of religious rights and practices. March 1962, 19 p. (E/CN.4/L.602)
[Ej. Pr.] This working paper of the Commission on Human Rights reproduces amendments and new texts relating to certain parts of the principles proposed by governments.

Seminar on Freedom of Information. March 1962, 49 p. including annexes. (E/CN.4/L.603)
[Ej. Pr.] This seminar took place in New Delhi from 20 February to 5 March 1962. It discussed the role of the government, laws relating to the press, and the responsibilities of publishers and journalists.

LEGAL STATUS OF WOMEN

Inheritance laws as they affect the status of women. January 1962, 59 p. (E/CN.6/391)
[Dp. Ej. Pr.] This report, drawn up on the basis of replies received from some thirty States, comprises two chapters. The first contains information concerning intestate succession (widows' rights, effects of divorce, capacity of women to inherit, death duties, etc.) while the second chapter deals with succession by will (rights before and after marriage, limitation of the freedom to dispose of property by will, protection of the disinherited wife, etc.).

WOMEN'S WORK

Age of retirement and right to pension. January 1962, 132 p. (E/CN.6/394)
[Ej. Pr. Dp.] Report submitted by the International Labour Office to the Commission on the Status of Women. Present situation in various countries regarding the age of retirement, the nature and amount of benefits. Appraisal of the possible consequences of fixing an earlier retirement age.

Vocational preparation of girls and women. February 1962, 27 p. including annex. (E/CN.6/397)
[Ej. Pr.] This report by the International Labour Office describes the plan of a study now being conducted on the vocational guidance and training of girls and women. This study, designed for the ILO's advisers on problems involved in women's work, will analyse recent developments in the occupational status of women, with a view to drawing attention to the main problems arising, in relation to the stage reached by each country in its economic and cultural development.

ACCESS TO EDUCATION

Access of girls to elementary education. January 1962, 67 p. including annexes. (E/CN.6/396)
[Dp. Ej. Pr. St.] This report by Unesco describes the situation in various countries with respect to primary school enrolments of girls and the quality of education provided. The obstacles still to be overcome. General survey of progress achieved during recent years.

UNITED NATIONS SOCIAL PROGRAMME

Strengthening of the work of the United Nations in the social field. March 1962, 9 p. (E/CN.5/366 and annexes)
[Ej. Pr. Org.] Report of the Social Commission. Outline of the general trend of United Nations activities in the social field. Questions of organization. The two annexes to this document deal respectively with recent decisions taken in the social field by the General Assembly and the Economic and Social Council, and with the progress achieved in carrying out the programme of work adopted for 1961-63.

SOCIAL SERVICES

The organization and administration of social services. January 1962, viii + 38 p. (E/CN.5/360/REV.1)
[Ej. Pr.] Findings of a group of experts. Factors influencing the organization and administration of social services. The organization of such services. The State's responsibility. Finance.

DAY NURSERIES

Crèches and day nurseries. November 1961, 176 p. including annexes. (E/CN.6/385)
[Dp. Ej. Pr. St.] Report of the Commission on the Status of women, based on a study carried out by the International Children's Centre. Crèches and day nurseries. Their role in connexion with women's work. Their organization. The first part of the report sets forth the findings of a meeting of experts, while the second reproduces the reports submitted by four countries: Netherlands, Sweden, Finland and Poland.

WORLD FOOD PROGRAMME

Procedures and arrangements for the world food programme. March 1962, 20 p. including annex. (E/3594)
[Ej. Pr. Org.] This report concerns the first session of the UN/FAO Intergovernmental Committee, held in Rome from 12 to 20 February 1962. Draft rules or general recommendations concerning the institution and administration of the world food programme: guiding principles and criteria, types and fields of assistance, organization and administration, procedures, financial arrangements and studies.

STATISTICS, NATIONAL ACCOUNTING

The systems of industrial statistics of five highly industrialized countries. February 1962, 104 p. including annexes. (E/CN.3/285)
[Ej. Pr. St. Dp.] The five countries concerned are the Federal Republic of Germany, Netherlands, Norway, Union of Soviet Socialist Republics and United States of America. The report deals with the aims, organization, general methods and form of surveys, industrial units, definitions and classification.

Some recent problems and developments in industrial statistics. February 1962, 39 p. (E/CN.3/287)
[Ej. Pr.] The fields of industrial statistics in which new concepts or new practices have emerged.

Statistics of the financial accounts of enterprises. March 1962, 57 p. including annexes. (E/CN.3/289)
[Ej. Pr. Dp. St.] A comparative study of the needs and practices in collecting and processing statistics concerning the income, expenditure, assets and liabilities of enterprises in various countries.

Survey of national accounting practices. February 1962, 34 p. (E/CN.3/291)
[Ej. Pr. St. Dp.] The most usual practices, in the countries concerned, with regard to the definition of concepts, classification by sectors, operations covered by the accounts, main sources used, determination of current prices and constant prices.

Methodology and evaluation of continuous population registers. February 1962, 42 p. including annexes. (E/CN.3/293)
[Ej. Pr. Org.] This general survey of the data obtained from continuous population

registers is designed to facilitate the work of the United Nations Statistical Commission, Population Commission, and Scientific Committee on the Effects of Atomic Radiation. It emphasizes the significance of the data supplied by these registers.

Progress report of the United Nations Statistical Commission on activities in the field of demographic statistics (other than population census) 1960-1961 and proposals for 1962-1964. February 1962, 17 p. including annex. (E/CN.3/294)
[Ej. Pr. Org.] Collection, at the international level, publication and utilization of current demographic statistics, vital statistics, and statistics concerning migrations.

Progress report of the United Nations Statistical Commission on the 1960 world population and housing census programmes. February 1962, 34 p. including annexes. (E/CN.3/295)
[Ej. Pr. Org.] Present situation with regard to the execution of the programmes: participation of the various countries, handbooks, study meetings, processing of data, and direct assistance to the different countries.

Progress report of the United Nations Statistical Commission on development of statistics for social programmes. February 1962, 15 p. (E/CN.3/296)
[Ej. Pr. Org.] Progress of the compilation of a collection of social statistics and of a household survey handbook. Work bearing on the definition and appraisal of living standards from the international standpoint, classifications reflecting the social and economic structure of various countries, and housing statistics (other than those connected with the periodical housing censuses).

Progress report on classification of government accounts. January 1962, 5 p. (E/CN.3/297)
[Pr. Sc.] A critical analysis of the classifications proposed in the *Manual for Economic and Functional Classification of Government Transactions*, published in 1958 by the United Nations.

The implementation of the Standard International Trade Classification, revised. February 1962, 4 p. including annex. (E/CN.3/299)
[Dp. St. Pr.] Particulars concerning recent improvements in this classification. List of the countries which prepare their trade statistics in accordance with it. These countries account for 70 per cent of world trade.

Master programme for statistical compilation by computer. March 1962, 4 p. (E/CN.3/302)
[Ej. Pr.] This programme supplies the computer with comprehensive processing instructions, in the fullest detail and coded intelligibly. The basic prerequisites for the establishment of such a programme are described.

NEW SOURCES OF ENERGY

New sources of energy and energy development. February 1962, 149 p. including annexes. (E/3577)
[Ej. Pr. Bl.] The proceedings and findings of the United Nations Conference on New Sources of Energy (solar energy, wind power, geothermal energy), held in Rome from 21 to 31 August 1961. Comprises technical studies and a systematic general summary of papers submitted to the Conference and discussions thereon.

URBAN DEVELOPMENT

Report of the Ad Hoc Group of Experts on Housing and Urban Development. March 1962, 173 p. including annexes. (E/CN.5/367)
[Dp. Ej. Pr.] Recommendations of this Group of Experts, prefaced by a social and economic analysis of the major problems of urban development and housing trends. Attention given to such development in national policy. The role of international co-operation.

DEVELOPMENT

Report of the International Development Association. January 1962, 8 p. (E/3572)
[Dp. Ej. Pr. St. Org.] This first annual report, covering the 1960-61 period, briefly describes the status of the International Development Association.

Report of the International Development Association. February 1962, 8 p. (E/3572/ADD.1)
[Dp. Ej. Pr. St. Org.] The Association's activities from 1 July 1961 to 15 February 1962.

PLANNING

Problems of planning for balanced economic and social development. February 1962, 17 p. (E/CN.5/365)
[Ej. Pr.] Order of urgency of economic and social programmes. Distribution of resources between these programmes. Education, housing and other social fields. Administrative, structural and financial arrangements necessary for the co-ordination of the various aspects of planning for economic and social progress.

INTERNATIONAL FINANCIAL CO-OPERATION

Report of the International Bank for Reconstruction and Development. January 1962, 47 p. (E/3570)
[Dp. Ej. Pr. St. Org.] The Bank's activities during the financial year ended 30 June 1961. Financial transactions and technical assistance operations, classified by subject and by country. Balance sheet at 30 June 1961. Comparative statement of income and expenditure.

Report of the International Bank for Reconstruction and Development (supplement). February 1962, 13 p. (E/3570/ADD.1)
[Dp. Ej. Pr. St. Org.] Summary of the Bank's activities from 1 July 1961 to 15 February 1962.

Annual report of the International Monetary Fund for the fiscal year ended 30 April 1961. 1962, 199 p. (E/3569)
[Dp. Ej. Pr. St. Org.] General problems now arising in connexion with international payments. The Fund's activities.

Annual report of the International Monetary Fund. March 1962, 12 p. (E/3569/ADD.1)
[Dp. Ej. Pr. St. Org.] The International Monetary Fund's activities from 1 May to 31 December 1961.

Report of the International Finance Corporation. 1961, 35 p. (E/3571)
[Dp. Ej. Pr. St. Org.] This fifth annual report includes information on the Corporation's current activities and a special study of problems arising in connexion with financing industrial activities in developing countries.

AFRICA

Report of the Second Conference of African Statisticians. ii + 37 p. including annexes. (E/CN.14/113)
[Ej. Pr. Bi.] A summary of the proceedings of this Conference held in Tunis from 26 June to 7 July 1961: progress of the statistical survey on Africa; technical assistance; problems of training and recruitment; work carried out at the regional level; programme of activities for 1961-63. Annexed are lists of participants and working papers.

Report of the Workshop on Problems of Budget Reclassification and Management in Africa. iii + 65 p. (E/CN.14/117/REV.1)
[Ej. Pr.] This workshop, held at Addis Ababa from 4 to 15 September 1961, discussed the following subjects: the economic role of the State; use of accounting in the public sector; scope, structure and composition of the public sector; economic and functional reclassification of State operations at the budgeting and implementation stages; problems relating to the application of the system of 'programme budgets' and 'performance budgets'.

Report of the Seminar on External Trade Statistics. January 1962, 52 p. including annexes. (E/CN.14/120)
[Ej. Pr. Dp. Bl.] This seminar took place at Addis Ababa from 29 November to 7 December 1961. It discussed the following subjects: methods of assembling, processing and publishing external trade statistics in the different countries represented; possibilities of bringing the various systems into line with one another. Annexed are lists of working papers and participants.

Report of the Working Party on Economic and Social Development, Addis Ababa, 15-26 January 1962. February 1962, 64 p. including annexes. (E/CN.14/127)
[Ej. Pr. Bl.] Africa's attempts towards planned development of the economy and of social institutions. Demographic factors. Essential statistics.

Report of a Panel of Experts on the establishment of an African institute for economic development and planning. January 1962, 10 p. including annexes. (E/CN.14/128)
[Ej. Pr.] This Panel of Experts met at Addis Ababa from 4 to 7 December 1961. It considered the work that the institute might do in the follwing fields: planning courses, preparatory courses, seminars, advisory services, research. It also discussed the question of staffing.

Working paper on the proposed establishment of an African development and planning institute. January 1962, 20 p. (E/CN.14/128/ADD.1)
[Ej. Pr. Org.] Revised version of a working paper prepared for the Panel of Experts which met at Addis Ababa from 4 to 7 December 1961. Background of the proposal. Tentative outline of the institute's functions and organization.

The financial implications of the proposals made by the Panel of Experts for the establishment of an African institute for economic development and planning. January 1962, 5 p. (E/CN. 14/128/ADD.2)
[Ej. Pr.] Budget to be provided for preparatory activities in 1962 and for the years 1963-67. Probable contributions.

Possibilities of establishing an African development bank. January 1962, 73 p. (E/CN.14/129/ADD.1)
[Ej. Pr. Org.] This document, prepared for the meeting of a Panel of Experts, deals with the capital requirements of African States for the implementation of their development programmes, the means of raising the necessary capital, the role of an African Regional Bank, and the possibilities of co-operation with the Common Market Development Fund, the Inter-American Development Bank, the Colombo Plan and other similar institutions.

Report on the Economic Commission for Africa's community development activities in 1961. January 1962, 5 p. (E/CN.14/143)
A reminder of the relations between community development and economic development. Gives an acount of various training courses and study meetings held in Africa.

Community development and economic development. Preliminary progress report. December 1962, 40 p. (E/CN.14/144)
[Dp. Ej. Pr.] Progress of community development work in Africa. Future prospects.

Statistical training centres. January 1962, 6 p. (E/CN.14/151)
[Ej. Pr.] Concise information about the work of the three statistical training centres set up in Africa—at Accra, Addis Ababa and Rabat.

