Conference of Ministers of Education
of European Member States of Unesco on
Access to Higher Education

Vienna, 20-25 November 1967

Access to higher education in Europe

Comparative background documents
and report of the conference

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Preface

The Conference of Ministers of Education of European Member States of Unesco on Access to Higher Education was held from 20 to 25 November 1967, in Vienna, at the invitation of the Government of Austria. The Austrian Government provided a most generous welcome and host facilities to the conference.

The conference was convened in accordance with resolution 1.11 (b), adopted by the General Conference of Unesco at its fourteenth session, by which the Director-General was authorized to organize a regional conference in Europe bearing on the problems of higher education.

Participation in the conference was determined by the Executive Board of Unesco, at its 75th and 77th sessions, in accordance with the provisions of the regulations for the general classification of the various categories of meetings convened by Unesco, adopted by the General Conference at its fourteenth session (14 C/Resolution 23, Article 21).

To advise on the intellectual preparation of the conference, the Director-General of Unesco set up an Ad Hoc Advisory Committee of Experts. The committee, consisting of ten members serving in a personal capacity, met twice and elected H.E. Professor Jean Livescu (Romania) as president. The committee was specifically asked to advise the Director-General on the nature, scope and content of the working documents for the conference.

Three substantial working documents were presented to the conference as a basis for discussion and subsequent recommendations. A factual background document on 'Access to Higher Education in Europe' was prepared by the Secretariat on the basis of the descriptive and statistical data provided by Member States invited to participate in the conference. A comparative paper on 'Access to Higher Education from the Point of View of the Social, Economic and Cultural Origins of Students' was prepared at the invitation of the Director-General of Unesco by Professor Henri Janne, former Belgian Minister of Education and former Vice-Chancellor of the Free University of Brussels. Similarly, a comparative paper on 'Access to Higher Education in Relation to the Present and Foreseeable Requirements of the Development of the Community' was prepared by Professor Jan Szczepanski, former Vice-Chancellor of the University of Lodz and President of the International Sociological Association.

Arrangements for the technical organization of the conference were made by Unesco in close co-operation with the Government of the Republic of Austria. The Austrian Organizing Committee was comprised of the following officials: Mr. Franz Karasek, Ambassador Extraordinary and Minister Plenipotentiary, Director-General of the Foreign Cultural Relations Service of the Ministry of Education; Mr. Anton Grösel, Director of Multilateral Relations with Foreign Countries, Ministry of Education; and Mr. Alwin Westerhof, Liaison Officer of the Austrian Government.

The publication of this volume has been made possible through the kind co-operation of the Ministry of Education of Romania.

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Part I

Comparative background documents: papers presented to the conference

General note

The aggregates in the analysis and the summary tables and charts might differ very slightly from the actual figures in the comparative and country tables because last-minute revisions to these tables were received after the original text had been prepared. Footnotes referring to the non-availability of data for certain countries do not necessarily signify that the data do not exist but that they did not exist at the time of going to print in a form suitable for the international comparison under discussion.

1.

Comparative statistical data on access to higher education in Europe [1]

Development of admission to higher education and causal factors [2]

After the Second World War, a marked growth of population, followed by rapid advances in the sciences, technology and industrialization, brought about an increase in production and a rise in the standard of living.

These different factors had both an objective and subjective influence on the development of education: objective in that changes in production techniques and progress in the sciences demand a parallel increase in adequately skilled manpower and in the number of highly qualified specialists; subjective in that the population, with a higher standard of living, aspires to a higher level of education so as to secure a better future.

Most European countries have been forced, by the shortage of specialists facing modern industry, to adopt a policy of educational planning, mainly with a view to improving the facilities for training technicians and specialists at secondary and higher levels of education.

The subjective factors have produced an influx of young people seeking access to education at all levels.

The combined effect of these factors has been to swell the total numbers at educational institutions and the proportion of the population which these represent, and to further the democratization of access to education at all levels.

The very rapid rise in total numbers at educational establishments during the last two decades has often been ascribed to demographic causes. The expansion in population recorded in the first decade after the Second World War was due to a fairly high birth rate: it clearly resulted in a marked increase in the total numbers receiving compulsory education, particularly during the 1950's.

In twenty-eight Member States, [3] the mean annual rate of increase in total population was 1.21 in 1950–55, 1.34 in 1955–60, and 1.09 in 1960–65, giving a rate of 1.21 for the period 1950–65.

However, the population factor played only a secondary role in the considerable increase in the number of those in receipt of secondary-level education during the decade 1950–60. The increase was due much more to the rise in the numbers receiving primary education, and to the enforcement of compulsory schooling. This factor, together with the necessity of adjustment to modern life and with the evergrowing demand for highly qualified personnel in the technology of production, has inspired the youth of most European countries with the desire to continue study beyond the period of compulsory schooling (see Table 1, p. 12).

Similarly, the purely demographic factor does not significantly affect the numbers of those receiving higher education, which rose rapidly during the period from 1950 to 1965: enrolments in twenty-eight Member States [4] totalled 2,258,000 in 1950, 3,095,000 in 1955, 4,099,000 in 1960, and 6,365,000 in 1965.

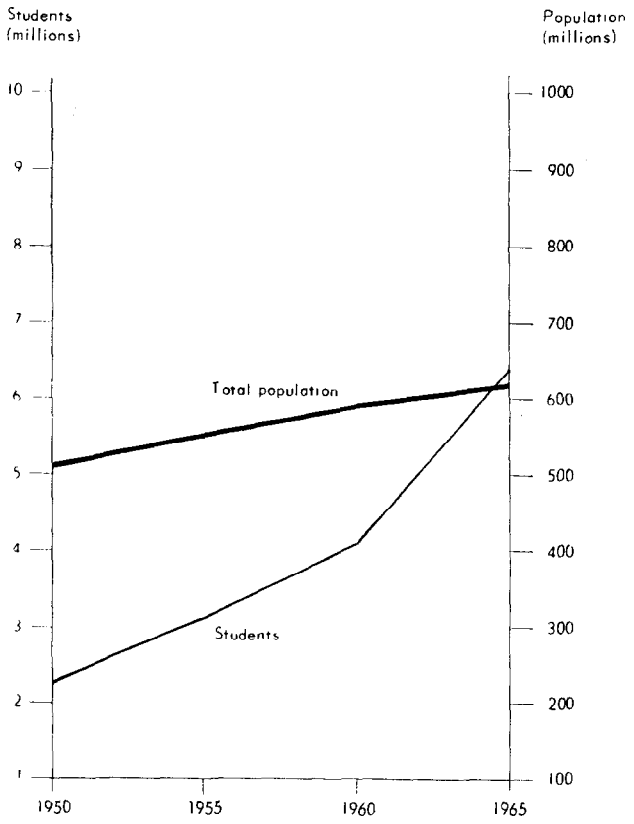
The rate of increase in the total population and in the numbers receiving higher education show, in fact, quite different trends during the period 1950 to 1965 (Graph 1, p. 12).

[1] Presented to the conference as document Unesco /Mineurop/3b.

[2] Professor Zora Steinman, counsellor at the Institute of Statistics of the People's Republic of Croatia at Zagreb, assisted in the preparation of this paper.

[3] Albania and Turkey are not included, since data were not available for all the years under consideration.

[4] Greece and the United Kingdom are not included, since figures were not available for all the years under consideration.



Graph 1. Total populationand enrolment in higher education in Europe, in 1950, 1955, 1960 and 1965 approximately.

Table 1

Increase in the numbers receiving secondary education in Member States from 1950 to 1960

Different types of secondary education[1]	Number of pupils (in thousands)	
	1950	1960
General	7 932	15 629
Technical	5 995	9 526
Teacher training	297	363
TOTAL	14 225	25 519

[1] Figures for technical education and teacher training in U.S.S.R., since they are not reported separately, are included in the figures for technical education.

The quantitative change in the population of student age hardly affects the access to education at this level. The rate of increase of the population in the 20—24 age group is not the same as that of the total numbers enrolled in higher education (Table 2).

Despite the fact that in nine Member States there has been a fairly large population decrease in the 20—24 age group, the increase in student numbers

Table 2

Classification of twenty-one Member States[1] by population increase in the 20—24 age group and in the numbers enrolled in higher education in the period 1960—65.

Rate of population decrease-increase in the 20—24 age group	No. of countries in which rate of increase in higher education enrolments was:			Total countries
	Less than 5.0	5.0 to 9.9	10.0 and over	
Decrease				
1.0 and over	—	2	1	3
— Less than 1.0	2	5	—	7
Increase				
— Less than 1.0	2	6	—	8
1.0 and over	1	1	1	3
TOTAL COUNTRIES	5	14	2	21

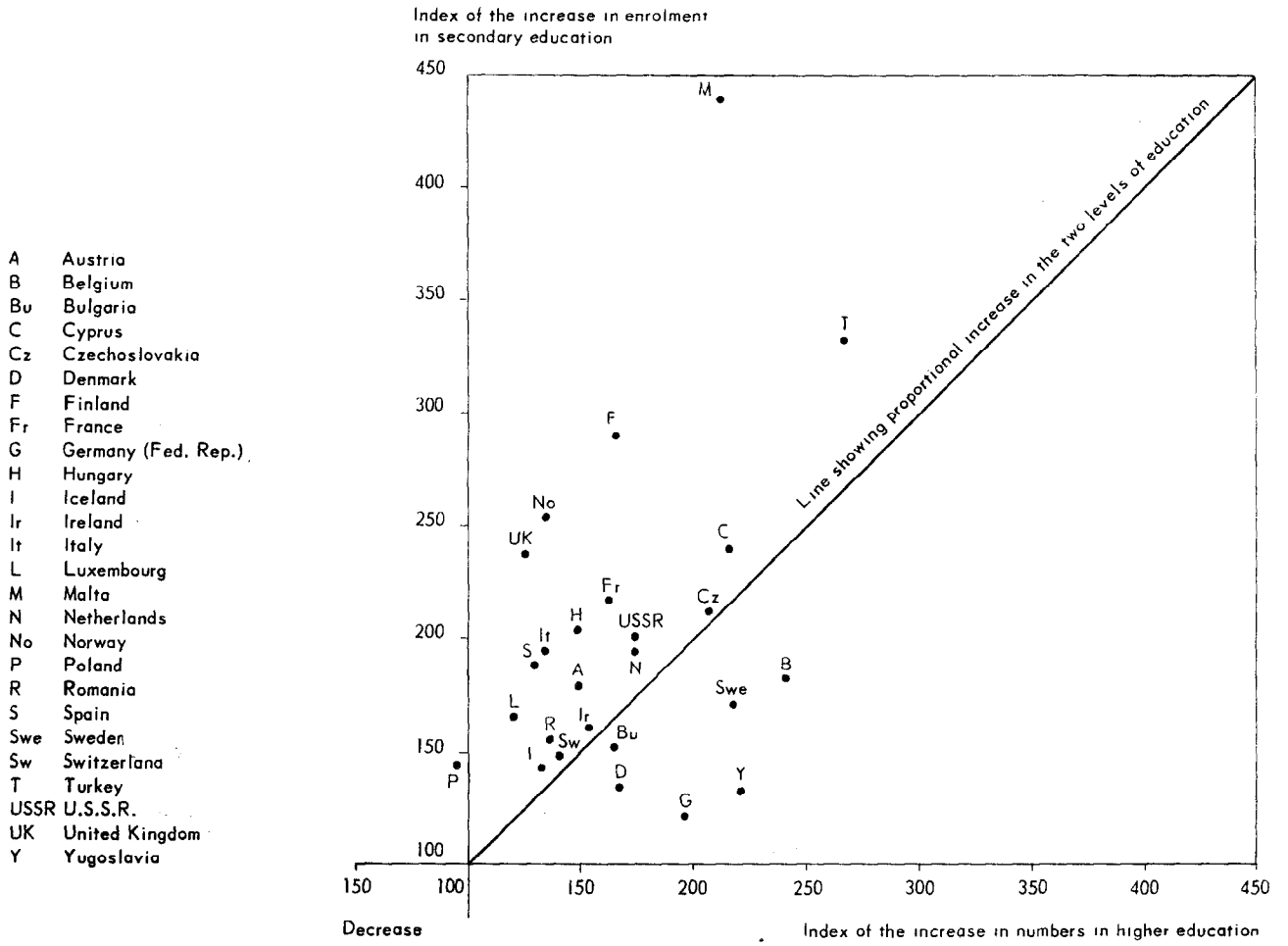
1 Owing to absence of data, the following are not included: Albania, Austria, Byelorussian S.S.R., Greece, Spain, Ukrainian S.S.R., U.S.S.R. and the United Kingdom. Cyprus, where student enrolment has dropped, is also not included in the table.

has nevertheless been fairly noticeable in these countries. The discrepancy which emerges when the two phenomena are compared is particularly marked in Belgium, Bulgaria, Czechoslovakia, France, Hungary, Ireland, Luxembourg, Malta, Poland and Romania. This indicates that in the countries in question there was a rapid increase in the percentage of students in the population between the ages of 20 and 24.

The increased enrolments in higher education are thus attributable much more to economic and social factors and to the expansion of primary and secondary education than to population growth. A comparison between the increase in the numbers receiving secondary and higher education shows that the two phenomena, in the 1950—60 decade, followed a parallel development: the total increase for secondary education was 79 per cent, and for higher education, 81 per cent.

Despite such a parallel development, there are many variations from country to country, as can easily be seen in Graph 2.[1] It may be noted that only five of the twenty-six countries show a higher rate of increase in higher education enrolment than in secondary school numbers: Belgium, Denmark, Federal Republic of Germany, Sweden and Yugo-

[1] Countries in which the increase in secondary school enrolment was not proportional to that of enrolment in higher education are indicated on the graph by dots whose position in relation to the central line shows the disparity between the rates of enrolment at the two levels of education: the further a dot stands from this line, the greater the difference between the two rates.