International economic assistance to Africa. December 1961, 53 p. (E/CN.14/152)
[Ej. Pr. Dp. St.] Total volume of foreign resources made available to Africa. Trends with regard to bilateral and multilateral assistance.

Information paper on technical assistance provided to countries and territories of the ECA region under the Expanded and Regular programmes (during 1961). January 1962, 64 p. including annexes. (E/CN.14/153)
[Ej. Pr. Dp. St.] This paper gives examples to illustrate the nature of the technical assistance provided for countries in this region: economic surveys, planning, statistics, development of natural resources, industrialization, transport, agriculture, housing, health, education, etc.

Unicef aid to child health and welfare projects on the African continent. January 1962, 20 p. including annexes. (E/CN.14/155)
[Dp. Ej. Pr. St.] Assistance provided up to the end of 1961. Co-ordination of Unicef's work with that of other United Nations bodies. Contributions paid to Unicef by African countries. Health services, special efforts to deal with certain diseases, family and child welfare, nutrition. Amount spent by Unicef for the benefit of the African continent up to January 1962.

Information paper on the Special Fund activities in Africa. January 1962, 11 p. (E/CN.14/156)
[St. Dp. Ej. Pr.] Information concerning thirty-eight investment programmes. Detailed description of three examples (Ghana, Morocco and Nigeria).

Establishment of sub-regional offices of the Economic Commission for Africa. January 1962, 6 p. including annexes. (E/CN.14/161)
[Ej. Pr. Dp.] Progress report on projects for the establishment of offices in various parts of Africa, to provide liaison with the Economic Commission for Africa (several African countries have given favourable answers). Text of Resolution 23(III) relating to this matter, adopted by the Commission at its forty-eighth plenary meeting, on 15 February 1961.

Economic Commission for Africa: Programme des travaux et priorités pour la période 1962-1963. February 1962, 57 p. including annex. In French only. (E/CN.14/162/REV.1)
[Ej. Pr. Org.] Annotated list of projects: general economic activities; industries; transport and development of natural resources; agriculture; community development; social welfare; vocational training.

Report of the Meeting of Experts on Development of Information Media in Africa. February 1962, 26 p. (E/CN.4/820/ADD.2)
[Dp. Ej. Pr.] The meeting took place in Paris from 24 January to 6 February 1962. The present report, submitted by Unesco, reviews the situation in Africa with regard to information media and deals with the following subjects: illiteracy; inventory of information media and educational facilities; new techniques; cost of a programme for the development of information media in Africa; press, radio, television and films; training and research.

LATIN AMERICA

Economic development, planning and international co-operation. December 1961, V + 65 p. (E/CN.12/582/REV.1)
[Dp. Ej. Pr. St. Sc.] Report of the Economic Commission for Latin America. Role of international co-operation in the co-ordination of the development activities of the various countries, with due regard to differences in rates of economic and demographic growth, particularly in Latin America.

Report of the Latin American Electric Power Seminar. Mexico City, 31 July to 12 August 1961. January 1962, vii + 194 p. (E/CN.12/50/4)
[Ej. Pr. Dp.] Present situation regarding the production and consumption of electric power in Latin America. Its importance for the economy of this region. Financial problems. The economic criteria to be applied when a choice has to be made between alternative ways of developing the electric power system. Hydro-electric resources. Nuclear energy and its possibilities in Latin America. The Seminar's participants. An account of the proceedings.

Report of the Economic Commission for Latin America on the Conference on Tax Administration. Buenos Aires, 11 to 19 October 1961. January 1962, iv + 167 p. (E/CN.12/AC.50/6)
[Ej. Pr.] Summary of discussions on the following subjects: obstacles to efficient tax administration; role of the fiscal system; distribution of the taxation burden; training of staff; administrative techniques; prevention of evasion. Account of the proceedings of the Conference.

ASIA AND THE FAR EAST

Planning for balanced social and economic development in Ceylon. March 1962, 64 p. (E/CN. 5/346/ADD.7)
[Ej. Pr. St.] Organization and methods of planning in this country. Fiscal aspects of the question. Evaluation of development levels, particularly in the social field.

Report of the Conference of Asian Statisticians (fourth session) to the Economic Commission for Asia and the Far East (eighteenth session). January 1962, 45 p. (E/CN.11/573)
[Ej. Pr. Org. Bl.] Questions discussed at this fourth session were: surveys on food and family standards of living; training of statisticians; world population (including housing) and agriculture census; industrial statistics; basic statistics necessary for economic and social development. Annexed is a list of the working papers.

Information paper on technical assistance provided to countries and territories of the ECAFE region under the Expanded and Regular programmes. January 1962, 39 p. (E/CN.11/574)
[Org. Ej. Pr. St.] Assistance provided in 1961 by the United Nations and the Specialized Agencies under their Regular and Expanded programmes: organization and development of public services, implementation of development plans, industrial and agricultural production, public health, education, social services.

Development of information media in Asia and the Far East. January 1962, 6 p. (E/CN.11/575)
[Ej. Pr. Org.] A brief report by Unesco, emphasizing the need to promote the development of telecommunications and the production of low-cost receiving sets and newsprint in Asia and the Far East.

Activities of the Joint ECAFE/FAO Agriculture Division in 1961. January 1962, 16 p. (E/CN.11/579)
[Org. Ej. Pr.] Continuing study of the development of food and agriculture in Asia and the Far East. Financial aid. Agricultural plans. Research and training in agricultural economy.

Information paper on Special Fund activities in Asia and the Far East. January 1962, 8 p. (E/CN.11/583)
[Ej. Pr. Org.] Progress report on fifty-nine projects concerning this region, as at 15 January 1962: twenty-three for establishing or strengthening vocational and technical schools; twenty-one for surveys of natural resources and related pilot projects; thirteen for developing applied research institutes; and two for helping governments in planning their economic development.

Asian Institute of Economic Development. A proposal by the Executive Secretary of the Economic Commission for Asia and the Far East. January 1962, 12 p. (E/CN.11/L.105)
[Ej. Pr. Org.] The proposals concern the site of the Institute, its programme, budget, and relations with planning organizations of the various countries in the region.

EUROPE

Development and strengthening of the work of the Economic Commission for Europe. February 1962, 12 p. (E/ECE/435)
[Ej. Pr. Org.] Present activities of the various organs of the Economic Commission for Europe (agricultural problems, coal, electric power, statistics, housing, transport, trade development, etc.). Importance of the broad comparisons made possible by this Commission. The Executive Secretary's suggestions for strengthening these activities.

European Agreement concerning the Work of Crews of Vehicles Engaged in International Road Transport (AETR). January 1962, 29 p. including annexes. (E/ECE/457)
[Ej. Pr.] Text of an agreement designed to promote the development and improvement of international road transport for passengers and goods, increase the safety of road transport, and regulate conditions of employment in accordance with the principles of the ILO. Annexed are a model individual control book for drivers and the protocol of signature.

SECRETARIAT

FORECASTS AND SURVEYS

Human resources of Central America, Panama and Mexico, 1950-1980, in relation to some aspects of economic development. 1960, viii + 155 p., $2. (ST/TAO/K/LAT/1)
[Dp. Ej. Pr. St. Sc.] Demographic forecasts for Central America (together with Mexico and Panama); comparison with needs arising out of economic development. Population trends. Problems involved in the utilization and building-up of the labour force. Distribution of population between town and country.

Sample surveys of current interest. Ninth report. Statistical papers, Series C, No. 10. 1962, 33 p., $0.50 (ST/STAT/SER.C/10)
[Dp. Ej. Pr.] This paper deals with surveys of family living conditions recently conducted in various countries.

FLOW OF CAPITAL

International flow of long-term capital and official donations, 1951-1959. 1961, vi + 41 p., (ST/ECA/70)
[Dp. Ej.Pr. St.] General trends in the flow of private and public capital. Action taken to increase the flow of international capital towards underdeveloped countries.

EUROPEAN AGRICULTURE

Review of the agricultural situation in Europe at the end of 1961. 1962, ii + 141 p., $1. (ST/ECE/AGRI/7)
[Ej. Pr. Dp. St.] This review covers all member countries of the Economic Commission for Europe (both East and West). State of the market and short-term production and trade prospects for the main agricultural commodities. European situation as regards cereals in 1961-62. Meat and livestock, dairy products in 1959 and 1960. Poultry industry in Europe. European egg market.

SOCIAL WELFARE

Report of the Planning Conference on the European Social Welfare Programme, 29 November-1 December 1961. 1961, 55 p. (SOA/ESWP/1961/1)
[Ej. Pr.] The Conference considered the organization and policy of the whole programme and drew up a general plan for forthcoming regional conferences.

II. SPECIALIZED AGENCIES

INTERNATIONAL LABOUR ORGANISATION (ILO)

PLANNING

Human resources development planning in modernizing economies, by Frederick H. Harbison. May 1962, 24 p. (Offprint from the *International Labour Review.*)
[Ej. Pr.] Problems involved in establishing elaborate manpower resources programmes geared to the particular development needs of a country in process of modernization. Outline of a policy. Suggestions for its implementation.

Social targets of the Czechoslovak Third Five-Year Plan, by Euzen Erban. March 1962, 14 p. (Offprint from the *International Labour Review.*)
[Ej. Pr.] The author of this article takes Czechoslovakia's third five-year plan as an example for explaining the place and nature of social targets of economic development, in his own country and in those with a similar system of government.

HOURS OF WORK

Hours of work. 1962, 81 p., $0.75.
[Ej. Pr.] Report for the International Labour Conference (forty-sixth session, 1962). Historical survey of international action for reducing hours of work. Previous discussions on this question at the forty-fifth session of the Conference. French and English versions of a draft recommendation.

SOCIAL SECURITY

Equality of treatment of nationals and non-nationals in social security. 1962, 101 p., $1.
[Ej. Pr.] Report submitted to the forty-sixth session of the International Labour Conference (1962). Observations of seventy-three governments on a number of draft recommendations and international conventions. English and French versions of these drafts.

Coverage of employment injuries under general social security schemes in Eastern European countries. May 1962, 22 p.
[Ej. Pr. Dp.] This document describes the rather special system of Eastern European

countries under which employment injuries are covered by the social security scheme and gives particulars of the treatment provided for the victims of such injuries.

WOMEN'S WORK

Discrimination in employment or occupation on the basis of marital status. March 1962, 22 p., and April 1962, 24 p. (Offprints from the *International Labour Review.*)
[Ej. Pr. Dp.] More and more married women are seeking employment, but they have to face special problems of discrimination. This document reviews the situation in various countries and suggests what action should be taken.

Absenteeism among women workers in industry, by Mrs. V. Isambert-Jamati. March 1962, 14 p. (Offprint from the *International Labour Review.*)
[Ej. Pr.] A comparison of absenteeism among men and women workers, followed by a study of the frequency of absences according to the age, qualifications and family responsibilities of the persons concerned.

NURSING STAFF

Part-time nursing employment in Great Britain, by Mrs. B. A. Nenneth. April 1962, 10 p. (Offprint from the *International Labour Review.*)
[Pr. Ej.] Problems relating to part-time employment of nurses. Opportunities afforded by the British system.

INDIGENOUS POPULATION OF BRAZIL

The social integration of indigenous populations in Brazil. I. *The Indian Protection Service,* by Darcy Ribeiro. April 1962, 22 p. (Offprint from the *International Labour Review.*)
[Ej. Pr.] Pacification methods applied by the Indian Protection Service. Legal status of the Brazilian Indian. Problems involved in his integration into the national community. Methods used by the Indian Protection Service to promote such integration.

The social integration of indigenous populations in Brazil. II. *The Indian problem in Brazil,* by Darcy Ribeiro. May 1962, 19 p. (Offprint from the *International Labour Review.*)
[Ej. Pr.] Second part of the study by Mr. Darcy Ribeiro. Analysis of various approaches to the social integration of Indians. Recommendations.

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS (FAO)

FORECASTS

Agricultural commodities—projections for 1970. FAO commodity review 1962. Special supplement. 1962, 195 p., $2.
[Ej. Pr. St. Dp.] Prospective production of, and demand for, the main agricultural commodities in which there is international trade. Implications for the subsequent economic development of various countries, particularly the underdeveloped ones. Growth in the demand for agricultural products is related to growth in population and income. The analysis is therefore based on hypotheses concerning economic development, the growth of individual resources, and the expansion of population. Countries have been divided into three main groups. The first includes North

America, Western Europe, Japan and five primary exporting countries (Australia, New Zealand, Argentina, Uruguay, and the Republic of South Africa). The third group takes in Eastern Europe, the Soviet Union and China (mainland), while the second includes the rest of the world, i.e., the less developed countries. The projections cover a period of about twelve years, three of which have already elapsed. Generally speaking, this period is 1957-59 to 1970-71.

LAND REFORM

Land reform in Italy, achievements and perspectives. 1962, 199 p., $2.
[Ej. Pr. St.] This general report, submitted by Mr. G. Barbero, deals with the development of co-operative organizations, the influence of land reform on the voluntary redistribution of land, indirect effects on the system of land use and the technological level of farms bordering on expropriated areas, changes in land distribution and tenure, the productivity of new farms, farms on redistributed land and old private properties, and the use of family income.

SPICES

Spices, trends in world markets. 1962, 77 p., $0.50. (Commodity bulletin series, no. 34.)
[Ej. Pr. Dp. St.] This monograph deals with nine commodities which together account for more than four-fifths of the world trade in spices, namely: pepper, cloves, nutmeg, mace, cardamom, cinnamon, cassia, ginger and pimento. It shows how in many cases consultation and some co-ordination of work at the international level could help in smoothing out difficulties encountered at present in the markets for different spices.

LIVESTOCK

Livestock in Latin America, status, problems and prospects. 1962, 94 p., $1.50.
[Ej. Pr. Dp. St.] Study of the livestock situation in this region. Analysis of economic and technical factors impeding development of the livestock industry and distribution of its produce. Possibilities of development. There are special chapters on the livestock industry in Colombia, Mexico, Uruguay and Venezuela.

WORLD HEALTH ORGANIZATION (WHO)

MATERNITY AND CHILDREN

**Welfare of mothers and children in the USSR.* 1962, 71 p., $1. (Public health papers, no. 11.)
[Ej. Pr. Dp. St.] Report prepared after a study tour in the U.S.S.R. organized by the World Health Organization in 1960. Basic principles. Application of these principles in the following four Republics, differing widely in many respects: R.S.F.S.R., Ukraine, Georgia and Uzbekistan.

MENTAL HEALTH

The role of public health officers and general practitioners in mental health care. 1962, 54 p., $0.60. (Technical report series, no. 235.)
[Ej. Pr.] Eleventh report of the Expert Committee on Mental Health. Problems involved in specialization in the care of mental patients. Vital role of the general practitioner who has a general knowledge of the patient.

STATISTICS

Epidemiological and vital statistics report. 1962. Vol. 15: no. 1, 88 p., $2.25; no. 2, 89 p., $2.25; no. 3, 87 p., $2.25; no. 4, 49 p., $1.75.
[Dp. St.] Periodic issues of a collection of world statistics concerning the movement of population and the incidence of various diseases and causes of death. The four issues under review contain studies on the ten main causes of death in the period 1954-59, on fatal accidents (1957-59), and on malignant tumours (1957-59).

UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION (UNESCO)

GENERAL CONFERENCE

Records of the General Conference (eleventh session, Paris 1960). Proceedings. 1962, 501 p., $8.
[Pr. Bl.] Verbatim records of the discussions in plenary meetings preceded by a list of delegates and observers, a list of working papers and a time-table of meetings (plenary meetings and meetings of commissions, committees and working parties).

HANDBOOK ON INTERNATIONAL AGENCIES

The newspaperman's United Nations: A guide for journalists on the United Nations and Specialized Agencies, by Jerzy Szapiro. 1962, 229 p., $1.75.
[Ej. Pr. Org.] This guide intended for schools of journalism to illustrate courses on international agencies, will also be helpful to anyone who needs to be well acquainted with the United Nations, the Specialized Agencies and their many organs. It deals with the following subjects: historical development; present structure and activities; legal, economic, social, cultural and humanitarian agencies; technical assistance; trusteeship system; co-operation with non-governmental organizations. A very convenient index is included.

INTERNATIONAL UNDERSTANDING

Measures to promote among youth the ideals of peace, mutual respect and understanding between peoples. May 1962, 71 p. (UNESCO/ED/189)
[Pr.] Report by the Acting Director-General of Unesco on ways of giving effect to resolutions on this subject adopted in 1960 by the United Nations General Assembly and the General Conference of Unesco.

DISCRIMINATION

The fight against discrimination: towards equality in education, by Pierre Juvigny. 1962, 77 p., no price quoted.
[Ej. Org.] In 1960, the General Conference of Unesco adopted an international convention and an international recommendation designed to promote the abolition of all forms of discrimination in education. Mr. Juvigny's work reproduces these documents, explains their origin and scope, and gives a bird's-eye view of the main existing forms of discrimination in education.

Establishment of a Conciliation and Good Offices Committee to seek a settlement of any disputes arising between States party to the Convention against Discrimination in Education March 1962, 21 p. (UNESCO/ED/188)
[Pr.] Article 8 of the Convention mentioned in connexion with Mr. Juvigny's work provides for the establishment of such a committee. The report under review describes its possible functions and organization. It includes draft statutes for the committee and gives extracts from provisions relating to similar bodies.

EDUCATIONAL CENTRES

Educational documentation centres in Western Europe. Comparative study, by Joseph Majault. 1962, 64 p., $1. (Educational studies and documents, no. 44.)
[Pr. Dp. Ej. Org.] The purpose of this report, covering Belgium, France, Germany, Italy, the Netherlands and Spain, is to show the variety of methods available to educational documentation centres. It deals with problems of forerunners; educational museums; the International Bureau of Education; Unesco; and the organization, operation and work (documentary and other) of educational documentation centres in the countries considered.

EDUCATIONAL METHODS

New methods and techniques in education. April 1962, 12 p. (UNESCO/ED/190)
[Pr.] Report of a meeting of experts held in Paris from 12 to 20 March 1962. Considerations on the use of radio, television, etc., in the educational field with particular reference to literacy campaigns and adult education. Practical possibilities. List of participants.

TECHNICAL AND VOCATIONAL EDUCATION

Technical and vocational education: preliminary draft international recommendation. April 1962, 17 p. (UNESCO/ED/183/ADD.I.)
[Pr.] This preliminary draft has been prepared by Unesco on the basis of comments by thirty-one countries and various international organizations on a preliminary report (UNESCO/ED/183, 31 October 1961), sent to them by the Organization. It is intended for a meeting of experts who will prepare a final draft to be submitted to the General Conference at its twelfth session. It describes the general principles that can be applied in technical and vocational education (industrial, commercial and agricultural) to increase its contribution to progress, and deals with the following questions: place of such education in modern society; planning of its development in the light of needs; organization, curricula and methods; staff; international co-operation.

International recommendation on technical and vocational education. May 1962, 62 p., bilingual: English-French. (UNESCO/ED/183/ADD.II.)
[Pr.] Full text of the comments received from Member States on document UNESCO/ED/183, referred to above. The comments are reproduced in either English or French, as appropriate.

International recommendation on technical and vocational education. May 1962, 5 p. (UNESCO/ED/183/ADD.III.)
[Pr.] Brief comparative analysis, item by item, of the replies reproduced in the foregoing document.

INFORMATION MEDIA IN AFRICA

Meeting of experts on development of information media in Africa (Paris, 24 January to 6 February 1962). Report of the meeting. May 1962, 49 p. (UNESCO/MC/45)
[Ej. Pr.] This was the third of the international meetings organized by Unesco at the request of the United Nations Economic and Social Council to discuss the help to be provided for developing countries to enable them to speed up the progress of their information media. The two previous meetings covered South-East Asia and Latin America. The report contains information and conclusions about the present state of information media in Africa, detailed recommendations for the improvement of the situation as regards news agencies and newspapers, radio

broadcasting, television and films, training and research in mass communication. It describes the proceedings of the meeting and concludes with a list of participants.

ARID ZONE

The problems of the arid zone. Proceedings of the Paris Symposium. 1962, 481 p., $13.50. [Sc. Org.] The Symposium was held in May 1960. It reviewed present-day knowledge regarding various aspects of the problem of improving living conditions of populations of desert and semi-desert areas. The publication reproduces the scientific papers submitted to the Symposium, together with summaries of the discussions.

STATISTICS

Preliminary study of the technical and legal aspects of the international standardization of statistics relating to book production and periodicals. March 1962, 5 p. (UNESCO/SS/36) [Pr.] Account of the background to the question. Excerpts from replies received from different countries consulted on proposed definitions, classifications and tabulations drawn up by a Committee of Experts.

EXPLANATION OF ABBREVIATIONS USED

Bl. = Contains an extensive bibliography.
Dp. = Presents facts country by country (or region by region).
Ej. = Supplies essential information to educators and journalists interested in social questions.
Org. = Is very useful for knowledge of the current activities of the international organization concerned.
Pr. = Supplies useful factual information for certain groups of people (educators, government officials, members of international organizations and social institutions, etc.) whose activities are connected with the subject matter of the document.
St. = Contains statistics.
Sc. = Deserves the attention of scientific workers in the field concerned.

The importance of these conventional signs is, of course, purely relative, and we do not wish their use to be taken as implying a system of classification. We use them merely in order to give as brief an abstract as is consistent with indicating, in the easiest way possible, that part of the contents of the publications and documents under review which relates to some particular branch of social science.

BOOK REVIEWS

ARON, R. *Paix et guerre entre les nations.* Paris, Calmann-Lévy, 1961. 794 p. Raymond Aron considers that international relations—the relations between political units—can be regarded from four angles of approach which between them cover the whole range of the problem: the general pattern of concepts and systems (theory), the general causes of events (sociology), their course of development (history), and the pragmatical

or ethical judgements formed on any particular event (praxeology).

Mr. Aron's conviction is that diplomatico-strategic behaviour will never be rationally determined, even in theory, so long as each separate human community is compelled to consider simultaneously its own safety and that of the diplomatic system and of the human race. At the same time he considers it possible to formulate a rational type of theory which offers certain models of diplomatic systems, although of course this can never be expanded to form an all-embracing theory, precisely because of the absence of a univocal aim in diplomatic behaviour. The theory presents the intelligible texture of a social complex: the unity of foreign policy derives from the relationship between strategy and diplomacy, war being a political action; an analysis of the means employed by foreign policy brings out its indubitable role but shows sufficiently clearly that that role is limited both in relations between rival political units and in relations between allies; the aims of foreign policy are manifold (security, power, glory or ideology are specific and eternal objectives), but the multiplicity of means and ends, of practical objectives and ultimate objectives, precludes any rational definition of the national interest, which is the motive power of all State activity (hence the indetermination of diplomatico-strategic behaviour); since diplomatic behaviour is not determined solely by the relationship of forces, and power is not the sole objective of diplomacy as utility is that of economics, there can be no general theory of international relations in the sense in which there is a general theory of economics. The most that can be done is to attempt to analyse the meaning of diplomatic behaviour, bring out its basic concepts and define the variable factors. The analysis of the international system brings in the configuration of the relationship of forces, the homogeneous or heterogeneous character of the system itself, and the status of international law; while the concept of balance applies to all systems, alike, since they may be either multipolar or bipolar. The analysis of systems culminates in the dialectics of peace—peace resulting from balance, hegemony or empire, wars on the inter-, supra- or infra-State level: the cold war is a half-way stage between war and peace, as are belligerent peace and revolutionary war.

The theory includes a suggested enumeration of the effect-phenomena, or determinates, for which the social scientist seeks to discover causal phenomena, or determinants. Three types of determinant of a physical or material character can be distinguished in this way—space, population and resources. The study of the social determinants can likewise be divided into three sections—the nation, the civilization, and mankind. Space, population and resources determine the causes or material means of a particular policy, while the nations with their systems of government, the different civilizations, and human and social nature constitute its more or less permanent determinants.

The theoretical analysis and the sociological analysis both culminate in the study of the present situation, dominated by two main factors: the technological revolution, resulting in the tremendous capacity for destruc-

tion (nuclear weapons) and for production (vanity of conquest); and the world-wide extension of the field of diplomacy, resulting in the real diversity of the system (varying principles of State legitimacy, size of political units) and its juridical homogeneity (United Nations, principles of equality between States and of their sovereignty). Since 1945 the international system has covered the entire world; the present situation is dominated by two coalitions; the creation of these two blocs owes little or nothing to the appearance of nuclear armaments, but resulted automatically from the situation created by the second world war; the dialectic, as such, of the blocs is a classical one, in conformity with the predictable logic of a bipolar balance. The existence of the *tiers-monde* emphasizes the paradoxical nature of the relationship between the two blocs, which from the reasonable standpoint should not fight each other but are nevertheless incapable of reaching agreement. The two great powers stand opposed to each other and compete with each other in the four corners of the globe, yet it is in the interest of both of them not to fight; they are allied against war. This has given rise to the concept of a strategy of deterrence; the paradox of the thermonuclear deterrent is that those States which possess it are desperately anxious not to make use of it, and are preparing for a war they have no desire to wage. But our experience of peace by deterrence is too brief to confirm or invalidate a theory, since theories are liable to become obsolete as quickly as do weapons: the idea that peace can be indefinitely maintained by a balance of terror cannot stand up to reflexion.

The essential facts of international relations give rise to two praxeological problems which might be described respectively as Machiavellian and Kantian: the problem of legitimate means, and the problem of universal peace. The ambiguity of international society is such as to make it impossible, in fact, to follow partial logic to its full conclusion, whether it be the logic of law or that of force. The only morality higher than those of battle and of law would be that of 'wisdom', which would strive not only to consider the distinctive features of every case but also to ignore no argument of principle or of expediency, to overlook neither the relationship of forces nor the will of the peoples. The perfecting of atomic weapons has not changed this problem in any way; now, as hitherto, statesmen and private individuals must act as prudence dictates, with no illusions and no hope of absolute security. The only realistic policy for the two great powers is to create conditions such that they will never (or only very rarely, and in exceptional cases) have to brandish the threat of thermonuclear weapons. This can be achieved by disarmament, in the broad sense of the term, and by diplomacy and strategy aimed at reducing the role of deterrence and strengthening that of defence. So far as the West in concerned, its survival —the best evidence of its victory—will perhaps be ensured by a moderate strategy making it possible to avert two dangers: suffocation, and death by violence. At the moment, the conditions for peace by domination or peace by law have not been realized, and peace continues to be nothing more than the absence or limitation of wars. However, Raymond Aron considers it

not impossible to envisage, even at this stage, a form of stable international order which would accord with mankind's vocation.