Graph 2. Increase in enrolment in secondary and higher education in twenty-six Member States for the 1950—60 period. Index year 1950 = 100

slavia. Finland, Malta, Norway, Turkey and the United Kingdom show the widest difference in favour of an increase among secondary school enrolments.

Such a rapid expansion of secondary education was bound to result in an increase in applicants for places in higher education. This factor, operating at the same time as other economic, social and psychological causes, then led to the great expansion of higher education during the period 1950—65, particularly during the 1960's.

Admission to higher education

For many years before the Second World War, admission to higher education was limited in most countries by the inadequacies of secondary education.

The steep rise in total numbers receiving secondary education between 1950 and 1960 was more marked in some types of secondary education than in others. For, while general secondary education shows an increase between 1950 and 1960 of almost 100 per cent, the index is only 61 per cent in technical education. There was a substantial reorganization of teacher-training schools during this period; in some countries their level rose above that of other institutions of secondary education. This partly explains the limited increase in numbers.

The increase in enrolment in secondary education did not occur in all countries at the same rate during the decade in question. This is due to various factors: the strictness with which the law on compulsory

schooling was applied, the increase in the school-age population in primary and secondary education, and finally in the numbers going on from primary to secondary education.

The average annual rate of increase in the number of those receiving secondary education was highest (10 per cent or more) in Albania, Cyprus, Finland, Malta, Norway and Turkey.

The expansion of secondary education in the period between 1950 and 1960 was bound to add to the number of pupils qualifying for higher education. But the respective increases would not necessarily be proportional to one another, not only because a fairly large number of secondary schools do not prepare pupils for university entrance, but also because the proportion of awards in school-leaving certificate examinations depends to a large extent on the policy adopted in a given country, on the drop-out rate in schools, etc.

It was to be expected from the exceptionally steep rise in enrolments for general secondary education that there would follow a marked increase in admissions to higher education, since in almost all countries the general secondary schools prepare pupils for entrance. Particulars supplied by twelve Member States concerning the number of awards in the secondary school-leaving certificate granting admission to higher education provide a good example of this phenomenon (Table 3).

In these twelve countries, the number of candidates for higher education has risen sharply and steadily, although at different times in different countries; also, its pattern has varied. In Finland, in the Netherlands and in Yugoslavia the increase has been fairly constant over the ten-year period under consideration. In Austria, Bulgaria and Czechoslovakia, it was particularly marked during the first five years, but fell off during the second half of the decade. On the other hand, in France, Hungary, Norway and Sweden the bulge in secondary education occurred in the 1960's and resulted in a rush of entrants to higher education. It would be bold to claim that the twelve countries are representative of Europe as a whole, but certainly variations of the same phenomenon in the other countries can be expected.

Although the increase in the number of secondary school-leaving certificates qualifying for higher education is one of the main causes of the increase in first-year enrolment in higher education, the two phenomena do not always follow a parallel development (see Table 4).

A comparison of the data in Tables 3 and 4 shows a close correlation between the increase in the number of secondary school-leaving certificates and that of the number of students enrolled in the first year of higher education. However, the rate of entry into higher education from secondary education shows that the two figures are not directly proportional to one another (Table 5).

The considerable increase in secondary school-leaving certificates awarded during the period from 1960 to 1965 was accompanied in Finland, the Netherlands, Norway, Romania and Sweden by a slower increase, or even a decrease, in the rate of transition. Of the twelve countries for which data are available, only in France, Italy and Yugoslavia have the two phenomena developed proportionately.

The increased 'output capacity' of those types of school which lead on to higher education has not,

Table 3

Number of secondary school-leaving certificates granting admission to higher education in twelve Member States in 1955 1960 and 1965.

Country	Number of certificates			Mean annual rate of increase	
	1955	1960	1965	1955—60	1960—65
Austria	5 125	11 120	12 035	16.8	2.0
Bulgaria	32 991	37 820	62 153	2.7	10.4
Czechoslovakia	16 955	63 584	64 416	30.3	0.3
Finland	4 687	7 666	13 444	10.3	11.9
France	34 713	49 100	86 729	7.2	12.1
Hungary	27 215	26 949	44 769	1.0	10.6
Italy	67 919	99 430	130 366	7.9	5.5
Netherlands	39 903	54 781	82 291	6.5	8.5
Norway	4 137	5 770	12 457	6.9	16.6
Romania	44 331	43 698	81 095	0.3	13.2
Sweden	10 171	13 722	27 880	6.2	15.2
Yugoslavia	22 763	36 390	62 454	9.8	11.4

Table 4

Students enrolled in the first year of higher education in twelve Member States in 1955, 1960 and 1965

Country	Number of students			Mean annual rate of increase	
	1955	1960	1965	1955—60	1960—65
Austria	3 188	7 229	6 455	17.8	2.2
Bulgaria	6 710	15 877	18 348	18.3	3.4
Czechoslovakia	10 627	20 302	24 050	13.8	3.4
Finland	4 401	6 152	9 499	6.9	9.1
France	26 582	39 900	79 685	8.5	14.8
Hungary	5 837	8 369	14 154	7.4	10.5
Italy	40 516	59 708	105 480	8.0	12.0
Netherlands	17 221	23 861	32 810	6.7	6.6
Norway	1 255	2 805	5 020	17.50	12.3
Romania	19 007	24 861	33 531	5.5	6.2
Sweden	4 688	7 776	16 886	10.7	16.8
Yugoslavia	13 606	20 516	43 620	8.1	16.8

it seems, been matched by a corresponding increase in the 'intake capacity' of the higher education institutions. In this connexion, it is useful to illustrate the situation in Romania. In 1960, the number of those holding secondary school-leaving certificates qualifying for higher education was 43,698, of whom 42,208 applied for enrolment in the first year. Only 24,861 students, or 50 per cent of the candidates, were able to enrol. The percentage was even lower in 1965: only 35 per cent of applicants were able to enter that year.

Table 5

Rate of transition to higher education from secondary education in twelve Member States in the years 1955, 1960 and 1965

Country	Rate of transition		
	1955	1960	1965
Austria	62.0	64.6	53.9
Bulgaria	20.4	42.0	29.4
Czechoslovakia	63.0	31.8	37.2
Finland	94.3	80.0	70.0
France	76.6	81.5	92.0
Hungary	21.4	31.0	31.3
Italy	58.9	60.0	78.9
Netherlands	43.0	43.5	39.9
Norway	30.4	48.5	40.0
Romania	43.0	56.5	41.5
Sweden	46.0	56.5	60.0
Yugoslavia	60.0	56.2	70.0

This example does not necessarily prove that the situation is exactly the same in other Member States. The discrepancy between the influx of young applicants and the available capacity does not alone explain the fall in the rate of transition to higher education from secondary education. It may be that the large number of those holding secondary school-leaving certificates, particularly from technical schools, entering business and social sectors is of benefit to the national economy, as it may be also to the persons concerned. Taking into account the results of research carried out by Mr. Frank Bowles, [1] however, one may accept that the main cause of the drop in the rate of transition to higher education is the discrepancy between the increasing influx of students and the available facilities. According to Mr. Bowles, 'universities and other institutions are faced each year with more applicants than they can accept; if present conditions continue the situation will become worse instead of better'. The progress made by secondary education has generally been more rapid, thus upsetting the balance necessary for an efficient transition.

However this may be, the most obvious effect on education as a whole, exerted by the factors connected with its development, has been the unprecedented growth of student numbers in higher education during the last fifteen years. The over-all increase in numbers during the period under review was indeed very large: 184 per cent. The rate of increase was not uniform throughout. Looking at the mean annual rate of increase for the whole period, which is 8.0 per cent, one finds that the changes were much slighter in the 1950—60 decade than during the last years

[1] Frank Bowles, *Access to Higher Education*, Paris, Unesco, 1964, Vol. I, p. 23—4.

of the period under consideration. The mean annual growth rate, in fact, remained almost stable during the 1950's: 6.06 per cent for the first half of that period, and 6.26 per cent for the second. On the other hand, from 1960 to 1965, the rate rose to 9.0 per cent.

Mean annual growth rate, 1950—65 (per cent)	*Member States* [1]
Up to 4.9	Austria, Hungary, Iceland, Italy, Poland, Switzerland.
5.0—7.4	Denmark, Germany (Fed. Rep.), Ireland, Netherlands, Norway, Romania, Spain.
7.5—9.9	Belgium, Bulgaria, Byelorussian, S.S.R., Czechoslovakia, Finland, France, Malta, Sweden, Turkey, Ukrainian S.S.R., U.S.S.R., Yugoslavia.
10.0 and over	Albania, Luxembourg.

Taking into account economic developments and the expansion of primary and particularly secondary education, the pattern of the growth of student numbers is very logical. During the first years of the 1950—60 decade, education as a whole was consolidating itself after the upheaval of the Second World War. This was the period of intense development of primary and secondary education, prior to the upsurge of higher education.

However, although student enrolments have shown a more or less similar pattern of evolution in almost all Member States, it is obvious [2] that there is a perceptible variation from country to country. There are fairly wide divergences from the average curve in the cases of Albania, Belgium, and the Ukrainian S.S.R., in which the largest enrolment increase was recorded in the first years of the period under consideration, that is from 1950 to 1955. During the same period, on the other hand, enrolments were falling in Austria, Denmark, Italy, Luxembourg, Norway and Switzerland. During the second half of 1950—60, there was generally a more marked increase than during the first half, except in the three countries already mentioned in which enrolment fell, as in Hungary, Malta and Romania. The only countries experiencing no considerable expansion of higher education during the 1960's were Austria, Federal Republic of Germany, Spain, Turkey and Yugoslavia, where the rate of increase was slower, compared with the preceding period. These same years witnessed a period of remarkable expansion in almost half of the Member States.

The rapid increase in student enrolments in higher education resulted in a striking increase in the percentage of students in the 20—24 age group of the population [3]: from 1950 (3.4 per cent) to 1965 (7.9 per cent).

Quite naturally, if a comparison is made between the increase in student enrolments and that of the total population, a considerable difference is to be noted between the two. Here the same phenomenon comes to light as in comparing the increase in student enrolments with that of the population of the corresponding age-group. The much higher rate of growth in the student population resulted in a large increase in the percentage of students in the total population. From this point of view, the greatest changes occured, of course, in countries where the increase in student population was most spectacular during the fifteen years in question: Albania, Belgium, Bulgaria, Byelorussian S.S.R., Czechoslovakia, France, Finland, Sweden, Ukrainian S.S.R. and U.S.S.R. (see Table 6).

Percentage of students in the 20—24 age-group of the population around 1965	*Member States* [4]
Up to. 5.0	Cyprus, Luxembourg, Turkey.
5.1—7.5	Austria, Hungary, Malta, Switzerland.
7.6—10.0	Denmark, Germany (Fed. Rep.), Greece, Iceland, Italy, Norway, Romania, United Kingdom.
10.1—12.5	Finland, Ireland, Sweden, Yugoslavia.
12.6 and over	Belgium, Bulgaria, Czechoslovakia, France, Netherlands, Poland.

When considering the ratio of student population to total population, however, account must be taken of methods of collecting statistical data relating to student enrolments; such data take in all higher education enrolments, both nationals and foreign students. Now there is a fairly high level of student migra-

Table 6

Member States [1] classified by the ratio of student enrolments in higher education to total population, in 1950 and 1965

Number of students per 100,000 inhabitants	Number of countries	
	1950	1965
Les than 100	3	1
100—199	3	1
200—399	15	1
300—599	6	10
600—799	1	5
800—999	—	6
1,000 and over	—	4
TOTAL	28	28

[1] Owing to lack of data, Greece and the United Kingdom are not included.

[1] In the absence of data Greece and the United Kindom are not included. In Cyprus, the total number has fallen.

[2] See below: 'Comparative tables', Table VII

[3] ibid., Table VI.

[4] The following are not included owiug to lack of data: Albania, Byelorussian S.S.R., Spain, Ukrainian S.S.R., U.S.S.R.

tion, not only into Europe from overseas, but also from one European country to another. Thus a fairly large proportion of foreign students is included in the total enrolment in Austria, Belgium, France, Federal Republic of Germany, Ireland, Luxembourg, Spain, the United Kingdom and especially in Switzerland.[1] In these countries, the inclusion of foreign students may in some way distort the calculation of the ratio of student population to the total number of inhabitants. Results should therefore be corrected by considering only national students as in Table 7.

The volume of student migration between the different European countries in some cases reaches such dimensions that a very large proportion of students enrol abroad, despite the existence of adequate institutions of higher education in their own countries. The reasons for this phenomenon vary considerably, but a general explanation lies in the inadequate capacity of university faculties and higher professional schools, the absence of courses in certain subjects, the wish to improve knowledge of foreign languages, etc. (Table 8).

The highest figures for students of specific countries studying abroad are those for Greece in 1964 (18 per cent) and for Norway in the same year (17 per cent). If the earlier figures are modified to allow for this factor, the resulting ratio of students to total population in 1964 was 688 instead of 569 per 100,000 in Greece and 545 instead of 401 in Norway.

Table 7

Ratio of student enrolments to total population, in 1950 and 1964, including foreign students

Member States [1]	Number of students per 100 000 inhabitants			
	1950		1964	
	Total student numbers	Number of nationals included in student numbers	Total student numbers	Number of nationals included in student numbers
Austria	358	326	672	542
Belgium	234	221	805	683
France	334	302	940	867
Germany (Fed. Rep.)	258	251	609	563
Ireland	296	296	724	384
Luxembourg	33	33	177	104
Spain	198	198	355	295
Switzerland	351	264	528	374
United Kingdom	266	248	392	363

[1] In the countries selected, the numbers of foreign students exceed 5 per cent.