DIESING, P. *Reason in society. Five types of decision and their social conditions.* Urbana, University of Illinois Press, 1962. 262 p.

Taking as his starting-points technological rationality and economic rationality (which, he declares, tend all too often to be reduced to rationality in general), the author defines five types of rationality: technical, economic, social, legal and political. He considers these in turn, striving, in particular, to indicate the types of decision to which they lead and the types of social organization which are associated with them. Each chapter begins with a description of the social background under consideration and its trends of development; it then studies the social organization most closely conforming to the type of rationality concerned and to its principles of decision; and it concludes by considering the type of organizations involved. The basic concepts are those of functional efficiency (a characteristic of technical rationality), 'economization' (appraisal or selection of targets), negotiation (characteristic of economic rationality), and integration and balance (which denote social rationality) and the application of a system of rules (legal rationality). Lastly comes political rationality, which involves the 'structures of decision'—a concept which the author regards as covering 'discussion relationships', a set of common beliefs and values and the commitments already accepted by the group concerned. All these themes provide occasion for an abundance of individual analyses. The last chapter presents three definitions of reason, at least in so far as it applies to action: reason as a creative function, as a calculating activity, and as an application of rules. The author tries to trace these three concepts in the history of philosophy, and points to the need to combine them.

FRIEDMANN, G.; NAVILLE, P., eds. *Traité de sociologie du travail.* Paris, A. Colin, 1961. 2 vols.: 467 p.; 439 p.

Labour is a common denominator and a condition of all human life in society. It is usually defined in terms of its aim, which is utility, and of the dynamic relations it establishes between man and nature; but it assumes such a variety of aspects that it can be grasped only if considered from several angles.

The study of the human communities formed when work is performed is known as the sociology of labour. While inseparable from the other humanistic studies—history, human geography, ethnology, economics and demography—it borrows its methods and most of its investigation techniques—questionnaires, interviews, recordings, etc.—from sociology.

The great mass of the agents of labour, i.e., the labour force, is studied in the first place from the standpoint of types of employment. The different socio-professional categories are classified either according to branches of economic activity or according to individual occupations. National statistics use these two criteria to divide the labour force into three main

sectors: primary, secondary and tertiary. Part of the active population is unable, for various reasons, to find work. The study of the different types of unemployment is rendered difficult by imprecision in inventorizing. Apart from classification according to employment, the labour force may be divided according to ethnical groups, age, sex, etc.

The production units have themselves been transformed as a result of the development of machine technique. The independent craftsman has become a very rare exception. The present-day production unit is either the factory, which is a technical and geographical unit, or the undertaking, which is a legal and financial one. The sociology of undertakings is therefore bulking ever larger in labour sociology, with sociology of trade unionism and labour disputes developing along parallel lines.

The aims of social legislation reflect the present situation of the workers in industrialized societies. Three institutions are particularly characteristic of the desire to protect workers against material risks and against possible abuses of power on the part of the employers: collective agreements, joint production committees and social security.

Workers' attitudes and action cannot be interpreted solely in terms of the conditions governing labour, employment, remuneration and management; they are also influenced by the characteristics of society considered as a whole and by the position occupied in it by the working class, its relations with other social categories, and the extent of its participation in political power. This leads to a general reflection on industrialized societies: their development is characterized by the growing importance of wage earners within them, and hence by the transformation of a movement of social protest into an institution for the supervision, management or joint management of economic and social life, as a whole or in part.

Thus presenting an over-all view of the fields in which research workers are operating and of the main problems encountered by them, this *Traité de sociologie du travail*, which is the work of some thirty exceptionally well qualified specialists, may be regarded as a veritable compendium of the studies carried out in this important sector of sociology, and should provide a firm foundation for future research.

MARVICK, D., ed. *Political decision-makers. Recruitment and performance.* Glencoe (Ill.), The Free Press, 1961. 347 p. (International Yearbook of Political Behavior Research, II.)

This second volume in the series combines theory and research in making a study, based on a number of contributions, of the recruitment, socialization and professionalization of politicians. It takes its place among the many important works published since 1945 which have spotlighted the effect of social professional data on the career of politicians.

It must certainly have been difficult to carry out this study in different environments through the use of the same concepts; but common criteria have been successfully singled out. An initial distinction was established, moreover, between those politicians who live for politics, seeing it as a

means of having their own convictions translated into reality, and those whose profession gives them an indirect share in political decision-making (lawyers, teachers, journalists, etc.), and who generally use organizations of different kinds as a channel for expressing their ideas. Between these two extremes lie a number of intermediate cases, which are considered here.

The study of Indian intellectuals demonstrates their leading role at every stage of political decision-making—a role far more considerable than that of their Western counterparts—but it also reveals the weakness and negative aspect of their action in opposition or as critics. From the colonial period, the typical intellectual in India has retained the habit of fundamental opposition, and finds difficulty in re-adapting himself to constructive political activity. The Indian intellectuals are cut off from the basic social strata, and even those working in the public services have a sense of isolation.

At the other end of the scale, politicians in the Western democracies have to cope with a wide variety of problems; a 'political vocation' is more common among them, and 'heroic' motives for political activity, so characteristic of the young nations, are replaced by doctrinal considerations which justify not only action but also possible compromise, politics being 'the art of the possible'. Political life in France under the Third and Fourth Republics gave a large place to intellectuals, who were assumed to be detached from class conflicts through being accustomed to discussing problems transcending their personal interests. The drawbacks of this system were a lack of realism on the part of the leaders and an exaggerated extension of the parliamentary system. The decline of the role of the intellectuals in French political life began with the class stratification of the political parties. Various contingent factors, such as financial situation, connexions, professional success, etc., also have a considerable influence on the course of a political career in France. As to the British Labour Party, it was grafted on to an existing democratic system; beginning as an organization of militants, it became a mass party after the first world war; once in power, it began to recruit its leaders outside the working classes, from among the technicians of the constitutional order. The progressive development of a bourgeois spirit in successive Labour Governments shows the lenitive effect of parliamentary life on antagonisms and clear-cut attitudes. The professionalization of politics as a career has had the effect of concentrating the power of decision in the hands of a small number of leaders.

A study of the problems of oligarchy in a constituency held by one German party in West Berlin indicates that the leaders are tending to pay more attention to practical problems than to political analysis, to the detriment of the party. The plurality of offices within the party has an unfavourable effect on the continuity of leadership and on the participation of the general body of militants in that leadership; and the practice of co-opting candidates by backstage manoeuvres is becoming more and more common. There can be little doubt, however, that this oligarchic organization is rendered inevitable by apathy and ignorance among the rank-and-file, who would weaken the party's dynamism if they took a greater part

in its affairs. Matters have gone so far that there seems little possibility of mass pressure on the leaders to influence the party's political action. Thus, to hold the party together is becoming an end in itself.

In a diversified society, such as that in Los Angeles, the non-political aspects of community life come into competition with politics for the time and talents of the forces available. Both of the parties concerned—Democrats and Republicans—draw the bulk of their forces from the middle classes in each locality studied, but each recruits from clearly defined geographical areas within those localities. The participation in political activity by every one of the respondents was determined by a definite ideological preference and by involvement due to external factors: family considerations, desire to take some interesting activity, furtherance of a career, etc.

The American politician seems to possess the specific characteristc of not regarding a political career as a full-time occupation. He is not so totally committed to political life as are the intellectuals in the newly emergent States. The criteria for the selection of leaders are largely determined by considerations of political geography: when one party is dominant, interest groups have a decisive influence on the choice of its leaders, whereas when several parties are competing for votes, the leaders tend to be selected on the basis of personal merit. A further effect of competition is to place the interests of the party before those of the public.

At the end of this work, in which the comparative method is employed to particularly good effect, H. D. Lasswell presents an 'Agenda' for the study of the political élites, clearly defining this sector in which research has been particularly intensive.

RAY, D. P., ed. *Trends in social science.* New York, Philosophical Library, 1961. 169 p.

This book, which consists of a number of papers presented at a symposium organized by the Section of Social and Economic Sciences of the American Association for the Advancement of Science, summarizes the research done in several branches of social science (economics, political science, sociology, social statistics, etc.) from two standpoints: that of research requirements, and that of research trends.

Particular light is cast on two sectors: economic research, dealt with by Kenneth E. Boulding, and political science research, covered by Harold D. Lasswell. Ralph W. Tyler makes an interesting attempt to spotlight the main trends of interdisciplinary research in the social sciences, but he lacks the support of an adequate bibliography; the works from which he quotes, important though they may be, are not always representative of the main tendencies he sets out to analyse—a shortcoming especially hard on readers wishing to go beyond the limits of the research undertaken in the United States and consider the problem of the development of the social sciences at the international level.

In the case of research requirements, they are indeed approached; from the angle of the organization of research proper, but this takes second

place to the financial aspect of the question, on which the chief stress is laid. And here, again, the problem is considered solely in terms of the United States.

STORING, H. J., ed. *Essays on the scientific study of politics*. New York, Holt, Rinehart and Winston, 1962. xii + 333 p.

Analysing current trends in political science in America, the authors of this work give a general account of recent research and express doubts concerning the validity of the actual methods on which that research bases itself. Their aim is to answer the question of how far politics is amenable to really scientific study, and they pursue it by examining more specifically the studies carried out in the main fields of empirical research, such as the behaviour of the electorate, decision-making in administration, group dynamics, and propaganda and its techniques—studies which offer a striking example of the tendency to define political science as 'a science of behaviour'.

Walter Berns questions the value of studies of election results. Dismissing those which use electoral statistics for purely descriptive purposes to illustrate trends of political development, he concentrates on studies which aim at constructing a theory of political behaviour. In this respect, he finds the most significant to be *The People's Choice*, by P. F. Lazarsfeld, B. Berelson and H. Gaudet; *The Voter Decides*, by A. Campbell, G. Gurin and W. E. Miller; *American Voting Behavior*, by E. Burdick and A. J. Brodbeck; *Voting: A Study of Opinion Formation in a Presidential Campaign*, by B. Berelson, P. F. Lazarsfeld and W. N. McPhee; and *The American Voter*, by A. Campbell, P. E. Converse, W. E. Miller and D. E. Stokes. Mr. Berns makes the same criticism of all these analyses of electoral behaviour: that they sacrifice politics on the altar of methodology, their authors preferring statistically exact replies to those which have political significance. He finds an alarming contrast between the importance and urgency of political problems and the amount of attention devoted by present-day analysists to electoral behaviour. Hence the need for empirical political science to rediscover politics.

Herbert J. Storing questions the concept of administrative science as entertained by Herbert A. Simon, particularly in *Administrative Behavior: A Study of Decision-Making Processes in Administrative Organization*, and in certain more recent works such as *Models of Man*. The study of the process of administrative decision-making presented in these works seems to him to be carried to conclusions which in point of fact are based on beliefs, or implicit value judgements (what he describes as a pre-scientific divination of the nature of man and the universe) and can therefore claim to be no more firmly based on reason than the most common forms of knowledge.

Leo Weinstein's criticisms are directed against the scientific study of groups, which is even more typical than administrative science of a certain tendency in American political science. Many efforts have been made during the past ten years to buttress the explanation of political life in

terms of the group and its individual dynamics on a solid foundation. Those particularly responsible include David B. Truman (*The Governmental Process*), Philip Monypenny ('Political Science and the Study of Groups', *Western Political Quarterly*, June 1954), Bertram M. Gross (*The Legislative Struggle*), Donald C. Blaisell (*American Democracy under Pressure*) and Jack W. Peltason (*Federal Courts in the Political Process*). However, Leo Weinstein's longest attack (p. 151-224) is directed not against their work, but against Arthur F. Bentley's book, *The Process of Government*, which is regarded by all of them, in varying degrees, as authoritative. Quoting Bentley's statement that a given method cannot be deemed satisfactory until a large number of successful experiments have been conducted with it, he seeks to prove that the study of government, considered from the angle of group dynamics, has never led to anything but approximations. Furthermore, if we consider the group as the key to political life, and membership of a group as the motivation for human behaviour, we implicitly place ourselves in the position of being able to develop a science only in isolation from all objectivity—our conception of political life is itself governed by our membership of a particular group, and political 'science' ceases to be more than an approximative and empty lucubration.

No one has gone further than Harold D. Lasswell perhaps in stressing the need to differentiate between 'the science of politics' and the 'philosophy of politics', and to dismiss all normative considerations when studying political facts. Robert Horwitz, reviewing the whole body of Lasswell's writings, describing his political sociology in detail, pointing out all the theoretical implications of the psychological approach to political life and stressing Lasswell's analysis of propaganda, shows that his positivism is in fact subordinated to forecasting and to political reconstruction and that it is coloured in the last resort by his interest in social control.

Summing up these various criticisms, Leo Strauss gives a general picture from the standpoint of the theory of knowledge, and demonstrating the necessity of a philosophical basis for the social sciences, of the status of this 'new science of politics', itself so typical of the general development of the social sciences in the United States during the past twenty years.

ZETTERBERG, H. L. *Social theory and social practice.* New York, The Bedminister Press, 1962. 190 p.

The author, who is both theorist (see, for example, his book *On Theory and Verification in Sociology*) and practitioner, considers that the results already achieved by sociological research are sufficient to enable them to serve as a basis for formulating specific recommendations. Sociology can be applied or, as it were, commercialized, without ill effect, since the process does not involve adapting or popularizing its theories, but consists, on the contrary, of formulating practical situations in theoretical terms—in other words, discovering their principles and mechanisms.