Table 8

Foreign students classified by continent of origin and country of study around 1963 (per cent)

Continent of origin	Countries of study						
	Austria	Belgium	France	Germany (Fed. Rep.)	Spain	Switzerland	United Kingdom
Africa	7.4	26.9	40.2	12.9	4.3	6.0	30.9
South America	1.4	10.4	3.6	3.9	62.3	3.5	3.5
North America	5.1	8.7	10.9	10.1	6.6	7.6	13.7
Asia	32.5	9.2	12.6	27.8	6.9	11.9	33.8
Europe	53.6	44.8	32.7	47.3	19.9	71.0	13.6
Oceania	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	100	100	100	100	100	100	100

[1] See below: 'Comparative tables', Table IV.

Main features in the democratization of higher education

The right to education is recognized in modern society as one of the basic rights of man. It is in the interest both of the individual and of the community that this right be guaranteed in practice. It must be admitted that in the past, even in the very recent past, practice has only gradually come to conform to theory, due to factors of social and economic implementation. In general, the effects of change and reform are felt in education only slowly; democratization of education is a long process starting as early as primary schooling.

The very high attendance ratio, which is characteristic of compulsory education in most European countries in that it includes children of all social classes, shows that democratization has in fact been achieved at this compulsory level.

Democratization of secondary education has been a much slower process and is still incomplete. The fact that secondary education is not free of charge in some countries, that the real cost of prolonged schooling is too high for poor families, is a factor of economic discrimination which strongly affects democratization. The geographical distribution of secondary schools may well be unsatisfactory in rural areas, and constitutes another source of social inequality. Finally, parental attitudes towards the education of children must be considered, for there exists a close correlation between these attitudes and the parents' educational level, the family's economic level and the psychological influence of the environment.

Statistics which could throw light on these aspects of the problem are scanty. It is particularly difficult to compile documentation on changes which have occurred during the period considered in this study.

The increase in the numbers attending secondary school is an indirect indication that the socio-economic pattern of secondary school pupils has undergone a change during the decade 1950–1960. Obviously, the repercussions of this change on the socio-economic pattern of the student body can only be seen after a lapse of time.

When evaluating the democratization of higher education, inquiries are usually based on the fact that the student population, examined from the point of view of social background, has shown generally the same patterns as the working population, and that these patterns had changed over the years in favour of those social categories which had been poorly represented in previous censuses.

There are few figures on which to base this two-stage analysis of the student body by social or economic background. Further, a question of method arises as each European country has its own demographic structure, its own standard of living, its own social and economic system. It is therefore very difficult to compare social groups in the different countries. Much research will be needed into the vocational breakdown of each socio-economic group.

Even when due allowance is made for these considerations, an analysis of the data supplied by Member States shows nevertheless that in almost all countries of Europe, students from families engaged in intellectual work provide a large minority, sometimes even the majority, of student numbers, although these families represent only a minority of the population.

Psychological, social and economic factors all contribute to determining the socio-economic 'background' of students. First, the factor of tradition, playing a very important part among wealthy and intellectual families in the selection of their children's studies. Nor must the cultural climate and the economic situation of the family be left unconsidered, as both influence the probability of longer schooling.

The main question concerning democratization is the proportional participation of children of workers and peasants in the student population over the years. The following data for 1961 show students from working-class backgrounds as percentages of the total enrolment in higher education in fifteen Member States. [1]

Austria	6.0	Italy [4]	13.2
Belgium [2,3]	11.2	Netherlands [2]	6.0
Bulgaria	28.0	Poland	32.9
Czechoslovakia	39.3	Romania	36.6
Denmark	9.0	Sweden	14.0
Finland	17.6	Switzerland	3.7
France [2]	5.3	United Kingdom	26.0
Hungary	33.1		

The above data call for two observations:

1. The number of working-class children receiving higher education varies greatly from country to country.

2. There is a substantial disparity between the social and economic structure of the active population and the student population in the highly industrialized countries of Western Europe, where the average percentage of workers in the active population is 40 to 50 per cent. For example, in Belgium the proportion of workers in the active population is 47.9 per cent and the proportion of working-

[1] From data prepared for the conference by Member States, on the basis of each country's definition of the category 'worker'.

[2] Universities only.

[3] Data taken from the *Rapport sur l'expansion et l'adaptation de l'enseignement supérieur de niveau universitaire* (Conseil National de la Politique Scientifique, p. 68, table XXIII).

[4] First-year students only.

class students 11.2 per cent of the total student population. There is, however, one striking exception, namely the United Kingdom, where the proportion of working-class children enrolled in higher education is considerable.

Some examples taken from the various Member States of Eastern Europe show a distinct tendency towards a balanced distribution of the various social categories in higher education. Unfortunately, for most countries, no data are available, thus rendering this analysis difficult. However, the slow change taking place in the first two levels of education is making itself felt in the increased proportion of working-class children having access to higher education in the People's Democracies. In the other countries the change is very slight (see Table 9).

Table 9

Working-class students in higher education in eight Member States in 1956 and 1965

Country	As a percentage of total students	
	1956	1965
Austria	6.0	5.0
Bulgaria	22.2	34.5
Czechoslovakia	29.1	37.9
France	5.3[1]	9.5
Germany (Fed. Rep.)[2]	16.2	16.5
Italy[3]	11.2	15.3
Netherlands	4.0	6.0
Poland	31.3	35.0
Romania	23.0	31.6
Sweden	14.0	14.0

[1] Data for 1960.
[2] This groups includes some categories of office workers.
[3] First-year students only.

The proportion of farmers' children entering higher education is even smaller than that of workers' children. One explanation for this phenomenon, common to nearly all Europe, is the steady decline in the agricultural population. It must be emphasized that a country comparison on this point is almost impossible, owing to the existence of special groups of collective farmers and co-operative members in most of the People's Democracies. But, even in these countries, the percentage is steadily declining. For example, in Czechoslovakia the percentage of students from farming families in 1955 was 13.4 per cent, while in 1964 it was only 8.3 per cent; in Bulgaria, 31.5 per cent in 1956 down to 24.5 per cent in 1964; in Yugoslavia 23.8 per cent in 1955 as against 17.8 per cent in 1961.

In connexion with the democratization of education, the question of sex distribution in access to higher education cannot be overlooked. The increase in enrolments of women is very substantial during the period under consideration, both in absolute and relative[1] terms (Table 10).

Table 10

Female students enrolled at higher educational establishments in twenty-four Member States around 1950, 1955, 1960 and 1965.[1]

Year	Number of female students (thousands)	Percentage of total enrolment
1950	911	42.3
1955	1 294	43.5
1960	1 479	37.8
1965	2 438	40.3

[1] Excluding Austria, Bulgaria, Czechoslovakia, Greece, Luxembourg and the United Kingdom, as data are not available for all years considered.

Although the increase in the number of female students from 1950 to 1965 is considerable, it proceeded at a very different rate from the increase in male students. At the beginning of the period in question, the proportion of women in total enrolments did indeed increase, but then fell sharply by 1960 and remained at much the same level until 1965.

It is obvious that the sex distribution in higher education depends largely on the distribution at the second level. Although in most European countries the percentage of girls receiving secondary education is approximately the same as the proportion of women in the population, proportionately fewer women than men go on to higher education.

The example of five countries for which data are available can only serve as an illustration, but fully confirms the above-mentioned phenomenon (Table 11).

Table 11

Transition from the second to the third level of education in 1965

Member State	Male (%)	Female (%)
Finland	78.5	64.5
Netherlands	55.6	23.2
Romania	53.2	31.4
Sweden	65.0	50.0
Yugoslavia	87.5	51.5

The general trend of the increase in female enrolments is observed more directly and more clearly in the mean annual rates of increase (Table 12 p. 20).

[1] See below: 'Comparative tables', Tables III and VI.

Table 12

Increase in enrolment by sex in twenty-five Member States during the period 1950—65

Period	Mean annual rate of increase	
	Male	Female
1950—55	6.0	7.2
1955—60	7.8	2.7
1960—65	8.6	10.5
1950—65	7.4	6.7

Whereas the rate of male enrolments in higher education was slowest at the beginning of the period 1950—65, it was at this time that a heavy increase was recorded in enrolments of women. In 1955—60, however, the rate of increase in the number of female students slackened considerably, while the rate for men rose. A further expansion in female enrolments was recorded in the 'sixties (see Graph 3).

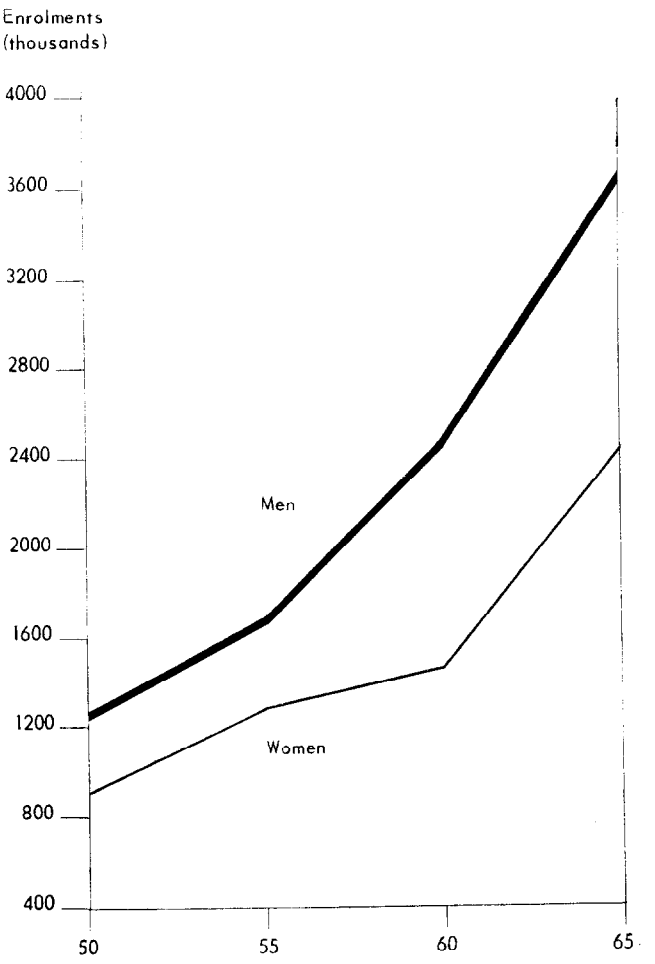
It is very difficult to explain the considerable differences between the increases in male and female enrolments without recourse to more detailed and more complex analyses from the various countries. For European Member States combined, it seems that the marked increase in the number of female students during the first years of the period 1950—65 may be due to economic requirements and to psychological factors arising in the first decade after the Second World War.

This increase is partly due to the reorganization of teacher training in a number of countries; it is well known that the proportion of women in teaching is very high. But there exist also other reasons, probably varying from one country to another.

A comparison of higher education enrolments by sex in relation to total population in the respective countries reveals the difference in the attendance rate between the two sexes[1]. Here three different cases may be distinguished in 1965:

1. Countries with a small proportion of both men and women in higher education in their respective populations, e.g., Cyprus, Luxembourg, Spain and Turkey.

2. Countries in which the proportion of female students in the female population is low and the proportion of men students in the male population is high, e.g., Albania, Austria, Norway and Switzerland.



Graph 3. Higher education enrolments by sex around 1950 1955, 1960 and 1965.

3. Countries in which the proportion of students of both sexes is high. In some of these countries, there is nevertheless a marked difference between the enrolment ratios for each sex, e. g., Belgium, Czechoslovakia, Ireland and the Netherlands.

The highest percentage of female students[2] is found in Bulgaria, Finland, France, Hungary, Luxembourg and U.S.S.R., where it amounts to over 40 per cent. The lowest percentages are in Albania, Spain, Switzerland and Turkey[3].

[1] See below: 'Comparative tables', Tables V and VI.

[2] ibid, Table III.

[3] See 'Non-mobilized intellectual ability' in Chapter 2 below, for a more detailed study of this subject and for the percentage of female enrolments in relation to the total number of students.

Enrolments in higher education by fields of study

During the 'fifties and even later, criticisms were very often made, in conexion with the training of highly qualified personnel, of the orientation of students by fields of study. The opinion in circles responsible for national economic policy was that the structure of higher education was unsuited to the requirements of modern technology (production and promotion of science) and might thus be a serious obstacle to future development.

The industrial progress which has led to the increased demand for technical and scientific personnel has exerted a decisive influence on the orientation of young people. The traditional structure of higher education in Europe, stressing the predominance of the humanities and the social sciences, has had to be adapted to the new requirements of national economies and modernization. Moreover, the expansion and greater structural differentiation of secondary education has made it necessary to train a more highly qualified teaching staff for these schools, with more varied possibilities of specialization.

The data received provide an analysis of the trend of the orientation of students by field of study only since 1955. It is difficult, therefore, to make an international comparison in this field. It is also difficult to give a general picture of the orientation of students by disciplines in Member States for the period 1955—65, as data are available for only twenty-two countries [1] (see Table 13).

Table 13

Higher education enrolment by field of study in twenty-two Member States in 1955 and 1965

Field of study [1]	1955 (%)	1965 (%)
Humanities, education, fine arts	36.3	30.5
Social sciences	9.1	11.4
Natural and applied sciences	54.6	58.1
TOTAL	100	100

[1] The grouping of disciplines in this document is even more restricted than in the statistical tables, in order to cover the maximum number of Member States.

By comparing the years 1955 and 1965 according to the data provided, one can see that even in 1955 the structure of higher education had been adapted to some extent to the requirements of economic development. In 1955 the highest proportion of enrolments was in disciplines of natural and applied sciences. By 1965 this bias was even more pronounced.

If one considers this situation in more detail by countries [2], the trend of student orientation in higher education is found to have differed considerably according to the country.

In 1955 a high proportion of students in Bulgaria, Czechoslovakia, Norway, Poland, Romania and U.S.S.R. had already chosen applied and natural sciences. Of these countries, only in Bulgaria, Czechoslovakia and U.S.S.R. did this proportion increase or remain constant up to 1965; in the others, the proportion of enrolments in these branches decreased as against the humanities and social sciences.

Elsewhere, the proportion of enrolments in scientific disciplines is roughly equivalent to the proportion in the humanities and social sciences.

There is a very surprising situation in Belgium and Poland, where a marked decline in the proportion of science enrolment may be observed.

Data for the twenty-two countries mentioned show that, from 1955 to 1965, the largest mean annual increase in enrolments was in the social sciences: humanities, education, fine arts, 5.7; social sciences, 9.9; natural and applied sciences, 8.2.; total 7.7.

Despite the above reservations as to the necessity of drawing up such a restricted grouping of fields of study, it is not without interest, in so far as data permit, to analyse the structure by discipline of each main field of study represented in Table 13 and the preceding paragraph [3].

It has already been emphasized that the training of secondary-school teachers is of special importance in connexion with the distribution of students by disciplines. It is only for technical reasons that teacher training has been included in the same group as humanities and fine arts, as a number of countries do not give separate data for education and humanities.

The system of teacher training itself varies greatly from country to country. In some Member States, teachers for the first two levels are trained in third-level establishments. Teachers for the second level are trained mostly in the universities, while teachers for primary schools or the first cycle of secondary schools study in other types of higher educational

[1] These twenty-two countries accounted for 90 per cent of enrolments in higher education in Member States in 1965. The following were excluded: Albania, Hungary, Iceland, Italy, Luxembourg, Spain, Turkey and the United Kingdom, as no data were available for the two years in question.

[2] See below: 'Comparative tables', Table IX.

[3] See below: 'Comparative tables', Tables IX and X.

establishments. In other countries, primary teachers are trained in secondary-level training institutions.

Owing to these differences, it is very difficult to compare the proportion of enrolments in the various teacher-training institutions. Comparisons between 1955 and 1964 are even more difficult due to changes in the teacher-training system in a number of countries during the intervening years.

An example of the proportion of enrolments in the education sector in 1964 is given by data for twenty-one Member States (interpretation is subject to the reservations mentioned above). In these countries, enrolments in teacher-training institutions as a percentage of total students were as follows:

Albania	26.5	Malta	34.9
Austria	0.3	Norway	5.2
Belgium	20.0	Poland	9.0
Bulgaria	0.3	Romania	19.5
Czechoslovakia	25.2	Spain	9.4
Denmark	25.0	Sweden	1.4
Finland	5.2	Switzerland	10.9
Germany (Fed. Rep.)	14.1	Turkey	8.4
Hungary	1.5	U.S.S.R.	31.2
Ireland	4.3	Yugoslavia	13.5
Italy	15.9		

The group of exact and applied sciences is very heterogeneous; it includes the exact and natural sciences, engineering, medical science and agronomy.

The largest percentage of students in this group in 1964 chose engineering (23.2 per cent of total enrolments); the percentage for exact and natural sciences (9.5) was practically the same as for medical science (10.8); enrolments in agronomy were rather low (5.1). National variations in comparison with this general table for Europe [1] are very considerable. In France, 33 per cent of enrolments are in exact and natural sciences; enrolments are above the European average in engineering in U.S.S.R., Poland and Romania, in medical science in Austria, Belgium, France, Hungary, Ireland, Netherlands and Spain, and in agriculture in Bulgaria, Czechoslovakia, Hungary and Poland.

The orientation of women by fields of study is very different from that of men. The distribution of enrolments confirms the very widespread opinion that some disciplines — and consequently some professions — have a tendency to become 'feminized'. This is the case for education, arts, and to a lesser extent, medical science (see Table 14).

Table 14

Higher education enrolment by sex and field of study in twenty-five Member States [1] for 1965 (percentage)

Sex	Total	Humanities, education, fine arts	Social sciences	Natural and applied sciences
Men	100	18.7	24.9	56.4
Women	100	51.6	17.5	30.9

[1] Owing to lack of data, the following are excluded: Byelorussian S.S.R, France, Sweden, Ukrainian S.S.R. and U.S.S.R.

In these twenty-five countries, the percentage of women enrolled in education in 1964 was 62, in humanities, 52, and in medical science, 38.

A very small proportion of women take up engineering: only 7 per cent for the above twenty-five countries combined. In a number of Member States, however, percentages are well above this average, e.g., Bulgaria (27), Czechoslovakia (14), Hungary (18), Poland (13), Romania (21), and Yugoslavia (12).

The percentage of women enrolled in social sciences also varies greatly among Member States. While the average for twenty-five countries is 18 per cent, the percentage is over 50 in Hungary and over 30 in Czechoslovakia, Poland, Romania and Yugoslavia.

A significant feature of the distribution of women students by field of study is the stability of their choice of field of study during the period 1955—65.

Higher education graduates

Although concern is here concentrated on the question of access to higher education and, as a corollary, on the number of enrolments, one cannot disregard the question of the higher education degrees and diplomas. In economic planning, for example, the higher educational system is of interest mainly in the level and quantity of what it ultimately 'produces'.

[1] Since its classification differs greatly from that proposed by Unesco for the conference, the U.S.S.R. is not included.

A full and detailed study of higher education graduates should take account of two main aspects: (a) the change in the annual potential output of highly qualified specialists for service in the economic and social sectors; and (b) the efficacy of the higher educational system. With reference to the first aspect, the study of graduates should relate not only to their number, but should take account of differences in level and field of study.

Another feature in the study of graduates should give an idea of the proportion of students completing their studies successfully and in what duration. This aspect of the statistical analysis should be based on graduation lists or, failing these, on continuous series of data on new enrolments and graduates. At international level such particulars are so far not available.

The rapid increase in enrolments at the third level of education should react on the number of degrees and diplomas awarded. Such was indeed the case during the period 1957—63, for which data are available: higher education graduates in twenty-three Member States [1] numbered 537,000 in 1957, 610,000 in 1960, and 743,000 in 1963.

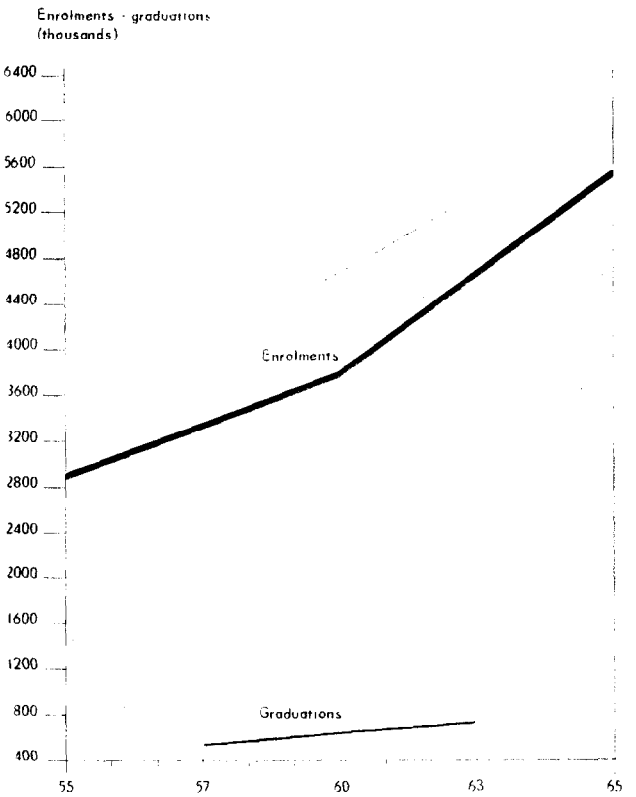
Although it is very difficult to compare the number of enrolments with the number of graduates, there being no data for the same period, the statistics in Table 15 nevertheless bring out certain tendencies.

Table 15

Increase in higher education enrolment and graduations in twenty-three Member States

	Period	Mean annual rate of increase
Enrolment	1955—64	7.8
Graduations	1957—63	5.4

There is a definite parallel between the increase in higher education graduations and enrolments, as is clearly seen on Graph 4, where the line representing graduations follows the enrolments line very closely. This would seem to indicate, though very vaguely, that there was no major drop-out during the period in question. But it must be emphasized that this impression may be quite unreliable — in fact, in view of the method used, one person may have been counted several times during the period under review.



Graph 4. Increase in higher education enrolment and graduations in twenty-three Member States

The increase in the number of graduations from 1957 to 1963 varies considerably according to the country [2]. The greatest increase was recorded in Albania, Malta, Turkey and Yugoslavia.

Table 16

Graduations by field of study in twenty-three Member States in 1957 and 1963 (percentage)

Field of study	1957	1963
Humanities, education, fine arts	41.9	40.9
Social sciences	10.8	12.2
Applied and exact sciences	47.3	46.9
TOTAL	100	100

[1] Owing to lack of data the following are excluded: Byelorussian S.S.R, Cyprus, Greece, Iceland, Luxembourg, Switzerland and Ukrainian S.S.R.

[1] See below: 'Comparative tables', Table VIII.

During the same period, the graduation pattern changed very little and continued to show a strong preponderance of humanities and social sciences over technical sciences (see Table 16).

In comparing the distribution of graduates by field of study with the enrolment distribution, one observes an interesting phenomenon: in humanities, education and fine arts, the proportion of graduates is appreciably higher than the proportion of enrolments in the same disciplines (see Table 17).

One might therefore infer that the drop-out rate differs in the two main fields of study. But it is difficult to make such an inference due to methodological uncertainties in the compilation of relevant statistics.

Table 17

Distribution of enrolment and graduations by field of study in twenty-three Member States in 1963 and 1964 (percentage)

Field of study	Enrolments 1964	Graduations 1964
Humanities, education, fine arts	31.5	40.9
Social sciences	11.4	12.2
Natural and applied sciences	57.1	46.9
TOTAL	100	100

(Translated from the French)

Comparative tables

STATISTICAL NOTES

Unesco's Office of Statistics has made every effort to apply the principles of the Recommendation concerning the International Standardization of Educational Statistics [1] here, but the replies given by Member States in some cases are not entirely in conformity with these principles, thus affecting the significance and content of the data. Such cases are indicated by explanatory footnotes to the tables.

In accordance with the Recommendation concerning the International Standardization of Educational Statistics, the data in respect of higher education refer to all public or private establishments which require, as a minimum condition of admission, the successful completion of secondary education or evidence of the attainment of an equivalent level of knowledge. The data therefore relate to all higher education establishments, whether or no they confer university degrees, such as universities, technical schools, secondary teacher-training colleges, theological colleges, etc.

Figures concerning the number of students refer solely to students qualified to sit examinations or to obtain university degrees or diplomas, excluding those merely attending lectures. Part-time students are generally included in the number of students enrolled and the number of graduates, while correspondence students are excluded.

The figures concerning the number of graduates refer to all degrees and diplomas awarded by all types of educational institutions as the third level. In accordance with the instructions given by Unesco's Office of Statistics when the data were collected, the following have been included:

1. Less than first degree or diploma referring to degrees and diplomas granted before completion of what is normally considered first degree work in higher education. This type of degree or diploma is usually granted after completion of less than four years of study in an institution of higher education.

2. First degree or diploma, referring to degrees or diplomas awarded at the end of what is considered the usual course of study in an institution of higher education — usually four or five years.

3. Advanced degree or diploma, referring to degrees or diplomas (e.g., doctorates) awarded at the completion of graduate work beyond the first degree or diploma.

Although information about the various levels of diplomas is undoubtedly helpful for a better understanding of problems relating to the completion of studies, this distinction has been omitted from this document because methodological difficulties make international comparison impossible.

Data on students and graduates at the higher education level are shown by fields of study. Field of study means the area of a student's major subject of specialization. A grouping of subjects into ten fields of study is used and explained in the Unesco *Statistical Yearbooks*. A more general classification comprising only four fields of study, closely based on the classification used in the Unesco *Statistical Yearbooks*, is employed in this document. This simplification has been designed to make international comparison easier and to give a relatively simple idea of the trends by field of study. As a number of countries had not strictly applied the ten-group classification recommended in the Unesco questionnaires, this simplification was doubly necessary from the standpoint of international comparability. The classification applied in this document is as follows:

1. *Humanities, education, fine arts.* Subjects: archaeology, history, languages, library science, literature, philosophy, psychology, theology, education, pedagogy, physical education, architecture, drawing, music, painting, sculpture, speech and dramatic arts, etc.

2. *Social sciences and law.* Subjects: banking, commerce, diplomacy, economics, ethnology, geography, home economics, international relations, journalism, law, political science, public administration, social welfare, sociology, statistics and similar subjects.

3. *Natural sciences.* Natural sciences covers: astronomy, bacteriology, biochemistry, biology, botany, chemistry, entomology, geology, geophysics, mathematics, meteorology, mineralogy, physics, zoology and similar subjects.

4. *Engineering, medical science and agriculture (applied sciences).* Engineering covers: engineering proper, such as

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[1]. Recommendation concerning the International Standardization of Educational Statistics, adopted on 3 December 1958 by the General Conference of Unesco, at its tenth session, held in Paris from 4 November to 5 December 1958.

civil engineering, mechanical engineering, electrical engineering, chemical engineering and specializations thereunder; applied sciences, such as geodesy, industrial chemistry, etc; specialized technologies or 'interdisciplinary' fields such as shipbuilding, textiles, metallurgy, mining, systems engineering, industrial engineering, etc.; medical science covers: anatomy, dentistry, medicine, midwifery, nursing, optometry, osteopathy, pharmacy, physiotherapy, public health, and similar subjects; agriculture covers: agronomy, dairying, fisheries, forestry, horticulture, veterinary medicine and similar subjects.

In principle, the figures concerning teachers include auxiliary teaching staff (assistants, demonstrators, etc.) but exclude all staff not engaged in teaching (administrators, laboratory technicians, etc.).

The data on finance refer to total public expenditure on education and to total public expenditure on higher education. The figures concerning finance therefore cover both capital expenditure and recurring expenditure.