After a rapid survey of advances made in sociology, H. L. Zetterberg draws on his own experience to describe the different stages in a consultation

and to analyse the process by which the 'client' can be given a valid opinion. The book concludes with a few pages on proper practice in consultation and the status of 'consultants'. The whole work is marked by empirical optimism coupled with relative caution.

BOOKS RECEIVED

The American College: a psychological and social interpretation of higher learning, by Joseph Adelson, Christian Bay, David Beardslee, Howard Becker. . . . Edited by Nevitt Sanford. New York, London, J. Wiley and Sons, 1962. 24 cm. xvi + 1084 p., tables, bibliography, index.

All aspects of American education at college level: students' motives in their choice of college and courses, college influence on students, teachers' aspirations. Typical features of the principal colleges and universities of the United States are described.

AUFRICHT, Hans. *Central banking legislation: a collection of Central Bank, monetary and banking laws*. Statutes and related materials selected and annotated by Hans Aufricht. Preface by Per Jaconson. Washington, International Monetary Fund, 1961. 23 cm. xxii + 1012 p., tables, bibliography, index. $10.

Selection of English texts of the monetary laws of twenty-one countries of Central America, the Far East and the Commonwealth.

BAER, Gabriel. *A history of landownership in modern Egypt, 1800-1950*. London, New York, Toronto, Oxford University Press, 1962. 22 cm. xiv + 252 p., figures, full-page maps, tables, folder, bibliography, index. 35s. (Middle Eastern Monographs, 4.)

Evolution of landownership in Egypt from the abolition of the traditional system to the fall of the monarchy: development of private ownership, formation of large estates, etc.

BENEDICT, Burton. *Indians in a plural society: a report on Mauritius*. London, Her Majesty's Stationery Office, 1961. 24 cm. 168 p., figures, plates, map, tables. 25s. (Colonial Office, Colonial research studies, 34.)

An historical and sociological study of the Indians in Mauritius.

BESSAIGNET, Pierre. *Méthode de l'anthropologie*. Teheran, Institut d'études et de Recherches Sociales, 1961. 24 cm. 46 p., figures, tables, folder. (Université de Téhéran, Institut d'études et de recherches sociales, 5.)

An introduction to social anthropology for students in countries where research in this field has only recently begun.

BLANCKENBURG, Peter von. *Einführung in die Agrarsoziologie*. Stuttgart, Ulmer, 1962. 22 cm. 172 p., figures, tables, index.

To introduce readers to the field of rural sociology, still largely unexplored in Europe, the author devotes the first part to analysing fundamental sociological concepts that describe a pre-industrial or industrial society and explain its development, and the second part studies the place of the rural population in an industrialized economy and the life of the main rural social groups.

BUSEY, James L. *Notes on Costa Rican democracy.* Boulder (Col.), University of Colorado Press, 1962. 26 cm. vi + 84 p., figures, map, bibliography. $2. (University of Colorado studies, Series in political science, 2.)
This monograph analyses essential features of Costa Rican democracy and its economic and social context.

CASSINELLI, C. W. *The politics of freedom: an analysis of the modern democratic State.* Seattle, University of Washington Press, 1961. 23 cm. 214 p., bibliography, index. $4.75.
Study of the great Western democracies reveals certain characteristics common to all democratic States. The author analyses various aspects of representative government, the ideological basis of democratic liberties and the way these are expressed institutionally.

CH'U, T'ung-tsu. *Local government in China under the Ch'ing.* Cambridge (Mass.), Harvard University Press, 1962. 24 cm. xvi + 360 + 1 p., tables, bibliography, index. $9.50. (Harvard East Asian studies, 9.)
Comprehensive study of the administrative system in China under the Ch'ing at the *Tcheou* and *Hieu* levels.

CHAVES, João Pires; LEITE, Rui Ferreira. *A medida da produção industrial portuguesa.* Lisboa, Associação industrial portuguesa, 1962. 21 cm. 151 p., figures, tables, folder. (Estudos de economia aplicada, 15.)
Quantitative study of Portuguese industrial production, with an attempt to calculate annual and monthly indexes for the 1953-60 period.

COMMUNAUTÉ ÉCONOMIQUE EUROPÉENNE. COMMISSION. *L'évolution de l'emploi dans les États membres (1954-1958).* Luxembourg, Services des Publications des Communautés Européennes, 1961. 25 cm. 280 p., tables. 12 NF. (Communauté économique européenne, Commission.)
General outline of the system and development of employment in countries of the Community, usefully supplemented by analyses for each member country and by statistical annexes.

CORMACK, Margaret. *The Hindu woman.* London, Asia Publishing House, 1961. 22 cm. xii + 200 p., bibliography, index. 21s.
A general picture of the Indian woman from birth to motherhood, through childhood, adolescence, courtship and marriage.

Criminal statistics in Israel, 1949-1958. Vol. I. *Tables.* Compiled and edited by O. Schmelz and D. Salzman. Jerusalem, Institute of Criminology, 1962. 27 cm. xxxiii + 223 p., tables. (The Hebrew University of Jerusalem, Faculty of Law, Institute of Criminology, 1.) [Bilingual text: English-Hebrew.]
This first volume of statistics on crime in Israel since 1949 will make possible the second step of identifying the characteristics of crime in that country and comparing them with data collected among the Jewish communities of the Diaspora.

DE MEO, Giuseppe. *Saggi di statistica economica e demografica sull'Italia meridionale nei secoli XVII et XVIII.* Introduction by Raffaele Ciasca. Rome, Bimospa, 1962. 24 cm. 311 p., figures, tables. 2,800 lire. (Istituto di statistica economica dell' Università di Roma, 1.)
An inquiry, based on data from cadastral surveys, into the economic and demographic situation of five towns in Southern Italy, Lecce, Bari, Foggia, Barletta and Castellammare di Stabia in the seventeenth and eighteenth centuries. The conclusions drawn are particularly related demographic phenomena: the formation of new social classes, rural migration, transfer of wealth from one class to another.

DI NARDI, G.; BYÉ, M. *Voies et moyens de la conversion industrielle.* Paris, Dalloz et Sirey, 1961. 23 cm. 136 p. (Communauté Européenne du Charbon et de l'Acier, Haute Autorité, Collection d'économie et politique régionale. 1. La conversion industrielle en Europe, 2. Eurolibri, 5.)
Governmental means of intervention for facilitating industrial reconversion; reconversion in countries of the ECSC—especially of coalmines—and in the United Kingdom.

DUMAZEIDIER, Joffre. *Vers une civilisation du loisir?* Paris, Éditions du Seuil, 1962. 21 cm. 319 p., tables, bibliography, index. 15 NF. (Collection Esprit, La condition humaine.)
The place of leisure in contemporary society: its influence on work and the family; leisure and various aspects of culture: travel, cinema, television, reading; the problem of 'active' leisure.

DURAND, Paul. *La participation des travailleurs à l'organisation de la vie économique et sociale en France.* Paris, Dalloz et Sirey, 1962. 23 cm. 64 p. (Communauté Européenne du Charbon et de l'Acier, Haute Autorité, Collection du droit du travail, 1. Eurolibri, 7.)
Means available to French workers for taking part in the organization of economic and social affairs: (a) within the framework of State institutions—participation in the formulation of the State's economic and social policy and in the functioning of public services; (b) participation outside the framework of State institutions.

The early Jewish labor movement in the United States. Translated and revised by Aaron Antonovsky from the original Yiddish, edited by Elias Tcherikower. New York, Yivo Institute for Jewish Research, 1961. 23 cm. viii + 379 p., tables, index.
The author of this account of the beginnings of the Jewish labour movement in the United States starts by tracing its European origins.

East Africa through contemporary records. Selected and introduced by Zoe Marsh. Cambridge, University Press, 1961. 22 cm. xxii + 215 p., illustrations, plates, portraits, facsimiles, maps, bibliography. 25s.
A collection of documents, letters and notes for use in the study of contemporary East Africa.

FAIRN, R. D. *The disinherited prisoner.* Liverpool, Liverpool University Press, 1962. 22 cm. 14 p. (Eleanor Rathbone Memorial Lecture, 12.)
Various examples illustrate the situation and behaviour of prisoners and the problem of society's responsibility towards them.

FAUCHER, Maurice. *Les réformes de la Ve République: essai de classement systématique.* Preface by Maurice Vidal. Vol. II. Paris, from the author, 1961. 27 cm. Multiple paging, multigraphed. 15 NF.
This book gives the references of texts published between 1959 and 1960 on legal and social questions (official texts, review articles, ministerial replies, jurisprudential decisions).

FERARD, Margaret L.; HUNNYBUN, Noël K. *The caseworker's use of relationships.* London, Tavistock Publications, 1962. 22 cm. xii + 133 p., bibliography, index. 20s. (Mind and medicine monographs.)
A series of specific case-histories illustrating different aspects of the role of the social worker and of individual behaviour during consultation, pointing out solutions to various family and social cases.

FONTENELLE, Luiz Fernando Raposo. *A dinâmica dos grupos domésticos no arraial do Cabo.* Rio de Janeiro, Serviço social rural, 1960. 23 cm. 42 p., illustrated. (Estudos, 2.)
A sociological study of domestic economy and family customs in a Brazilian village.

FONTENELLE, Luiz Fernando Raposo. *Rendas e rendeiras do arraial do Cabo: Contribuição para o estudo sociológico da renda no Brasil* (Contribution to the sociological study of earnings in Brazil). [Rio de Janeiro], no date. 24 cm. 18 p., figures.
Sociological study of lacemakers in a Brazilian village.

FOSTER, George M. *Traditional cultures and the impact of technological change.* New York, Harper and Brothers, 1962. 21 cm. xvi + 292 p., bibliography, index. $4.75.
A picture of traditional rural society and an analysis of the psycho-sociological disturbances caused by the incursion of modern techniques.

GOULD, James W. *Americans in Sumatra.* The Hague, M. Nijhoff, 1961. 24 cm. viii + 185 p., tables, bibliography, index. 14.25 guilders.
A contribution to the history of relations between the United States and Sumatra since 1873.

GRAY, Robert M.; MOBERG, David O. *The church and the older person.* With a foreword by Ernest W. Burgess. Grand Rapids (Mich.), W. B. Eardmans, 1962. 22 cm. 162 p., index. $3.50.
How churches can help old people on the psychological and spiritual planes to adjust to their new circumstances.

HALLE, Louis J. *Men and nations.* Princeton (N. J.), Princeton University Press, 1962. 22 cm. xii + 228 p., figures, index. $4.75.
Various aspects of political society, problems of organizing political authority as exemplified in the course of history and studied by the great political theorists are considered from a fundamentally philosophic point of view.

HAMUY, Eduardo *et al. El problema educacional del pueblo de Chile.* Santiago de Chile, Editorial del Pacífico, 1961. 19 cm. viii + 101 p., figures, tables.
The problem of education in Chile and school attendance deficiencies in that country, with regard to both the school attendance figures and the length of individual attendance.

HECKEL, Roger, S. J. *Le Chrétien et le pouvoir: légitimité, résistance, insurrection.* Paris, Éditions du Centurion, 1962. 18 cm. 175 p. 7,70 NF. (L'Église en son temps.)
Where does lawful authority reside? How can unjust laws be resisted without destroying the necessary cohesion of society? What is the right line of conduct in conditions of insurrection? The teaching of the Church and the responsibility of religious authority in these matters, the responsibility of the individual Christian and its hazards.

Histoire du parti communiste français. Vol. I: *Des origines du PCF à la guerre de 1939* (From the beginnings of the Party to the 1939 war). Vol. II: *De 1940 à la libération* (From 1940 to the liberation). Paris, Édition Veridad, Éditions Unir, 1960-62. 2 vols. 18 cm. 290, 315 p., bibliography. 9 NF per volume.
An unofficial history, by 500 anonymous 'Communist militants', of the origins, birth and development of the Communist Party and its attitude towards major domestic and international problems.

HORKHEIMER, Max; ADORNO, Theodor W. *Sociologica II. Reden und Vorträge.* Frankfurt/Main, Europäische Verlagsanstalt, 1962. 21 cm. 244 p. DM18,00. (Frankfurter Beiträge zur Soziologie, 10.)

This collection of lectures by two sociologists who have made the Institute of Sociology of the Goethe University in Frankfurt famous, deals with a wide range of subjects and presents a fairly comprehensive picture of contemporary sociological thought.

LARSEN, Otto N.; CATTON, William R., Jr. *Conceptual Sociology: a manual of exercises relating concepts to specimens, principles and definitions.* New York, Harper and Brothers, 1962. 28 cm. xii + 276 p., figures, illustrated.

This textbook offers the student of sociology a series of exercises and practical examples which should enable him to identify the concepts most commonly used in this discipline.

LAWRENCE, Douglas H.; FESTINGER, Leon. *Deterrents and reinforcement: the psychology of insufficient reward.* Stanford (Calif.), Stanford University Press, 1962. 23 cm. x + 180 p., figures, tables, bibliography, index. $4.75.

A series of experiments and tests with animals throws light on certain aspects of the question of acquiring knowledge and, more specifically, on the effect of 'dissonance', theories on which have been frequently invalidated hitherto by results of experiments.