Data concerning transition from the second to the third level of education are given only in the country chapters of the statistical documentation. The data concerning secondary school-leaving certificates refer only, in principle, to the number of pupils who obtain the secondary education certificate qualifying for admission to higher education. The data referring to the number of students enrolled in the first year of higher education include, in general, students enrolled for the first time and students who are repeating their first year. As the two types of information — completion of secondary education and enrolment in the first year of higher education — can give only a very approximate idea of the transition problem, they should be treated with all due reserve.

The data on the social background of students were supplied by Member States on the basis of their own classifications.

The differences in the economic and social structures and bases of States have made it impossible either to include these data in the comparative part of this document or to reduce the great variety of classifications to one comparable classification.

I. *Increase in total population and in the 15—19 and 20—24 age groups, for the period 1950 to 1965*

Country	Period	Mean annual rate of increase of population		
		Total	15—19	20—24
Albania	1950—60	2.92	...	...
Austria	1948—65	0.25	...	...
Belgium	1950—65	0.61	0.90	—0.82
Bulgaria	1953—65	0.82	0.20	—1.21
Cyprus	1950—65	1.36	0.57	1.20
Czechoslovakia	1950—63	0.95	1.90	—0.23
Denmark	1950—63	0.69	3.03	0.96
Finland	1950—65	0.92	3.07	0.80
France	1950—65	1.00	1.78	—0.78
Germany (Fed. Rep.)	1950—65	1.46	0.59	0.80
Greece	1950—64	0.85	—0.42	—0.62
Hungary	1949—65	0.59	0.29	—0.34
Iceland	1950—63	1.97	2.39	0.14
Ireland	1951—66	—0.18	0.68	—0.17
Italy	1950—62	0.77	—0.35	0.11
Luxembourg	1951—65	0.91	0.70	—1.20
Malta	1948—65	0.24	1.65	—0.98
Netherlands	1950—65	1.30	2.68	0.91
Norway	1950—65	0.82	2.52	0.50
Poland	1950—65	1.65	1.62	—0.61
Romania	1948—65	1.03	—0.08	—1.18
Spain	1950—65	0.91	...	...
Sweden	1950—65	0.66	2.68	1.97
Switzerland	1950—64	1.46	2.68	2.46
Turkey	1950—60	2.86	—0.36	1.60
U.S.S.R. [1]	1950—65	1.66	...	...
Byelorussian S.S.R.	1950—65	0.68	...	...
Ukrainian S.S.R.	1950—65	1.40	...	...
United Kingdom	1950—65	0.52	1.88	0.24
Yugoslavia	1950—65	1.27	—1.32	0.30

[1] Including Byelorussian S.S.R. and Ukrainian S.S.R.

II. Higher education enrolments around 1950, 1955, 1960 and 1965

Country	1950	1955	1960	1965
Albania [1]	304	3 411	6 703	[2]11 937
Austria	20 309	14 809	28 159	39 457
Belgium	23 978	42 768	51 999	84 191
Bulgaria [1]	34 926	41 368	61 152	100 102
Cyprus	195	265	417	[3]98
Czechoslovakia [1]	43 809	70 196	92 191	141 687
Denmark	13 250	12 350	17 100	32 600
Finland	13 885	16 382	23 552	41 994
France [5]	134 408	157 488	214 672	413 756
Germany (Fed. Rep.)	126 580	176 700	282 100	358 100
Greece	...	19 864	28 302	53 305
Hungary	26 509	30 665	29 344	51 002
Iceland	[6]631	745	751	[2]1 047
Ireland	8 782	11 040	12 438	21 280
Italy	145 170	139 018	191 790	297 783
Luxembourg	98	82	151	421
Malta	397	573	529	1 531
Netherlands	59 225	68 794	93 004	132 144
Norway	7 000	5 600	9 510	19 460
Poland [1]	125 096	157 465	165 687	251 864
Romania [1]	53 007	77 633	71 989	130 614
Spain	55 272	62 236	87 388	130 600
Sweden [7]	16 887	22 647	36 909	68 065
Switzerland [7]	16 550	16 021	21 346	[2]30 488
Turkey	24 815	37 192	65 297	[2]91 198
U.S.S.R. [1—8]	1 247 400	1 867 000	2 396 100	3 860 500
Byelorussian S.S.R. [1]	31 600	50 500	59 300	103 990
Ukrainian S.S.R. [1]	201 600	325 900	417 700	[2]643 800
United Kingdom	...	131 400	185 000	312 200
Yugoslavia	60 395	70 028	141 058	184 923

[1] Including evening classes and correspondence courses.
[2] For 1964.
[3] Greek Pedagogical Academy only.
[4] Including courses for workers but not including foreign students.
[5] Universities only.
[6] For 1951.
[7] Universities and degree-granting institutions only.
[8] Including Byelorussian S.S.R. and Ukrainian S.S.R.

III. Women students enrolled at higher educational establishments around 1950, 1955, 1960 and 1965

Country	1950		1955		1960		1965	
	Total	Percentage of total enrolment	Total	Percentage of total enrolment	Total	Percentage of total enrolment	Total	Percentage of total enrolment
Albania [1]	61	20	496	14	1 114	17	[2]2 430	[2]20
Austria	...	...	3 175	21	7 302	26	10 029	25
Belgium	7 133	30	12 725	30	13 734	26	28 004	33
Bulgaria [1]	...	...	...	...	...	...	43 427	43
Cyprus	77	39	90	34	110	26	[3]33	[3]34
Czechoslovakia [1]	...	...	17 816	25	31 562	34	54 764	39
Denmark	2 700	20	2 900	24	4 800	28	10 300	31
Finland	5 042	36	6 742	41	10 895	46	20 627	49
France [5]	47 500	34	69 800	36	86 727	40	173 360	42
Germany (Fed. Rep.)	25 100	20	36 200	21	65 000	23	84 200	24
Greece	...	...	4 776	24	7 202	25	15 691	30
Hungary	6 780	26	7 832	26	11 186	38	21 611	42
Iceland	[6]121	[6]19	148	20	160	21	[2]300	[2]29
Ireland	2 585	30	3 170	29	3 786	32	6 487	30
Italy	38 208	26	38 313	28	53 196	28	105 736	36
Luxembourg	...	...	16	20	45	30	167	40
Malta	77	19	190	33	200	38	416	27
Netherlands	13 953	24	18 050	26	24 718	27	33 394	25
Norway	1 200	17	1 000	18	1 915	20	4 725	24
Poland [1]	43 178	35	50 775	32	57 541	35	94 400	38
Romania [1]	17 406	33	27 517	35	24 106	33	51 360	39
Spain	7 855	14	10 336	17	20 512	23	29 690	27
Sweden [7]	3 950	23	6 528	29	12 352	33	24 500	35
Switzerland [7]	2 122	13	2 343	15	3 587	17	[2]5 751	[2]19
Turkey	4 862	20	6 290	17	13 007	20	[2]18 909	[2]21
U.S.S.R. [1-8]	661 122	53	970 840	52	1 030 323	43	1 660 015	43
Byelorussian S.S.R. [1]	16 980	54	26 790	53	24 590	42	48 760	47
Ukrainian S.S.R.	...	...	...	...	...	...	...	...
United Kingdom	...	...	...	...	...	...	119 649	38
Yugoslavia	20 021	33	21 695	31	40 702	29	62 011	34

[1] Including evening classes and correspondence courses.
[2] For 1964.
[3] Greek Pedagogical Academy only.
[4] Including courses for workers but not including foreign students.
[5] Universities only.
[6] For 1951.
[7] Universities and degree-granting institutions only.
[8] Including Byelorussian S.S.R. and Ukrainian S.S.R.

IV. Foreign students in higher education around 1963

Country	Number of foreign students	Percentage of total enrolment	Distribution by country (in percentage)
Albania	[1]63	0.5	0.04
Austria	9 641	20.4	6.80
Belgium	4 424	6.4	3.15
Bulgaria	1 382	1.2	0.98
Cyprus	...	...	...
Czechoslovakia	3 189	2.2	2.27
Denmark	518	1.5	0.37
Finland	88	0.3	0.06
France	30 442	10.0	21.69
Germany (Fed. Rep.) [2]	25 155	7.2	17.94
Greece	1 057	2.9	0.75
Hungary	411	0.9	0.29
Iceland	36	3.6	0.02
Ireland	2 537	21.3	1.81
Italy [3]	3 290	1.4	2.36
Luxembourg	[1]53	29.3	0.04
Malta	3	0.3	0.00
Neherlands [4]	1 198	2.3	0.85
Norway	250	1.7	0.18
Poland	964	0.4	0.69
Romania	617	0.5	0.45
Spain	5 281	5.3	3.77
Sweden	500	0.8	0.37
Switzerland	8 361	30.2	5.96
Turkey	2 533	3.3	1.80
U.S.S.R. [5]	[1]19 198	0.5	13.68
Byelorussian S.S.R.	294	1.3	0.20
Ukrainian S.S.R.	3 589	0.5	2.56
United Kingdom [6]	14 117	18.8	10.06
Yugoslavia	1 181	0.7	0.84
	140 358	8.0	100.00

[1] For 1964.

[2] Including West Berlin.

[3] Not including *studenti fueri corse*.

[4] Universities only.

[5] Including Byelorussian S.S.R. and Ukrainian S.S.R.

[6] Students enrolled at universities for full-time study or full-time research.

V. Higher education enrolments in relation to total population, by sex, around 1950, 1955, 1960 and 1965. *(per 100 000)*

Country	1950		1955		1960		1965	
	MF	F	MF	F	MF	F	MF	F
Albania [1]	25	10	247	74	417	143	[2]658	[2]276
Austria	292	...	213	85	394	192	544	260
Belgium	277	162	480	281	566	293	893	583
Bulgaria [1]	482	...	548	...	777	...	1 229	1 065
Cyprus	40	31	51	34	73	38	[3]316	[3]10
Czechoslovakia [4]	355	...	546	265	675	454	1 015	767
Denmark	310	125	278	130	373	208	[2]604	[2]377
Finland	345	240	382	304	530	473	908	862
France [5]	320	209	364	254	471	370	850	696
Germany (Fed. Rep.)	258	96	344	124	497	216	469	258
Greece	...	...	249	117	340	169	626	358
Hungary	285	140	313	154	295	216	502	412
Iceland	[6]439	[6]168	467	187	427	184	[2]554	[2]319
Ireland	296	177	378	221	439	269	739	452
Italy	314	161	285	154	377	205	568	395
Luxembourg	33	...	26	10	48	28	125	99
Malta	127	48	182	117	161	117	479	249
Netherlands	581	273	636	332	806	426	1 068	539
Norway	213	72	163	57	265	106	524	253
Poland [1]	500	330	572	354	556	374	798	582
Romania [1]	325	...	448	306	391	...	686	528
Spain	198	54	215	66	287	131	400	181
Sweden [7]	240	112	311	179	492	329	876	630
Switzerland [7]	351	87	320	91	393	130	[2]528	[2]196
Turkey	118	47	155	53	235	96	[2]293	[2]124
U.S.S.R. [1–8]	699	...	960	...	1 129	...	1 594	[2]1 381
Byelorussian S.S.R. [1]	408	...	647	...	725	...	1 219	...
Ukrainian S.S.R. [1]	551	...	830	...	998	...	[2]1 427	...
United Kingdom	...	...	257	...	352	...	572	427
Yugoslavia	374	239	397	239	767	432	947	619

[1] Including evening classes and correspondence courses.
[2] For 1964.
[3] Greek Pedagogical Academy only.
[4] Including courses for workers but not including foreign students.
[5] Universities only.
[6] For 1951.
[7] Universities and degree-granting institutions only.
[8] Including Byelorussian S.S.R. and Ukrainian S.S.R.

VI. Higher education enrolments by sex, in relation to the population aged 20—24 years, around 1950, 1955, 1960 and 1965 *(percentages)*

Country	1950		1955		1960		1965	
	MF	F	MF	F	MF	F	MF	F
Albania [1]	0.3	0.1	2.9	0.9	...	...	...	...
Austria	...	...	4.3	1.7	8.7	4.1	7.5	3.9
Belgium	3.7	2.2	6.9	4.2	9.1	4.8	14.1	9.9
Bulgaria [1]	5.0	2.8	6.1	...	10.6	...	17.3	15.2
Cyprus	0.5	0.4	0.6	0.4	0.9	0.5	[2]0.2	[2]0.1
Czechoslovakia [3]	...	...	7.9	4.0	11.0	7.6	14.6	11.5
Denmark	4.5	1.8	4.3	2.0	5.6	3.2	[4]8.5	[4]5.4
Finland	4.2	3.1	5.3	4.5	7.5	7.1	11.4	11.3
France [5]	4.1	2.8	5.1	3.7	7.4	6.1	14.1	12.4
Germany (Fed. Rep.)	3.4	1.4	3.8	2.0	6.1	2.9	8.9	4.3
Greece	...	...	2.6	1.2	3.8	2.0	9.0	5.3
Hungary	3.3	1.7	4.1	2.1	4.3	3.2	6.8	5.8
Iceland	[6]5.2	[6]2.0	6.1	2.5	6.4	2.8	[4]8.0	[4]4.4
Ireland	4.3	2.7	5.5	3.3	7.8	4.9	10.8	6.7
Italy	3.7	1.9	3.5	1.9	4.6	2.6	7.7	5.6
Luxembourg	0.4	...	0.4	0.1	0.7	0.5	1.9	1.7
Malta	1.5	0.6	2.5	1.5	2.3	1.6	7.0	3.5
Netherlands	7.4	3.5	8.8	4.7	11.4	6.2	14.3	7.0
Norway	3.3	1.1	2.7	1.0	4.4	1.9	7.8	3.9
Poland [1]	5.9	3.6	6.7	4.3	8.5	5.3	13.2	10.0
Romania [1]	3.3	...	4.9	3.5	4.9	...	8.3	7.8
Spain	2.1	0.6	2.5	0.8	3.9	1.9	...	...
Sweden [7]	3.7	1.7	5.3	3.0	7.9	5.4	11.1	8.2
Switzerland [7]	4.7	1.2	4.6	1.3	5.3	1.8	[4]5.9	[4]2.3
Turkey	1.3	0.5	1.6	0.6	2.9	1.2	[4]3.5	[4]1.5
U.S.S.R [1-8]	...	...	10.6	...	11.8	...	...	...
Byelorussian S.S.R.	...	...	...	...	...	...	...	...
Ukrainian S.S.R. [1]	...	...	...	...	10.2	...	...	...
United Kingdom	...	...	4.0	...	5.4	...	8.5	6.6
Yugoslavia	3.8	2.5	3.9	2.5	9.0	5.2	11.2	7.6

[1] Including evening classes and correspondence courses.
[2] Greek Pedagogical Academy only.
[3] Including courses for workers but not including foreign students.
[4] For 1964.
[5] Universities only.
[6] For 1951.
[7] Universities and degree-granting institutions only.
[8] Including Byelorussian S.S.R. and Ukrainian S.S.R.

VII Increase in student enrolments in higher education, 1950 to 1965

Country	Mean annual rate of increase			
	1950—65	1950—55	1955—60	1960—65
Albania [1]	[2]29.9	62.2	14.5	[2]15.5
Austria	4.5	—6.1	13.7	6.9
Belgium	8.7	12.3	4.0	10.1
Bulgaria [1]	8.8	3.4	8.1	12.5
Cyprus	— [3]4.4	5.3	9.4	—[3]25.1
Czechoslovakia [4]	8.1	9.8	5.6	8.9
Denmark	5.2	—1.4	6.7	10.6
Finland	7.6	3.3	7.6	12.2
France [5]	7.7	3.2	6.3	14.0
Germany (Fed. Rep.)	5.6	6.9	9.7	4.7
Greece	...	...	7.3	13.5
Hungary	4.6	2.9	—0.8	11.6
Iceland	[2—6]3.8	[6]3.9	1.3	[2]9.4
Ireland	6.0	4.6	2.4	11.3
Italy	4.9	—0.9	6.7	9.2
Luxembourg	10.2	—3.6	13.0	22.8
Malta	9.4	7.6	—1.5	23.6
Netherlands	5.4	3.0	6.2	7.2
Norway	7.0	—4.3	11.7	15.4
Poland [1]	4.8	4.7	—1.2	8.7
Romania [1]	6.2	8.4	—1.5	12.6
Spain	5.9	2.4	7.0	8.4
Sweden [7]	9.7	6.0	10.3	13.0
Switzerland [7]	[2]4.4	—0.6	5.9	[2]9.3
Turkey	[2]9.7	8.4	11.9	[2]8.7
U.S.S.R.[1—8]	7.9	8.4	5.1	10.0
Byelorussian S.S.R. [1]	8.1	9.3	3.3	11.9
Ukrainian S.S.R. [1]	[2]8.1	10.1	5.1	[2]9.0
United Kingdom	...	...	7.0	11.0
Yugoslavia	7.7	3.0	15.0	5.5

[1] Including evening classes and correspondence courses.
[2] Based on 1964.
[3] Greek Pedagogical Academy only for 1965.
[4] Including courses for workers but not including foreign students.
[5] Universities only.
[6] Based on 1951.
[7] Universities and degree-granting institutions only.
[8] Including Byelorussian S.S.R. and Ukrainian S.S.R.

VIII. Number of graduates around 1957 and 1936 and mean annual rate of increase

Country	Number of graduates		Mean annual rate of increase
	1957	1963	
Albania	[1]383	1 350	23.4
Austria	3 058	[2]4 199	6.5
Belgium	9 623	[2]14 475	8.5
Bulgaria [3]	5 783	6 845	2.9
Cyprus	...	...	...
Czechoslovakia [4]	11 810	16 936	4.8
Denmark	3 264	4 510	5.6
Finland	3 508	5 301	7.0
France [5]	19 216	[2]37 611	14.4
Germany (Fed. Rep.) [5]	[6]30 129	36 269	9.7
Greece	5 008	[6]5 391	2.5
Hungary [7]	5 557	6 901	3.5
Iceland	61	70	2.1
Ireland	2 352	[6]3 803	7.1
Italy	20 544	26 114	4.1
Luxembourg	...	...	...
Malta [8]	19	90	29.6
Netherlands	12 097	15 110	3.8
Norway	1 096	1 901	9.6
Poland [9]	18 509	24 868	5.7
Romania	12 047	14 269	2.9
Spain [10]	6 146	6 982	2.1
Sweden	4 371	6 716	7.4
Switzerland	...	...	...
Turkey	4 027	8 115	10.5
U.S.S.R. [9—11]	266 500	331 700	3.7
Byelorussian S.S.R. [11]	7 300	8 400	2.4
Ukrainian S.S.R. [11]	52 400	59 100	2.0
United Kingdom [12]	56 525	80 120	6.0
Yugoslavia	8 426	[13]28 067	22.2

[1] Not including graduates from correspondence courses.
[2] For 1962.
[3] Data refer to first degrees only, not including data relating to post-secondary institutes.
[4] Not including foreign students.
[5] Not including Fine Arts, data for which are not available.
[6] For 1960.
[7] Data refer to graduates from day courses only. In addition, there were graduates from evening and correspondence courses.
[8] Data refer to the Royal University of Malta only.
[9] Including graduates from evening and correspondence courses.
[10] Not including post-graduate students, i.e., those who prepared for the doctorate or those who studied in the schools of specialization.
[11] Including Byelorussian S.S.R. and Ukrainian S.S.R.
[12] Awarded by universities and teacher-training colleges, but only to the more important awards made by establishments of further education. Also, data are not available for the number of higher qualifications obtained through private establishments, correspondence courses, private study, professional apprenticeship schemes, etc.
[13] Including diplomas obtained by persons who have completed post-graduate studies.

IX. Distribution of students in higher education by field of study for the years 1955 and 1964 *(as a percentage)*

Country	Year	Humanities, education, fine arts	Social sciences	Natural sciences	Applied sciences	Unspecified
Albania	1955	...	...	...	...	...
	1964	41.4	16.0	15.1	27.5	—
Austria	1955	21.2	32.7	6.6	39.5	—
	1965	22.4	31.1	8.6	37.9	—
Belgium	1955	34.8	20.8	5.2	39.2	—
	1965	27.1	26.1	7.2	39.6	1.2
Bulgaria [1]	1955	14.6	18.3	6.8	60.3	—
	1965	13.2	14.8	11.3	60.7	—
Cyprus	1955	100	...	...	...	...
	1965	100	...	...	...	...
Czechoslovakia	1956	27.0	14.6	5.8	51.6	1.0
	1965	27.5	12.0	3.0	57.5	—
Denmark	1955	23.5	19.0	4.0	49.5	4.0
	1964	27.0	20.9	10.0	38.9	3.2
Finland	1955	38.9	24.1	9.7	27.3	—
	1965	38.9	26.5	15.4	19.2	—
France [2—3]	1955	52.2		47.8		—
	1965	54.1		45.9		—
Germany (Fed. Rep.)	1955	26.0	20.3	10.4	43.4	—
	1965	31.5	20.5	9.8	38.2	—
Greece	1957	30.2	34.9	14.2	20.7	5.8
	1964	18.0	32.7	18.1	22.3	8.9
Hungary	1955	...	...	...	...	...
	1965	22.5	8.5	8.8	60.2	—
Iceland	1955	38.5	25.7	—	35.8	—
	1964	44.5	27.7	—	27.8	—
Ireland [4]	1955	48.2	8.8	9.2	33.8	—
	1965	49.1	10.6	11.1	29.2	—
Italy	1955	...	...	...	...	...
	1964	30.6	37.7	10.4	20.8	0.6
Luxembourg	1955	...	...	...	...	...
	1965	72.2	10.4	4.5	12.8	—
Malta [5]	1955	26.8	9.2	37.2	26.8	—
	1965	43.7	19.2	12.6	24.4	3.9
Netherlands	1955	45.8	12.3	5.5	36.3	—
	1964	44.5	16.8	6.7	32.0	—
Norway	1955	22.0	21.9	16.1	40.0	—
	1965	35.4	17.7	21.4	24.1	1.4
Poland	1955	10.0	15.8	7.6	66.6	—
	1965	15.9	19.8	10.5	53.7	—
Romania	1955	17.1	11.9	10.2	60.2	...
	1965	32.1	13.3	8.4	46.2	...
Spain [6]	1955	...	...	...	...	...
	1965	16.1	21.4	20.5	41.9	—
Sweden	1955	[7]41.0	12.0	12.0	[7]35.0	—
	1965	27.0	35.0	14.0	24.0	—

Switzerland [8]	1955	25.6	22.4	15.4	36.4	0.2
	1964	26.6	25.4	18.0	30.0	0.0
Turkey	1955	...	...	...	...	...
	1964	18.9	47.5	5.9	27.7	—
U.S.S.R. [9]	1955	40.2	5.7	54.1		—
	1965	31.9	6.7	61.4		—
Byelorussian S.S.R.	1955	30.0	6.3	23.9	39.8	—
	1965	23.6	12.7	13.2	50.5	—
Ukrainian S.S.R.	1955	...	...	...	...	...
	1964	...	...	...	...	...
United Kingdom	1955	...	...	...	...	...
	1965	47.0	13.7	15.4	23.9	—
Yugoslavia	1955	36.2	20.0	7.7	36.1	—
	1964	23.5	36.5	4.7	35.3	—

[1] Universities and degree-granting institutions only.
[2] Public universities only.
[3] Courses in education, fine arts, engineering and agriculture are provided at the *grandes écoles* and higher professional schools. The number of students enrolled at these institutions in 1964/65 was: education 3,273, fine arts 6,397, engineering 25,287, agriculture 3,349.
[4] Universities only; in addition, there were 2,747 students enrolled at teacher-training colleges and other higher educational establishments.
[5] Royal University of Malta only.
Not including the Conservatoire of Music or the School of Dramatic Art. Architecture is included with engineering.
[8] Prior to 1963/64, political science at the University of Basle was included with humanities.
[9] The classification by field of study does not correspond exactly to the classification in use. This is an attempt to approximate to the classification used in the U.S.S.R.

X. Women students by fields of study around 1955 and 1964; proportion of the total number of students as a percentage

Country	Year	Total women students	Distribution by field of study				
			Humanities, education, fine arts	Social sciences	Natural sciences	Applied sciences	Unspecified
Albania	1964	20.3	29.8	9.1	22.1	11.7	—
Austria	1955	21.2	40.6	18.2	25.4	13.1	—
	1965	25.0	50.5	18.1	27.4	16.4	—
Belgium	1955	29.8	54.0	17.8	26.3	15.0	—
	1965	33.3	50.2	31.5	27.6	23.9	—
Bulgaria [1]	1955	33.4	29.9	30.0	30.2	35.7	—
	1965	43.2	55.4	43.2	55.6	33.6	—
Cyprus	1955	34.1	34.1	—	—	—	—
	1965	33.4	33.4	—	—	—	—
Czechoslovakia	1956	28.7	52.0	16.7	27.8	20.0	74.0
	1963	37.3	64.6	34.0	39.4	23.1	8.9
Denmark	1955	23.5	34.5	23.5	23.0	15.3	60.0
	1965	31.4	48.6	30.4	22.3	20.7	52.2
Finland	1955	41.4	64.7	28.5	30.3	23.4	—
	1965	49.0	70.5	39.6	36.8	24.6	—

(to be followed on p. 36)

(followed from p. 35)

Country	Year	Total women students	Distribution by field of study				
			Humanities, education, fine arts	Social sciences	Natural sciences	Applied sciences	Unspecified
France [2-3]	1955	36.0	...	...	...	...	...
	1964	42.0	53.0		32.2		—
Germany (Fed. Rep.)	1955	20.5	47.0	13.1	14.1	9.5	—
	1965	23.5	51.0	10.1	13.7	10.6	—
Greece	1957	25.4	46.4	18.0	15.6	14.0	—
	1964	29.4	58.9	28.8	19.9	19.5	16.5
Hungary	1965	41.6	73.5	53.1	59.6	26.9	—
Iceland	1955	19.9	39.4	5.8	—	9.0	—
	1964	28.9	53.4	6.9	—	11.0	—
Ireland [4]	1955	30.0	42.5	27.9	27.3	13.4	—
	1965	29.0	41.5	31.9	27.4	15.6	—
Italy	1955	28.0	...	...	...	...	...
	1964	34.5	68.5	21.2	34.8	8.7	3.6
Luxembourg	1955	20.0	...	...	...	...	...
	1965	39.7	47.7	20.5	26.3	14.8	—
Malta [5]	1955	33.0	1.1	32.2	29.4	7.7	—
	1965	27.0	46.7	14.2	25.4	3.5	—
Netherlands	1955	26.2	76.8	11.6	2.7	8.9	—
	1965	25.0	40.6	23.4	12.3	7.5	—
Norway	1955	17.1	...	...	...	...	...
	1965	24.3	43.5	16.0	16.7	8.8	25.9
Poland	1955	32.2	49.5	33.6	49.7	27.3	—
	1965	39.5	60.8	38.1	56.1	26.7	—
Romania	1955	35.0	50.6	34.4	49.3	29.0	—
	1965	39.0	57.5	29.6	50.5	26.0	—
Spain [6]	1955	...	...	...	...	...	...
	1965	21.2	55.7	14.6	30.0	7.0	—
Sweden	1955	28.8	[7]47.9	10.0	23.8	[7]14.6	—
	1962	35.0	53.0	23.0	28.0	18.0	—
Switzerland [8]	1956	14.9	32.1	9.8	10.6	7.9	—
	1964	18.9	38.7	10.5	14.3	11.1	—
Turkey	1964	21.1	39.5	17.0	20.1	15.8	—
U.S.S.R. [9]	1955	...	...	...	...	...	...
	1964	43.0	47.5	8.7	43.8		...
United Kingdom	1955	...	...	...	...	...	...
	1965	38.2	61.0	29.2	22.0	9.3	—
Yugoslavia	1955	31.0	45.9	23.7	44.1	17.2	—
	1965	34.0	49.9	33.0	43.5	25.2	—

[1] Universities and degree-granting institutions only.
[2] Public universities only.
[3] Courses in education, fine arts, engineering and agriculture are provided at the *grandes écoles* and higher professional schools. The number of students enrolled at these institutions in 1964/65 was: education 3,273, fine arts 6,397, engineering 25,287, agriculture 3,349.
[4] Universities only: in addition, there were 2,747 students enrolled at teacher-training colleges and other higher educational establishments.
[5] Royal University of Malta only.
[6] Not including the Conservatoire of Music or the School of Dramatic Art.
[7] Architecture is included with engineering.
[8] Prior to 1963/64, political science at the University of Basle was included with humanities.
[9] The classification by field of study does not correspond exactly to the classification in use. This is an attempt to approximate to the classification used in the U.S.S.R.