LEBEUF, Jean-Paul. *L'habitation des Fali, montagnards du Cameroun septentrional: technologie, sociologie, mythologie, symbolisme.* Paris, Hachette, 1961. 26 cm. 609 p., figures, plates, maps, tables, bibliography, index. 125 NF. (Bibliothèque des Guides bleus.)

A study of the habitat in its physical form, its social significance and also in terms of the myths and symbols that endow it with 'cosmological and anthropomorphic meaning'.

LOVEDAY, Peter; CAMPBELL, Ian. *Groups in theory and practice.* Melbourne, Canberra, Sydney, F. W. Cheshire, 1962. 22 cm. 98 p., bibliography. 15s. (University of Sydney, Department of Government and Public Administration, Sydney studies in politics.)

An outline of the various theories of political groups, criticisms of them and positive conclusions which can be drawn from them, followed by a study of political groups in Australia at present. Campbell deals in particular with political parties, pressure groups and federations.

MAIER, H.-J.; MEYER-MARSILIUS, H. *Le représentant de commerce dans le Marché Commun.* Paris, Dalloz et Sirey, 1961. 23 cm. xviii + 296 p., bibliography. (Eurolibri, 2.)

The activities, possibilities of development, legal position and practical situation of the sales representative in different EEC countries.

MAIN, Jackson Turner. *The Antifederalists: critics of the Constitution, 1781-1788.* Chapel Hill, University of North Carolina Press, 1961, 23 cm. xviii + 308 p., bibliography, index. $7.50. (The Institute of Early American History and Culture.)

Though the 'Antifederalists' were so called by their opponents they were not in fact against the principle of a federal State; basically, they wanted to limit the power of the central Government and extend democratic safeguards. The author analyses the various reactions of public opinion and the discussions evoked by the 1787 Constitution and demonstrates that it was among the small farmers that the ideas of the Antifederalists had most support.

MARDIN, Serif. *The genesis of young Ottoman thought: a study in the modernization of Turkish political ideas.* Princeton (N.J.), Princeton University Press, 1962. 22 cm. x + 456 p., bibliography, index. $10. (Princeton Oriental Studies, 21.)

At the end of the nineteenth and the beginning of the twentieth centuries, the emergence of modernist and 'reforming' élites was a phenomenon common to all countries of the colonial East and Muslim countries in particular. In this respect, the development of the Turkish intelligentsia and its efforts to devise an ideology in tune with both Islamic tradition and the modern Western-dominated world had considerable influence on similar efforts made at that time in Turkish or Turkish-influenced countries. This publication has the merit of making clear the main lines and facets of the intellectual revolution which led to the revolution of 1908.

As migrações para o Recife. Preface by Gilberto Freyre. I: *Estudo geográfico*, by Mario Lacerda de Melo. 115 p., folder; II: *Aspectos do crescimento urbano*, by Antônio Carolino Gonçalves. 47 p.; III: *Aspectos econômicos*, by Paulo Maciel. 27 p. Recife, Instituto Joaquim Nabuco de Pesquisas Sociais, 1961. 23 cm. Tables. (Ministério da Educação e Cultura, Instituto Joaquim Nabuco de Pesquisas Sociais.)
Studies of the movements of rural populations of north-east Brazil towards the urban metropolis of Recife.

MOREIRA, Adriano. *Portugal's stand in Africa.* New York, University Publishers, 1962. 21 cm. x + 265 p. $3.95.
This defence by the Portuguese Minister for Foreign Affairs of Portugal's colonial work in Africa is addressed to the American public and warns it of communist danger.

Morphologie des groupes financiers. Preface by Jean Meynaud. Brussels, Centre de Recherche et d'Information Socio-politiques, 1962. 23 cm. 488 p., figures, tables, index. (Structures Économiques de la Belgique, 1.)
Main financial groups in Belgium: organization, financial strength, 'tie-ups'.

MOTWANI, Kewal. *Integration: A programme of education.* Madras, Ganesh and Co., 1962. 19 cm. xx + 120 p.
A defence and exposition of a minimum educational programme designed to save India from the main danger which threatens her national disintegration.

NOUSCHI, André. *Enquête sur le niveau de vie des populations rurales constantinoises de la conquête jusqu'en 1919: essai d'histoire économique et sociale.* Paris, Presses Universitaires de France, 1961. 24 cm. lxxiv + 769 p., maps, loose plates, bibliography, index. 25 NF. (Université de Tunis, Publications de la Faculté des Lettres, 4e série, 3.)
A very important survey of the effects of colonization in the Constantine district. The author demonstrates that traditional Muslim society underwent an economic, juridical and social revolution not compensated by any improvement in technology.

PADELFORD, Norman J.; LINCOLN, George A. *The dynamics of international politics.* New York, The Macmillan Co., 1962. 24 cm. xvi + 634 p., figures, maps, full-page map, tables, bibliography, index. 56s.
This manual sets out to describe the main factors affecting international policy in a period of transition as well as some aspects of inter-State relations on the diplomatic and ideological planes.

Les politiques nationales de développement régional et de conversion, by W. Giel, N. Nabokoff, M. Parodi, F. Ventriglia. . . . Introduction by R. Reynaud. Paris, Dalloz et Sirey, 1961. 23 cm. 195 p., tables. (Communauté Européenne du Charbon et de l'Acier, Haute Autorité, Collection d'économie et politique régionale. I: La conversion industrielle en Europe, 1. Eurolibri, 5.)
Industrial reconversion policies adopted by the six ECSC countries and by Great Britain.

POPESCU, Oreste. *Ensayos de economía de empresa.* Buenos Aires, Lima, Rio de Janeiro . . . , Libreria 'El Ateneo', 1961. 23 cm. xviii + 165 p., figures, bibliography, index. (Biblioteca de ciencias económicas, Sección: economía de empresa.)
An instructional digest of the history of business management, the rationalisation of production and the concept of productivity. The teaching of business management in the Argentine.

POUPART, R. *Facteurs de productivité de la main-d'œuvre autochtone à Elisabethville.* Preface by A. Doucy. Brussels, Éditions de l'Institut de Sociologie Solvay, 1960. 24 cm. xviii + 179 p., bibliography. 175 Belgian francs. (Université Libre de Bruxelles, Institut de Sociologie Solvay, Centre d'Étude des Problèmes Sociaux de l'Industrialisation en Afrique Noire.)
The author examines the influence of working conditions, length of contract, occupational qualifications, wage rates, holidays and human relations on the degree of productivity of African labour.

Le pouvoir et le sacré, By Luc de Heusch, Philippe Derchain, André Finet, Léopold Flam. . . . Brussels, Université Libre, Institut de Sociologie, 1962. 24 cm. 186 p. 120 Belgian francs. (Annales du Centre d'Étude des Religions, 1.)
Belgian universities study the problem of the sanctification of authority in Egypt, Mesopotamia, Mycenae, Rome, India, Africa and in contemporary civilizations.

Il progresso tecnologico e la società italiana: trasformazioni nell'organizzazione aziendale in funzione del progresso tecnologico 1945-1960. Atti del Congresso internazionale de studio sul progresso tecnologico e la società italiana. . . . (Milan, 28 June-3 July 1960.) Bologna, Il Mulino, 1961. 22 cm. 240 p., figures, tables, index 1,700 lire. (Centro Nazionale di Prevenzione e Difesa Sociale, Problemi della società italiana, XVIII.)
Insufficient organization of businesses in Italy and the importance of training managements to achieve a satisfactory balance between the individual and the organization.

La protection des travailleurs en cas de perte de l'emploi, by G. Boldt, D. Durand, P. Horion, A. Kayser. . . . Luxembourg, Service des Publications des Communautés Européennes, 1961. 23 cm. 490 p., tables. (Communauté Européenne du Charbon et de l'Acier, Haute Autorité, Collection du droit du travail, 2. Le droit du travail dans la communauté, XI. Eurolibri, 1.)
A study of the legal mechanisms used to combat unemployment in the six member countries of the ECSC.

PRYCE, Roy. *The political future of the European Community.* London, The Whitefriars Press, 1962. 23 cm. 108 p. 15s. (John Marshbank Ltd., Federal Trust for Education and Research.)
The author, who is British and an official of the European Community, considers the prospects for creating a United States of Europe and the political implications of Great Britain's entry into the Common Market.

PYE, Lucian W. *Politics, personality and nation-building: Burma's search for identity.* New Haven (Conn.), London, Yale University Press, 1962. 24 cm. XX - 307 p., index. $7.50.
Analysis of the political culture of Burma and, from these data, of the process of creating a modern State.

Race relations. Problems and theory. Essays in honor of Robert E. Park, edited by Jitsuichi Masuoka and Preston Valien. Chapel Hill, University of North Carolina Press, 1961. 23 cm. x + 290 p., tables, bibliography, index. $6.
Nineteen essays on the various theoretical and practical aspects of the problem of

race relations in the United States and elsewhere. In addition to descriptions of a certain number of situations and conflicts, the main problems of definition and method required for the study of race relations are broached.

RAMBAUD, Placide. *Économie et sociologie de la montagne: Albiez-le-Vieux en Maurienne.* Preface by Paul Leuilliot. Paris, A. Colin, 1962. 24 cm. 297 p., figures, plates, tables, bibliography. (École Pratique des Hautes Études, VI[e] section, Centre d'Études Économiques, Études et mémoires, 50.)

A history of the economic and demographic evolution of the rural community of Albiez-le-Vieux. Confrontation of traditional structures and behaviour patterns with current changes.

ROUAST, André; DURAND, Paul; DUPEYROUX, Jean-Jacques. *Sécurité sociale.* 3rd edition. Paris, Dalloz, 1961. 19 cm. 680 p., tables, index. (Précis Dalloz.)

This work—re-edited and brought up to date—analyses the structure and operation of the French social security system, its risk-coverage and its place in the organization of society.

RUIST, Erik. *Production efficiency of the industrial firm: Some methods of measurement.* Paris, OECD, December 1961. 21 cm. 84 p., figures, tables, bibliography. 2.80 NF. (Productivity measurement review, Special number.)

Definition of efficiency and productivity in the industrial field. Different methods of calculation applied according to the determining factors of price, labour, investment.

RUNES, Dagobert D. *Letters to my teacher.* New York, Philosophical Library, 1961. 19 cm. 105 p. $10.

Discusses as a burden for the present generation the educational system inherited from its predecessors in East and West alike.

SCHIEFER, J. *Marché du travail européen: libre circulation et migration des travailleurs.* Paris, Dalloz et Sirey, 1961. 23 cm. 247 p., figures, maps, tables. (Eurolibri, 3.)

This concentrates mainly on the psychological aspect of the migration of labour, a problem which will certainly arise under the Common Market.

SCHWARZENBERGER, Georg. *The frontiers of international law.* London, Stevens and Sons, 1962. 25 cm. xxii + 320 + viii p., index. £4.4.0. (London Institute of World Affairs, Library of world affairs, 59.)

In Part I, the author examines the ethical, historical and sociological foundations of international law; in Part II, he analyses the main current doctrines, the way in which they are applied in Great Britain, for instance, or within the framework of international organizations.

SHARABI, H. B. *Governments and politics of the Middle East in the twentieth century.* Princeton (N.J.), Toronto, London, New York, D. Van Nostrand, 1962. 23 cm. xiv + 296 p., plates, maps, tables, index. (Van Nostrand political science series.)

An introduction to the political life of each country of the Middle East.

SHETH, Hansa. *Juvenile delinquency in an Indian setting.* Bombay, Popular Book Depot, 1961. 22 cm. xxvi + 295 p., figures, map, tables, bibliography, index. Rs.15.

A study of juvenile delinquency in India; its legal, sociological and economic aspects.

Les sources du droit du travail, by G. Boldt, P. Durand, P. Horion, A. Kayser. . . . Luxembourg, CECA, 1962. 23 cm. 192 p. (Communauté Européenne du Charbon et de l'Acier, Haute Autorité, collection du droit du travail, 2. Le droit du travail dans la communauté, 1.)

A series of national studies in the sources of labour law in the six countries of the Community.

TEMPEL, B. van den. *The evolution of social systems in Europe.* London, Robert Hale, 1962. 22 cm. 128 p. 15s.
The history of European civilizations shows that the two main causes of the transformation of social systems are the use of force and technical development. While the first of these played a very important part in classical times and the Middle Ages, the second appears predominant today.

TUNLEY, Raoul. *Kids, crime and chaos: a world report on juvenile delinquency.* New York, Harper and Brothers, 1962. 21 cm. xiv + 206 p., figures, index. $3.95.
A psychological, sociological and physiological approach to juvenile delinquency. A far-ranging survey providing food for thought and suggesting possible remedies.

L'URSS: *droit, économie, sociologie politique, culture.* Vol. I. Paris, Sirey, 1962. 24 cm. 705 p., tables. 60 NF. (Faculté de Droit de Strasbourg, Centre de Recherches sur l'URSS et les Pays de l'Est.)
The stated purpose of this miscellany is to sum up the situation of the U.S.S.R. in 1958-59 but, diplomatic chronology apart, the articles deal with rather more general questions; the variety of their origins enables some interesting comparisons to be made. Translations of documents, articles and bibliographical notes in the appendix complete the collection.