XI. Higher education graduates by field of study around 1957 and 1963 *(percentages)*

Country	Year	Humanities, education, fine arts	Social sciences	Natural sciences	Applied sciences	Unspecified
Albania	[1] 1957	25.3	21.9	3.2	49.6	—
	1963	45.0	9.1	12.5	33.4	—
Austria	1957	19.8	41.2	3.4	34.0	1.6
	1963	25.5	42.7	3.1	28.7	—
Belgium	1957	36.9	22.5	8.1	29.5	3.0
	1962	41.4	18.1	9.8	28.3	2.4
Bulgaria [2]	1957	16.2	29.6	6.5	47.7	—
	1963	13.2	23.1	6.4	57.3	—
Cyprus	1957	100.0	—	—	—	—
	1963	100.0	—	—	—	—
Czechoslovakia	1958	38.4	8.4	2.2	51.0	—
	[3]1963	41.1	8.3	6.2	44.4	—
Denmark	1957	51.8	17.2	1.4	27.7	1.9
	1963	51.2	21.1	2.2	24.4	1.1
Finland	1957	44.1	18.4	7.8	29.7	—
	1964	42.7	17.5	13.7	26.1	—
France	1957	[4]32.6	8.4	15.7	43.3	—
	1963	[4]40.7	12.9	17.8	28.6	—
Germany (Fed. Rep.).	1960	46.0	21.1	8.5	24.4	—
	1963	49.1	17.3	8.0	25.6	—
Greece	1957	41.9	33.0	8.4	16.7	—
	1963	39.0	29.7	8.8	18.2	4.3
Hungary [5]	1957	20.7	9.6	11.5	58.2	—
	1963	30.9	7.1	6.4	55.6	—
Iceland	1957	36.7	27.7	—	35.6	—
	1963	38.9	30.4	—	30.7	—
Ireland	1957	51.6	15.1	5.8	27.5	—
	1964	54.2	12.8	11.9	21.1	—
Italy	1957	21.7	32.6	12.6	33.1	—
	1963	26.5	34.2	13.2	25.9	0.2
Luxembourg	1957	...	...	...	...	...
	1963	...	...	...	...	...
Malta [6]	1957	73.7	—	—	26.3	—
	1963	47.8	8.9	3.3	40.0	—
Netherlands	1957	51.5	11.2	3.4	33.9	—
	1963	58.5	10.3	3.4	27.9	—
Norway	1955	22.1	21.9	16.4	39.7	—
	1964	34.5	16.1	22.5	25.3	1.6

(to be followed on p. 38).

(followed from p. 37)

Country	Year	Humanities, education, fine arts	Social sciences	Natural sciences	Applied sciences	Unspecified
Poland	1957	9.8	15.6	8.5	66.1	—
	1963	14.7	18.0	9.0	58.3	—
Romania	1957	15.9	9.7	12.4	62.0	—
	1963	44.9	8.0	14.0	33.1	—
Spain [7]	1957	20.6	28.8	7.7	42.9	—
	1963	25.1	19.6	8.4	46.9	—
Sweden	1957	[8]27.3	14.3	11.6	[8]46.8	—
	1963	29.9	12.6	15.2	42.3	—
Switzerland	1957	...	...	...	...	
	1963	...	...	...	...	
Turkey	1957	11.1	44.5	0.9	43.5	—
	1964	28.9	34.0	4.8	25.9	6.4
U.S.S.R. [9]	1957	41.0	7.6	51.4		
	1964	37.3	7.9	54.8		
Byelorussian S.S.R.	1957	...	...	...	...	
	1964	...	...	...	...	
Ukrainian S.S.R.	1957	...	...	...	...	
	1964	...	...	...	...	
United Kingdom [10]	1957	[11]53.5	[11]...	13.4	33.1	0.0
	1963	45.2	8.6	15.8	30.3	—
Yugoslavia	1957	35.5	19.7	6.9	37.9	—
	[12]1963	23.5	36.0	3.4	37.1	—

[1] Not including graduates from correspondence courses.
[2] Data refer to first degrees only; not including data relating to post-secondary institutes.
[3] Not including foreign students.
[4] Not including Fine Arts, data for which are not available.
[5] Data refer to graduates from day courses only. In addition, there were graduates from evening and correspondence courses.
[6] Data refer to the Royal University of Malta only.
[7] Not including post-graduate students, i.e., those who prepared for the doctorate and those who studied in the schools of specialization.
[8] Architecture is included with engineering.
[9] The classification by field of study does not correspond exactly to the classification in use. This is an attempt to approximate to the classification used in the U.S.S.R. Includes graduates from evening courses and correspondence courses.
[10] Data refer to all degrees and diplomas awarded by universities and teacher-training colleges, but only to the more important awards made by establishments of further education. Also, data are not available for the number of higher qualifications obtained through private establishments, correspondence courses, private study, professional apprenticeship schemes, etc.
[11] Law and Social Sciences are included with Humanities, Education and Fine Arts.
[12] Including diplomas obtained by persons who completed their post-graduate studies.

2.

Access to higher education from the point of view of the social, economic and cultural origins of students[1]

Frame of reference of the study

DEFINITION OF HIGHER EDUCATION

In the present report the term higher education will include all studies beyond secondary level, including technical education. In this connexion the following definition will be followed:

'Higher education is defined as all types of education (academic, professional, technological, teacher education) given in institutions such as universities, university colleges, liberal arts colleges, technological institutes and teacher-training establishments for which the basic entrance requirement is completion of secondary education, the usual entrance age is about 18 years and in which the courses lead to the giving of a named award (degree, diploma or certificate of higher studies).'

Consequently, with allowance for the differing structures in the countries of Europe, the following must be considered:

Universities and assimilated institutions. The latter include *incomplete* universities: isolated or specialized faculties (of agriculture, for example), institutions limited to the 'first cycle' of higher education (higher colleges, the Belgian *candidature*, the French *propédeutique*, etc.);

Specialized higher institutions such as the École Polytechnique in France;

Institutes of technology, architecture or fine arts, provided they are above secondary level;

Institutes of technology, architecture of fine arts, provided they are above secondary level;

Teacher-training institutions (if above the secondary level), institutes of social studies, colleges for nurses and other para-medical personnel (if above secondary level);

Higher technical or commercial education;

The 'third cycle', namely post-graduate studies, which obviously belong to higher education.

Within the framework of this definition of higher education, no distinction is made between full-time, part-time, evening or correspondence courses, provided that the education given is of the same level and leads to equivalent awards.

WHAT IS TO BE UNDERSTOOD BY THE TERM "ADMISSION" IN HIGHER EDUCATION?

The admission process is not confined to fulfilment of the conditions for enrolment in the first year of higher education. It is a much more complex phenomenon and extends over a much greater length of time. For an outline of its various aspects we can resort to the following description by Frank Bowles:[2]

'(I) Admission to higher education is not a single administrative act, performed when a student moves from secondary to higher education, but a process which extends over a period of years during which a series of selections determines those students who continue towards the goal of ultimate entry to higher education.

'(II) The first in the series of selections takes place when students complete primary school and enter a programme of studies which specifically offers the opportunity of preparing for higher education. For

[1] This comparative paper was prepared at the request of the Director-General of Unesco by Professor Henri Janne, former rector of the University of Brussels. It was presented to the conference as document Unesco/Mineurop/4.

[2] Frank Bowles, *Access to Higher Education*, Unesco and the International Association of Universities, Paris, Vol. I, p. 25—7.

purposes of convenience, students entering preparation for higher education may be termed the "admissions group".

'(III) Selections within the admissions group continue during the course of secondary education, culminating in a final selection which determines those among the group who meet the requirements for admission to higher education.

'(IV) Selections may be accomplished either through formal examinations or through programmes of orientation and guidance, or both, but the final selection always depends upon a comparison of the quality of the student's preparatory performance with the quality of the work that will be expected of him in higher education.

'(V) The admissions process exists in two basically different forms. In one, it begins with an examination for entrance to the admissions group and ends at the close of secondary education with a leaving examination which serves the dual purpose of marking the completion of secondary school and establishing eligibility for admission to higher education. Other sets of examinations may be administered during the secondary programmes. In the second form of the process, students enter the admissions group without examination. Selection, at least during the early stages of preparation, is accomplished through orientation and guidance. Examinations are sometimes employed at the mid-point of secondary education to direct students into various types of specialized programmes, and some form of examination always marks the close of secondary education. Final selection takes place at the point of entry to higher education, and is conducted by the individual institutions, usually on the basis of a set of entrance examinations. [1]

'(VI) The number of students who enter and complete the admissions process is also affected by non-academic forces which operate outside the formal selection procedure. These include such factors as the opportunities, aspirations, and costs which are associated with education. [2]

'(VII) The final step of the admissions process — the acceptance or rejection of candidates — is always controlled by higher education's enrolment capacity. When the capacity is insufficient to accommodate all qualified candidates the number of candidates is reduced by further selection; when it is greater than the number of qualified candidates, the standards are lowered to increase the numbers eligible for admisssion. [3]

'(VIII) The operation of the admissions process reflects both the structure and purpose of the educational system. Any change in organization or objective, even as remote from higher education as the first years of primary education, eventually has an effect on the number of students completing the admission process. However, the process makes such adjustments so slowly that it often includes procedures and requirements which are vestiges of structures or purposes long supplanted by educational developments.'

The present report cannot therefore be confined to an analysis of the social and cultural factors, the motivations and aspirations and the institutional influences which operate at the point of entry to higher education and which explain the abstentions, failures and choices of various types of higher education. It will also be necessary to study the action of all these factors at primary school level; as early as that stage and even earlier, selective and orienting factors, explicit or latent, will have come into play.

THE PHENOMENA OF ACCESS TO EDUCATION SITUATED IN AN ECONOMIC AND SOCIAL CONTEXT

The general growth of the desire for education. This trend is world wide, and is strongly rooted in the mentalities of all the peoples of Europe. The 'right to education' was dealt with in Article 26 of the Universal Declaration of Human Rights. [4] In all countries, the right is affirmed in their constitutions, in declarations of principle and in the programmes of many political parties, coupled with proscription of any form of discrimination. There would be no

[1] *Rapporteur's note.* In some cases, the selection is made by the university at the end of the first year of propaedeutics. The percentage of failures at the end of this year is very high.

[2] *Rapporteur's note.* It is here that the factors which are the main subject of the present report come in — social stratification, family cultural level, sex and regional aspects.

[3] *Rapporteur's note.* Actually in many cases an increase in the number of candidates leads to an increase in the number of admissions without a corresponding increase in staff and facilities. Here there is an obvious danger of deterioration in the quality of the teaching, but not necessarily of a lowering of selection standards. Where the latter does not occur, it is the yield of the teaching which is affected (increase in the percentage of failures).

[4] Cited here for information:

'1. Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory. Technical and professional education shall be made generally available and higher education shall be equally accessible to all on the basis of merit.

'2. Education shall be directed to the full development of the human personality and to the strengthening of respect for human rights and fundamental freedoms. It shall promote understanding, tolerance and friendship among all nations, racial and religious groups, and shall further the activities of the United Nations for the maintenance of peace.

'3. Parents have a prior right to choose the kind of education that shall be given to their children.'

(United Nations, *Universal Declaration of Human Rights, 10 December 1948).* Higher education being 'accessible to all on the basis of merit', implies rejection of any discrimination based, in particular, on race, sex or religion, the fact of belonging to a national minority or anything else.

point in anthologizing the texts of this kind; their general tenor, with some doctrinal and cultural variants, is much the same and amounts to a call for the democratization of education. Such democratization is the aim of all education policies.

The notion of democratization of higher education does not of course signify that 'missing university', if one had the ability for it, is necessarily a 'loss' for the individual and for society. It is simply a matter of a right and of over-all slanting towards correspondence with the economic needs.

Objections to the democratization of higher education. While the desire for education and the calls for the democratization of higher studies are steadily gaining strength and becoming general throughout Europe, the various counterblasts against this massive trend cannot be passed over in silence. Van Heek cites some of them: [1]

The conservative line, consisting in fears for the future of a postulated excess of university graduates, with the conclusion that access to the university should therefore be restricted rather than democratized;

The 'meritocratic' line of objection to that which its proponents call 'egalitarian democratizing'. This view is found mainly among teachers of the traditional humanities; they accept democratization only in the sense of opening education to the able of whatever origin, but refuse to 'overturn' structures which have 'proven their worth' by forming an 'elite' and are determined to keep selective in the eliminating sense the education they provide, rejecting the new formulae of 'restreaming' for students in difficulties. [2]

The theory that the 'reserves of ability' in the middle and lower population strata [3] are exhausted so that wider access could only lead to a lowering of the quality of studies and of the value of the awards. [4]

Michael Young's strongly anti-'meritocratic' hypothesis [5] in which he argues that the lower and middle strata of society should not be deprived of their most intelligent members; that, in addition, the 'over-intellectualization' of the upper stratum is undesirable for society, but is being brought about ineluctably by the generalization of competitive examinations and tests, with the prospect of a mandarinate's replacing an 'elite' of more diversified talents. [6]

In fact, the social demand for education reflects not only individual needs resulting from contemporary ways of life, but also economic necessities. Again, it is necessary, in guidance and information, in the actual structures of the educational system, and in the polyvalent character of the courses offered, to avoid imbalances which, though temporary, would nevertheless create grave problems. It shall be shown, too, that the reserves of ability seem far from exhausted among the peoples of Europe. There are also grounds for concluding that the wider the basis of selection at each educational level, the greater the chance of finding individuals with outstanding performances. Hence, wider access does not lower the standard of results. Young's objections, on the other hand, are much more worthy of attention. They would be valid if education developed no more than the intellect and if the specific organizations of the middle and lower strata of society (the masses) did not require leaders not only competent but in close relation with the environment of which they must be fully representative. The dangers indicated by Young ought to be taken into consideration, nevertheless, for such a development is not impossible *per se*.