Vers une nouvelle civilisation urbaine, by François Bedarida, Jean Baboulène, Georges Rottier, Michel de Chalendar. . . . Paris, A. Fayard, 1962. 20 cm. 232 p. 6,50 NF. (Recherches et débats du Centre Catholique des Intellectuels Français.)
The urban phenomenon of today and the problem of social and human adaptation; the Catholic Church and its approach to problems of urbanization and the creation of new towns; the necessity for pastoral organization in new towns: the case of Sarcelles.

VILAÇA, Marcos Vinicios. *Em tôrno da sociologia do caminhão: notas para um estudo das relações do caminhão e do motorista com a paisagem e o homem brasileiros, em geral, e nordestinos, em particular.* Recife, Instituto Joaquim Nabuco de Pesquisas Sociais, 1961. 23 cm. 163 p., plates. (Ministério da Educação e Cultura, Instituto Joaquim Nabuco de Pesquisas Sociais.)
A study of the relation between lorries and drivers and the Brazilian countryside and people, especially in the north-east.

WIESE, Leopold von. *Das Ich-Wir-Verhältnis.* Berlin, Duncker und Humbolt, 1962. 24 cm. 92 p. DM8,60.
The author replaces the conventional antithesis of the individual and society by a realistic approach to the contrasts and similarities of the 'I' and 'we'. He demonstrates the bipolarity of the two ideas and its political and cultural consequences.

The wisdom of the Supreme Court. Selected and arranged by Percival E. Jackson. Norman, University of Oklahoma Press, 1962. 24 cm. xvi + 524 p., bibliography. $8.95.
Four thousand (short) quotations, classified by subject, from the proceedings and judgements of the American Supreme Court.

WOOLF, Leonard. *Diaries in Ceylon 1908-1911: records of a colonial administrator.* . . . Edited with a preface by Leonard Woolf; and *Stories from the East* (three short stories on Ceylon). Ceylon, Metro Printers, 1962. 22 cm. lxxx + 286 p., plates, portraits, maps, index. Rs.10. (*The Ceylon Historical Journal*, Vol. IX, July 1959 to April 1960, Nos. 1-4.)

One facet of British colonial administration before the first world war lives again in these writings of the young Leonard Woolf, stationed in Ceylon at that time and already interested in literature and social problems.

The Yugoslav law on general administrative procedure. Translated by Leonidas Pitamic, introduction by Lado Vavpetič. Beograd, Institute of Comparative Law, 1961. 20 cm. 159 p. (Institute of Comparative Law, Belgrade.)

The introduction to this English translation of the 1956 law gives a description of the Yugoslav administrative and territorial structure. It is characteristic of the spirit in which this law on administrative procedure was conceived and is applied.

III. NEWS AND ANNOUNCEMENTS

THE MARXIAN THEORY OF DEVELOPMENT

Some Notes on the Warsaw Conference, 16-19 April 1962[1]

DANIEL THORNER

The Warsaw Conference on the Marxian theory of Development centered on two related questions: (1) Is there in Marxism a distinctively Marxian theory of development? (2) If there is, what guidance can it give today to countries at varying levels or stages of development?

The opening sessions of the Conference were devoted to two radically different papers and positions, those of Professors Berliner and Brus.

In his paper 'The Marxian Theory of Development and Socialist Economic Policy', Professor Berliner, of Syracuse University and the Russian Research Center at Harvard, held that Marx was primarily concerned with the process of *capitalistic* development, with particular reference to the stage of *Hochkapitalismus* in mid-nineteenth-century Western Europe. The Marxian doctrine, Berliner contended, applied primarily to fully developed capitalistic economies, their fundamental internal contradictions being supposed to lead inevitably to their bursting asunder (revolution) and to their supersession by socialism.

History, Professor Berliner observed, has not followed the course predicted by Marx. Socialism did not come to power in the West but came first in the countries of Eastern Europe where capitalism was relatively weak. The socialist countries have chiefly been busy trying to catch up economically with the West; they are in a stage of emulation of the West. For such an endeavour the Marxian theory of development, according to him, has little to offer; it has still less to say, he declared, to the underdeveloped countries of Asia and Africa, most of which are not even capitalistic, but pre-capitalistic.

Professor Berliner noted in conclusion that the dialectical view of development (stressing radical, qualitative change) which had figured so prominently in Marx's writings, seemed to be going out of style. In

1. The Conference in Warsaw was jointly organized and sponsored by the Social Science Division of Unesco, the Polish Academy of Science, and by the Sixième Section (Sciences Économiques et Sociales), École Pratique des Hautes Études, Sorbonne, Paris. A list of the papers presented to the Conference and the names of the participants are given at the end of the article. The present note does not pretend to furnish a comprehensive summary of the proceedings; it is simply intended to give an idea of some of the main trends of the discussion.

fact, he said that, judging by the economic programme adopted in Moscow last year, the dialectical view was being replaced by a 'linear' approach.[1]

Professor Berliner welcomed this change and argued that the economic techniques most helpful in *socialist* economic development might be precisely those associated with linear programming which have become so fashionable in the capitalistic West since the second world war: input-output analysis, search for optimal composition of capital stock, concern with obsolescence and the rate of interest, in short, the Western battery of economic theories of efficient resource allocation summed up under the term, 'maximization'.

The title of the paper which Professor Brus[2] presented jointly with Professor K. Laski[3] was 'Essentials of the Marxian Approach to Problems of Economic Development'. Their area of concern was obviously somewhat different from and wider than those of Professor Berliner. For them the fundamental category of the Marxian theory of economic development was perhaps one which is both social and economic, and is summed up in the expression 'mode of production'. This well-known term links the growth of production through time and the growth of productive forces (material, technical, conditions of production), with changes in the socio-economic structure (social aspects of production, institutional conditions or institutional framework).

Above all, Brus and Laski stressed the Marxian insistence on the interaction over time between changes in productive forces (*Produktivkräfte*) and changes in socio-economic relations (*Produktionsverhältnisse*). This interplay of forces determines the crucial parameters of the pattern of growth.

A fundamental feature of the Marxian approach to development, they insisted, is that neither a purely economic (or technical) nor a purely social (institutional) approach will do. What is apparently required is a complex, subtle, sophisticated synthesis of both. This is the essence of the Marxian contribution to the theory of development. It is relevant and useful, they declared, for the understanding of all three major groups of contemporary economies: the capitalistic countries of the West, the socialist countries of Eastern Europe and Asia and the large group of underdeveloped nations and territories. They write that unless such an approach is used an understanding of the growth potential of any given economy, and of all major factors affecting limiting or inhibiting that growth potential, is likely to be inadequate. They took their stand in favour of socialism because they felt that such a form of society alone offers the most favourable basis for economic growth, largely because it provides, in their view, the widest and firmest terrain for economic rationality.

In the initial discussions of the papers of Brus and Berliner, several

1. See the last half-dozen pages of Professor Berliner's paper.
2. University of Warsaw.
3. Central School of Planning and Statistics, Warsaw.

members of the Conference emphasized the resemblances or the possible points of convergence of the two positions. Professor Myrdal called attention to the profound impact of Marx's writings on Western non-Marxist thought. He felt that Marx's theories might have had a greater influence on Western than on Eastern European thought and practice. Subsequently, Dr. Kalecki stated that Marxism was no monopoly of the Marxists. Anyone who thought in terms of the social or institutional framework today, he observed, was thinking in Marxist terms: as for Dr. Myrdal, Dr. Kalecki felt he was a spontaneous Marxist. Professor Hoselitz commented that, if Dr. Kalecki was calling any good social scientist a Marxist, then 95 per cent of American social scientists were Marxists! Mrs. Joan Robinson summed up this aspect of the discussion by humorously suggesting that the Conference adopt the following convention: what is sensible is Marxian, and what is not sensible is non-Marxian. To which Dr. Streeten later added that common sense is not very common and good economic models are few.

This kind of interchange, interesting and amusing as it was, did not furnish any direct answer to the question: was there a distinctively Marxian *general* theory of development? No such general theory was even stated or expounded in Marxian terms at the Conference. We were told several times, though, that there was no Marxian theory of development or underdevelopment that could be set down in purely economic terms. No theory of development would be in accordance with the Marxian method if it failed to include and take into account historical and social factors.

In fact, although the Conference was convened to discuss the Marxian theory of development, it really turned into a conference on the Marxian *method of approach* to development, especially to planned development. In distinguishing the Marxian approach to development from the non-Marxian, Dr. Kalecki made several striking interventions of which only a very summary account can be given here.

He first took up Professor Berliner's assertion that Marx's writings do not provide a blueprint for the guidance of either the socialist economies today or the underdeveloped countries. Quite right, declared Dr. Kalecki, for Marx had no desire to do so. He was not a Utopian laying down general schemes, nor was he a writer of science fiction.

He insisted, however, with all the emphasis at his command, that there were nonetheless several senses in which the writings of Marx were highly relevant to the principles of socialist planning. As a particular illustration he put the question: Should socialist planners in any country leave a sector of large-scale capitalist enterprise in industry? While this might not appear unimaginable, the spirit of Marxian writings was completely opposed. Capitalists in such a key position could not be controlled and they would in time inevitably gain an ascendant influence over the Government. Hence Marxism rejected outright such an approach.

Everyone talked today, Dr. Kalecki continued, in terms of socialism and planning. We were all planners. To take the Indian case: Indian plans appear to be similar to socialist plans, but they are merely technical

plans. Under existing conditions India was in no position to fulfil plans in agriculture. The Indian Government could neither control nor basically alter the social conditions of agriculture, the institutional framework, the agrarian structure. The Indian Government was impotent to control the landowning class, the merchants, the moneylenders. Hence the Indian Government could not act to ensure an adequate food supply. Without this, there was no hope of effective planning. Their plans remained at best technical plans; plans put on paper but not into practice.

Dr. Kalecki conceded that Poland had its difficulties in agriculture, but the nature of the difficulties was different. Poland had effectively controlled its landowners, merchants and moneylenders by basically transforming its agrarian and economic structure.

Moving to the more general and abstract plane, Dr. Kalecki asserted that Marx's aggregative models (the schema of extended reproduction, etc.) long anteceded the Harrod-Domar models and were much more comprehensive. He pointed out that there was no difficulty in stating the fundamental Marxian concept, the mode of production, in terms of parameters and variables. The basic social relations, the institutional framework or *Produktionsverhältnisse*, determine at any given time the constants, the parameters. These constants are not explained by the variables, but are rooted in the economic system. The variables, on the other hand, reflect the conditions of production, the productive forces, the *Produktivkräfte*. Over time, of course, changes in basic social relations will occur and have influence; for the parameters will change as also the model. After all, the model was only a special case, an abstract case. In its fundamental design, Dr. Kalecki concluded, the Marxian development theory or approach is much broader, more significant, and more useful than the aggregative econometric models which had only latterly become so fashionable in the West.

The themes enunciated by Dr. Kalecki were in various directions developed by several of his Warsaw colleagues. Thus Dr. Pajestka argued that in the absence of a suitable institutional foundation socialist planning in countries like India might in the end become not only ineffective but fictitious. The real test of socialist planning was whether or not it led to a much fuller utilization of manpower. Dr. Sachs noted that although the Government of India spoke in terms of a 'socialist pattern', Indian economists had recently been worried about the expansion of a 'U' sector (upper-class luxury consumption group). Indeed, a theory of 'impoverishing growth' had emerged in India, to account for the fact that the luxury-minded rich seemed to be getting richer, and the poor relatively poorer. In agriculture, according to Dr. Rao (Delhi), a striking fact of recent years was the growth in India of the number of enterprising rich capitalist farmers who sent substantial surpluses to market.

All was not held to be 'roses and honey' in the socialist countries of Eastern Europe. Professor Brus observed that as socialist economies grew and expanded, contradictions arose between the productive forces and the

social relations of production. Thus this phenomenon, so emphasized by Marx for nineteenth-century Europe, was not a characteristic of capitalism alone. Dr. Kowalik noted that questions of social stratification in socialist societies were being investigated today in the countries of Eastern Europe.

Dr. Myrdal lamented the fact that since the end of the second world war, so many talented youths of Asia, Africa, and Latin America had devoted themselves to the study of the elaborate economic models developed in the West. He held that such models, when applied to the conditions and structures of the underdeveloped economies, turned out to be not only invalid but positively harmful. Dr. Myrdal also expressed profound disappointment with the materials prepared for the Conference by the economists of the host country. The quality of their contribution, he said in no uncertain terms, was no testimony to the virtues of centralized socialist planning. Other speakers asked whether more suitably framed Marxian models existed that might prove more useful.

Professor Hoselitz referred to the part of the paper by Brus and Laski which emphasized the crucial role of social relations of production (the *Produktionsverhältnisse* in a given mode of production). Judging by the data on this point collected previously by John Maurice Clark and more recently by Simon Kuznets, it was very difficult to assess the relative economic efficiency of different socio-economic systems. Dr. Hoselitz was not impressed when economists from Eastern Europe referred blandly to the growth potential of socialism as against capitalism. He said that in recent decades the relative growth of agricultural production in the U.S.S.R. was only about 10 per cent, whereas in Western Europe it was between 40 and 60 per cent, and was much higher still in Canada and the United States of America.

With regard to models and theoretical formulations. Dr. Hoselitz reminded everyone of Marx's insistence that such theories must always be seen in their relation to concrete empirical reality. As for all theories and models applied to underdeveloped areas, Dr. Hoselitz asserted that one fundamental limitation of our assessment of their relative value was our extremely scanty stock of reliable statistical data on basic conditions in those regions. In conclusion. Dr. Hoselitz expressed the hope that institutes of research and development in India would examine and test all levels of productive techniques, from the very simple to the very advanced and complex, that seemed promising in the Indian context.

In reflecting on the general course of the discussion, Dr. Rao was happy to note that emotional remarks evoked by differences of position had not occurred. Professor Berliner observed that amiable disagreements had provoked amiable rejoinders. He welcomed the frankness with which some of the speakers had remarked that the advent of socialism did not automatically end all problems. He had also been impressed by the way in which the difference had been brought out between Marxism as a specific criticism of capitalism and Marxism as an approach, a method. He was interested in the extent to which Marxism would direct our atten-

tion to specific constraints, to social or cultural limitations on economic development. He felt that at a later conference it might be useful to explore such questions.

Dr. Wyrozembski reminded participants that Marxists were not parrots simply repeating what was to be found in Marx's own writings. Professor Brus noted that some years ago certain over-simplifications could be observed among Marxist writers. These had led to the view that categories and methods of calculation of 'non-Marxist' origin could not be used in socialist countries. This was a misunderstanding. No positive achievement of science ought to be rejected, simply on the grounds of its 'origin'. The only valid criterion was whether it was true or not. No method of calculation, he went on, is *a priori* Marxist or bourgeois, socialist or capitalist. Whether it should or should not be used, ought to be determined by concrete analysis. This held for all contemporary mathematical methods of economic analysis and computation. He felt that the entire range of methods of this type (including those initiated in the West in connection with theories of growth) might soon be widely developed in socialist countries. While not ignoring the deep differences between Marxists and non-Marxists, Professor Brus thought that work in the field of problems of growth presented the best opportunities for agreement and the best possibilities for fruitful intellectual co-operation.

Mrs. Robinson noted with satisfaction that the Conference had heard very little of what might be called 'fundamentalist' Marxism. She would have liked to hear more discussion by speakers from Eastern Europe of their own efforts at development, of their own rich and instructive experience in planning.

Professor Bobrowski, who was in the chair at the opening and closing sessions, pulled together the threads of the discussion. The myth of a certain simplistic Marxism, he felt, ought not to survive such a conference. The grand strategy of economic policy in the socialist countries stemmed, as shown by Brus and Laski, from the works of Marx. Today three main characteristics of that strategy emerged: (a) the readiness to increase the number of variables deemed to be political; (b) the tendency to act simultaneously on several variables; (c) the growing importance of the number of positions taken, not with respect to a limited horizon, but with regard to a long-term future.

He felt that in the socialist countries the combination of theory and action had been quite fruitful. Practically all Polish economists had had to do both types of work. They had been active in theoretical work but had also had to participate in planning and in the conquering of live problems.

In agreement with Mrs. Robinson and others, Professor Bobrowski thought that future conferences would do well to take up the more concrete, more direct problems of the experiences of the socialist economies in the course of their development.

CONCLUSION

Judging by our discussions, it would appear that Marxism does not furnish a set of formulae for development, from which practitioners can easily find out what to do in specific cases. Marxism does seem, however, to offer a box of tools, a set of canons, a *method* indicating *how* one might go about formulating what one wants to do by way of development. To put it slightly differently, Marxism seems to have a machinery, an equipment for enquiring into issues and trying to clarify them. In this general sense it seems fairly similar to 'Western' economic theory as characterized, for example, in the opening chapter of Phelps Brown's classic, *Course in Applied Economics*. What may be distinctive about Marxism is that it seems to be more comprehensive than orthodox economics, since it tries to take into account many factors which the economist, *qua* economist, is not trained to handle.

In the last analysis, the Marxian theory of development, to the extent it can be said to exist, turns out to be not a set of dogmas but a method of approach. If we may paraphrase, in concluding, a title of Durkheim, we may refer to *Les Règles de la Méthode Marxienne*. Judging by the Conference's discussions these seem to offer a promising terrain, worthy of further exploration, both in range and in depth.

PAPERS PRESENTED AT THE WARSAW CONFERENCE

BERLINER, J. S. 'The Marxian theory of development and socialist economic policy'.

BRUS, W.; LASKI, K. 'Essentials of the Marxian approach to problems of economic development'.

HOSELITZ, B. F. 'Karl Marx on secular economic and social development: a study in the sociology of nineteenth-century social science'.

STOJANOVIĆ, R. 'Nécessité d'une plus ample incorporation du développement régional dans la planification du développement économique à long terme'.

STREETEN, P. 'A critique of the capital/output ratio and of its application to development planning'.

UVALIĆ, R. 'Le marché et le plan dans l'économie socialiste'.

LIST OF PARTICIPANTS

J. S. Berliner (United States of America), L. Best (West Indies), M. Dobb (United Kingdom), K. Forcart (Unesco), I. Friss (Hungary), B. F. Hoselitz (United States of America), E. James (France), E. Kamenow (Bulgaria), J. Kuczynski (Eastern Germany), M. Mervart, G. Myrdal (Sweden), V. K. R. V. Rao (India), J. Robinson (United Kingdom), R. Stojanović (Yugoslavia), P. Streeten (United Kingdom), D. Thorner (France), R. Uvalić (Yugoslavia), F. Voigt (Fed. Rep. Germany).

B. Baczko, Z. Bauman, Cz. Bobrowski, W. Brus, Z. Dobrska, H. Dunajewski, J. Grzywicka, J. Hochfeld, W. Hagemajer, M. Kalecki, J. Kleer, T. Kowalik, O. Lange, E. Lipiński, K. Laski, A. Lukaszewicz, B. Minc, W. Kula, J. Pohorille, J. Pajestka, I. Sachs, W. Sadowski, K. Secomski, A. Szeworski, J. Z. Wyrozembski, J. Zawadzki, J. Zagórski, S. Zółkiewski, S. Zurawicki (Poland).

Professor Paul Baran (United States of America) was present at the first morning session. Prof. Novozhilov (U.S.S.R.) was unable to attend, owing to illness.

MEETING OF THE EXECUTIVE COMMITTEE OF THE INTERNATIONAL SOCIAL SCIENCE COUNCIL

Bellagio, 16-19 April 1962

The Executive Committee of the International Social Science Council held its fifteenth session at Bellagio from 16 to 19 April 1962, under the chairmanship of its President, Professor S. Groeman (Netherlands). Attending the meeting were:

Members of the Council: Professors B. Akzin (Israel), D. J. Delivanis (Greece), P. N. Fedoseev (U.S.S.R.), O. Klineberg (United States of America), R. König (Fed. Rep. Germany), G. Kuriyan (India), A. Schaff (Poland); Rector F. Vito (Italy).

Secretariat: K. Szczerba-Likiernik, Secretary-General of the International Social Science Council, E. de Grolier, Director of the Council's International Research Office.

Observers: G. Skovov (Unesco, Chief of the Division for the International Development of Social Sciences), A. Elliott (Unesco, International Exchange Service).

J. d'Ormesson (Assistant Secretary-General of the International Council for Philosophy and Humanistic Studies).

Professors P. de Bie (Executive Secretary of the International Sociological Association), L. Fauvel (Executive Secretary of the International Economic Association), and L. Henry (International Union for the Scientific Study of Population); S. Hurtig (Secretary-General of the International Political Science Association); Professors J. Meyriat (Secretary-General of the International Committee for Social Sciences Documentation), and I. Zajtay (Secretary-General of the International Association of Legal Science).

Professor C. Heller (Director of Studies at the École Pratique des Hautes Études).

Professor L. Kopelmanas (expert attached to the Economic Commission for Europe).

The meeting was mainly devoted to the preparation of a long-term programme for the Council, providing for studies to be made of:

The sociology of international organizations (the drawing-up of a research plan which could serve as a basis for studies on this subject undertaken by an international team of research workers).

The comparative and interdisciplinary aspects of planning and programming (preparation of a report setting out these questions and a series of technical studies on them).

International relations and exchanges in the fields of education, science and culture.

Problems of scientific information in the field of social sciences (a programme to promote translations and the publication of basic working tools, and the establishment of a centre for documentation on current research).

The Council also undertook to assemble material on the main trends in social science research, and to publish them in its bulletin *Social Sciences Information*. Preliminary results of this survey will be communicated to Unesco's Department of Social Sciences if the latter desires to produce a report similar to the one published under the direction of Professor Auger for natural sciences. This work might subsequently be put on a permanent basis with the publication of a social science yearbook, every issue containing a report on research trends in each of the branches of social science, with emphasis on the assistance such research can afford to research workers in different fields. These two projects would, of course, be worked out and implemented in very close collaboration with the international associations specializing in the various branches concerned.

The Executive Committee of the Council also decided:

To improve the bulletin *Social Sciences Information* by allotting more space in it to problems involved in organizing the social sciences, to research work on sujects of general interest and to main trends in research work.

To call for comments on 'the problems and methods of comparing the basic concepts of countries with different economic structures in regard to the economic development of countries which are undergoing industrialization', based on the report on these questions presented by Professor Kopelmanas.

To convene another meeting to study the possibility of establishing a Centre for Co-ordination and Documentation in the Social Sciences.

To institute closer co-operation with the International Committee for Social Sciences Documentation.

To establish co-operation with the Instituto Torquato di Tella (Buenos Aires) and to agree in principle that a meeting of the Council's General Assembly should be held in that city in 1963 or 1964, to be followed by a round-table discussion on questions of methodology.

To prepare a programme for the appointment of associate members and corresponding members of the Council, particularly in countries where as yet it has no regular members.

The Executive Committee co-opted as a new member of the Council, Professor P. N. Fedoseev, Member of the Academy, Member of the Praesidium of the U.S.S.R. Academy of Sciences and Director of the Institute of Philology, Moscow. It also approved the admission to the Council of the World Federation of Mental Health and the World Association for Public Opinion Research (WAPOR).

ISLAMIC AND MOGRABIN SOCIOLOGY

Since the institution in Tunisia of a degree in sociology which includes a certificate of Islamic and Mograbin sociology, a programme of teaching and research has been organized within the framework of the Social Science Research Centre, Tunis. The programme was prepared with the co-operation of Mr. J. Berque during a mission undertaken by him on behalf of Unesco.

Today, the Centre's activities vary according to the needs it endeavours to meet:

training of research workers, application of sociological theory to the general organization of a developing country, and analysis of the structural changes which such development entails.

Courses for the certificate of Islamic and Mograbin sociology include an introduction to the history and geography of the Maghreb and are organized with the co-operation of other departments of the University. The future research workers are given practical, specialized instruction to enable them to become acquainted with surveys conducted in urban (Mr. P. Sebag) and rural (Mrs. Chaulet) communities, with the study of group psychology (Mr. Camillieri) and with statistical analysis (Mr. Ben Amor).

Methodological training courses deal with the sociological aspects of economic development and the practical ethnological and sociological problems confronting former colonial countries (Mr. J. Duvignaud, Director of the Social Science Research Centre). Finally, religious sociology is now taught. It is concerned with forms of Islamic religious practice and variations in types of belief, mentality and attitude according to the social and national background. It is the first course of its kind to be introduced into a Mohammedan country (Mr. Boudhiba).

Interdisciplinary seminars have also been organized, with the assistance of Tunisian and foreign specialists, to study the problems involved in training senior technical personnel in a developing country, aspects of the transformation of traditional arts under the pressure of economic development, practical forms of scientific co-operation in geomorphological and sociological research in rural environments and principles of collaboration in physiology, psychology and sociology applicable to the study of local units.

Finally, Mr. Milton Santos, Director of the Geomorphology Laboratory at Bahia (Brazil), who was invited by the University at the suggestion of the Centre, organized several seminars for the comparative study of problems concerning the Maghreb and north-east Brazil.

Various surveys were undertaken during the autumn of 1961; they fulfil the twofold need to train Tunisian sociologists and to bring students into touch with the human environment which they are required to transform. Some of these surveys were to lead, in June 1962, to the drafting of short, preparatory reports, to be published later by the Centre. Most of the surveys will be spread over a period of several years. This applies to the following: (a) survey on social mobility among students and young Tunisian key personnel; (b) survey on the concept of death in rural and urban communities; (c) analysis of intercommunity relations in Tunisia; (d) study of workers' attitudes in two industrial firms in Tunis; (e) survey on the attitudes, needs and social make-up of cinema audiences in Tunisia; (f) sociological analysis of changes in traditional local units within the framework of economic development (three surveys conducted at Chebika in the Djerod oasis, at Douz in a Saharan oasis, and in the Kerkenna Islands).

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age extensive discussions between Brazilian scholars. Furthermore, the review is open to foreigners as may be judged from the two numbers already issued. Its main purpose is the study of conditions in Brazil and the problems they entail; of the various courses open to the country at a crucial period in its history when it is asserting its full sovereignty both at home and abroad; and of the development of underdeveloped countries. Both theoretical and practical issues will be discussed. This is the first general social science review to be published in Brazil, since other reviews are concerned with one particular branch of study (sociology, economics, anthropology, law, etc.). In publishing the *Revista Brasileira de Ciencias Sociais*, the Faculty of Economics is making a powerful contribution to the country's scientific advancement. Correspondence should be addressed to Mr. Julio Barbosa, Secretary, *Revista Brasileira de Ciencias Sociais*, Rua Curitiba 832, Belo Horizonte (Brazil).

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