The democratization of studies must not be carried out 'at all costs' — for instance, at the cost of overcrowding schools unprovided with adequate staff and facilities. But the right to education implies such priority for these needs that the social demand is not thwarted — directly by the lack of school places or indirectly by a lowering of standards.

The need for qualified manpower. It is indisputable that the need for qualified manpower is steadily growing in industrialized countries and that this need exerts powerful pressures on their educational systems. [7]

The university graduates necessary to respond to the needs of a leisure civilization and mass communications. However, even leaving aside the economic aspect, it should be noted that a society in which leisure is continually increasing poses a concurrent problem of the use of leisure. Quite spontaneously, cultural demand is steadily growing in volume and revealing thereby that 'consumption' is a response to the awakening of aspirations created by increased leisure. Education cannot disregard this necessity,

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[1] Fr. Van Heek, 'Social factors preventing optimal selection for academic professions in the Netherlands.' Introduction to a research project submitted by the Sociological Institute of State University, Leyden (duplicated), p. 8–9.

[2] See in this connexion Reuchlin, *Pupil Guidance*, Council for Cultural Co-operation, Strasbourg, 1964, p. 70 *et seq.*

[3] Van der Heyden, 'De ments in de wordende maatschappij' in *Bulletin* No. 4 of the Netherlands Association of Social Science Research Workers, February 1858.

[4] This objection is given a wider sense by Ingvar Svennilson (in co-operation with F. Edding and L. Elvin) in *Policy Conference on Economic Growth and Investment in Education*, II (Washington Conference, 16—20 October 1961), paragraphs 46—9 and 54. 'When an educational system expands rapidly there is always a risk that quality may be sacrificed to quantity.' Thus, there is real risk even if there is a 'reservoir of ability', but it can be minimized by adequate measures as regards staff, methods and buildings.

[5] *The Rise of the Meritocracy 1870—2033: an essay on education and quality*, London, 1958.

[6] These three themes reappear with some variations in A. H. Halsey et al., *Ability and Educational Opportunity*, Paris, OECD, 1962, p. 19. The impossibility of gearing an educational system exclusively to the supplying of manpower for the economy is strongly emphasized (p. 20).

[7] For a more thorough study of this question, see Chapter 3 below.

and university graduates must be given an adequate cultural grounding — which, incidentally, will facilitate communication between specialists. In addition, the expansion of culture, more particularly in connexion with the use of leisure, creates or expands a production, distribution and service sector which, in the general context of the development of 'tertiary' activities, is calling increasingly on university graduates for academic or scientific knowledge, training in social sciences or abilities of revelance for communication media. Here is a demand which is far from negligible, able to offer employment to graduates of adequate versatility, probably in larger numbers than the 'secondary' and 'tertiary' activities (administration, banks, insurance, distribution, culture of the traditional types.)

The clash of personal choices and economic needs. The real problem as regards the criteria for access to higher education is the clash of personal choices (the 'social demand') and the needs of economic development. At this writing there are three proffered solutions: planning, automatic adjustment and a combination of flexible planning and adjustment procedures.

Integrated planning. This is the solution adopted by the socialist countries of Eastern Europe. When the economic development possibilities have given rise to political choices, a plan is drawn up mobilizing and integrating the material and manpower resources for the attainment of the targets set. Thus, the kinds and numbers of degrees needed over a given period are known beforehand, and a selection process serves to designate those to be trained at each level to carry out the plan. The principle is that of limitation in the number of admissions, but on the basis of a democratic selection (to the extent that the influence of social background on the choice of studies or on scholastic performance can be discounted — which is not yet the case, even supposing that the breakdown by social origin of students in higher education can correspond to that of the working population). The problem, specific to the planning system, is to respond to personal aspirations in the matter of higher education without automatically conferring the right to a corresponding choice of activity.

A much discussed point, and one that is often misunderstood, is the limitation of admissions established in accordance with the needs of economic plans. In this connexion, certain observations of Mr. Prokofiev, [1] the Soviet Minister for Education, will be of interest. After explaining that the plan serves as a basis for fixing necessary quotas, he writes:

'(I) Some colleagues from capitalist countries are anxious whether under this system the rights of man to an education are not infringed? Is it right, they usually ask, if 15,000 young people, say, want to study law, while you accept only 8,000? We shall reply to this question by another question: Do you think it right if the higher school graduates — several thousand lawyers — are not able to find work in their line? Are there not enough tragedies of this kind in the capitalistic world? Is it not more democratic to tell a young man to think of another speciality rather than to train him to be a 'superfluous' specialist?

'(II) If it is only a matter of satisfying a thirst of knowledge in some sphere of science, this can be done in special groups, organized at university departments, for the study of separate subjects, combining this study with useful work. I am not speaking already of the huge network of all kinds of courses, advanced training groups, lecture auditoriums, etc., where anyone can augment his knowledge.'

This passage makes it clear that the system of limited admissions established in accordance with the needs of the plan is a basic principle of educational policy, not the result of restricted means.

The theory of automatic adjustment. This is the solution adopted by the régimes which have remained closest to traditional liberalism. The theory is founded on observed premises: (a) the interaction of supply and demand in respect of educational opportunities; (b) the interaction of motivation and economic needs; (c) the interaction of simultaneously growing revenues, technical needs and possibilities of meeting them.

But experience shows that these interactions do not 'soak up' all the imbalances. It goes without saying that the adaptability of human beings and the polyvalence of the training given are factors facilitating the adjustment of studies pursued to the effective needs of the economy. Here, the goals of education play an essential mediating role.

A combination of flexible planning or guidance and processes of adjustment. This is the solution more and more widely adopted in the market economy countries. It is applied in varying degree. Educational planning plays a more important role in Sweden and France than in Belgium and the Federal Republic of Germany, for example. It seems that a combination of planning and spontaneous — but directed — adjustment is the solution most in keeping with the non-socialist régimes of Europe. Integral planning, also employing guidance procedures to correct individual aspirations, is the educational solution adopted in the socialist régimes of Eastern Europe. The general processes are no doubt very different considering the public or private nature of production concerns; but from the functional point of view of education, they are sufficiently alike to give rise to the same type of problem.

[1] Prokofiev, Chilikin and Tulpanov, *Higher Education in the U.S.S.R.* Paris, Unesco, 1962 p. 10. (Educational studies and documents, no. 39.)

It should be noted that educational planning has a structural advantage in countries in which education itself is centralized at the national level, as is the case in Sweden and France. It is generally the case in the socialist countries of Eastern Europe as well, although the U.S.S.R. has a federal structure which entails the harmonization of plans at the top. In the Federal Republic of Germany, education is the responsibility of the various *Länder*.

Free (or private) education with its own independent structures has been widely developed in Belgium and the Netherlands. Here the degree of centralization is an important factor.

Educational needs and social welfare. The growing educational requirements in the industrialized societies, although receiving greater priority at present, compete nevertheless with other requirements. In 'consumer' societies, a choice must be made — at least within limits — between more comfort (consumer goods, transport facilities, social welfare and welfare in general) and more and better education. [1]

Conclusion. The 'social demand' generally takes the form of personal and family aspirations in the highly industrialized countries and exerts an extremely strong pressure which tends to overtax the available resources: it explains the notable rise in the national education budgets of these countries. Such wealthy countries, however, have to meet many pressing demands in connexion with social welfare, health, culture and the equipping of the country's infrastructure. This leads to acute problems of wealth and rapid development, priority problems with serious political and economic repercussions, whether a question of repeated adjustments (in the West) or the choice of targets for plans (in the East). [2]

Awareness in the highly industrialized countries of inequalities other than those due to the individual inability to afford higher education brings into question the traditional structures, methods and objectives of education, which education is expected to offset entirely these subtle and deep inequalities — instead of adding to them as in the past. The more or the less favourable climate to education in the various social strata, the differences within the strata in scholastic performance, repeats and drop-out, the differences in aspirations and motivations, in the attitude to women, geographical cultural differences with their effects on attitudes to the school, difference in the value attributed to humanistic studies, prejudices concerning the nature of a student's work, differences in the socio-cultural environment created by particular school and universities — all these constitute acute problems in such countries. The future trend and progress of secondary and higher education (inseparable in this respect) are conditioned by their solution.

The problems outlined above are far more acute in countries without integral planning and which remain attached to the principle of the priority of the 'social demand'. However, the same problems, with changed emphases and aspects, exist in the socialist countries of Eastern Europe. Does not social stratification, while intended to be purely functional, affect the social composition of school enrolments? Is the attitude towards education equally favourable in all the social strata (having regard to the educational levels and occupations of fathers and mothers)?

In all the more advanced countries, the swift rise in enrolments indicates that the formerly less educated social strata have been taking, and will continue to take, advantage of higher education. The upper strata, which had already been taking great advantage of it, to the point of enjoying a monopoly until recent decades, could not alone account for this increase.

The question then arises: which strata hitherto poorly represented in the ranks of higher education are swelling the enrolment figures, and in what proportions?

Social stratification as a factor in the higher education enrolment rate

APPROACH TO THE PROBLEM

A general theory of the relationship between social stratum and educational career, based on field surveys, has been elaborated by Sauvy and Girard. [3] This formulation consists of a general model of the selective mechanism comprising four essential factors:

— Scholastic performance in relation to social status: the level of performance exerts its influence from the first year of primary education.

— Scholastic performances being equal, the differences in the proportion of admissions to secondary

[1] See in particular L. Robbins, *The University in the Modern World*, New York, Macmillan, 1966, p. 22.

[2] Although the 'social demand' does not enter into admission processes, enrolments are extremely high on the socialist countries of Eastern Europe. The priority of needs over demand is a determining factor.

[3] See Alfred Sauvy and Alain Girard, 'Les diverses classes sociales devant l'enseignement', general summation of results in *Population*, Vol. 20, No. 2, March-April 1965, p. 205—32, 208.

education according to social status; streams of secondary education.

— During secondary education, repeating and drop-outs in relation to social status.

— On completion of secondary education, the difference in the proportion of admissions to higher education according to social status ; branch of studies in higher education.

COMPARATIVE ANALYSIS OF ENROLMENT STATISTICS AS A FUNCTION OF SOCIAL STRATA

All data available — breakdown of students by social background, percentage of failures by social category, correlation between grade-repeating and social origin — clearly establish the inequality of educational opportunity in the different social categories. [1]

Access to higher education being the end of a series of selective processes which begins in the primary school, [2] it is readily understandable that inequality is most keenly felt at the higher level.

Recent data concerning over-all enrolments for girls and boys of 19 years are available for France. [3] They show the enrolment and apprenticeship ratios for 1962 by social and occupational status of the father. The most characteristic aspects are worth bringing out.

The highest enrolment ratios (in the region of 75 to 85 per cent) and the lowest apprenticeship ratios are to be found in the following categories, *boys only :*

	Enrolment (per cent)	*Apprenticeship (percent)*
Liberal professions	85.3	0.0
Teachers and various intellectual occupations	79.3	1.4
Higher executives	76.3	2.3

Then follow the categories with enrolment ratios in the region of from 50 to 60 per cent:

Medium-level executives in medical and social services	60.0	5.0
Industrialists and higher ranks of commerce	58.8	3.4
Technicians and medium-level administrative personnel	52.9	4.4

Next, the categories in which the enrolment ratios are in the region of 25 to 40 per cent:

Commercial employees	37.6	7.8
Army and police	35.8	8.4
Artisans and small tradesmen	30.1	8.8
Office workers	29.1	5.5
Foremen	27.9	4.9

Finally, the categories with enrolment ratios of only from 8 to 18 per cent:

Skilled workers	17.8	5.1
Service personnel	14.7	8.3
Farmers	13.0	2.4
Miners	12.7	19.2
Rural workers	12.2	4.2
Semi-skilled workers	11.8	4.4
Labourers	8.2	4.5

This classification shows the decisive effect of the father's social and occupational status on a boy's chances of higher education. This influence is inexorable: those with the poorest chance are children of farmers and rural workers; those of office workers, foremen, artisans and small tradesmen have a much better chance; then come the children of medium-level executives and technicians, industrialists and higher ranks of commerce, and lastly the higher category and the intelligentsia. It is immediately clear from the case of the teachers and intellectuals compared with the industrialists and big traders, and also that of the skilled workers compared with commercial employees and persons of that class, that other factors than income operate.

Unfortunately, a comparison on an international scale is not feasible for the following reasons: (a) Information has been supplied by the various Member States on the basis of their own classifications. The methods of classification adopted sometimes differ greatly. (b) The only social categories which could at a pinch be compared are those of farmers and workers [4], but even here the categories employed are not truly homogeneous. (c) Comparison is meaningless unless student enrolments can be related to the corresponding categories in the active population. But, data is lacking concerning the active population which can be compared both from country to country and with the data concerning the student population.

A global approach based on the theory of the three sectors of economic activity yields useful indications nevertheless. For the socialist countries of Eastern Europe have a secondary economic sector representing a considerably smaller fraction of the active population than in the other countries of Europe (29 per cent of the active population compared with 42 per cent) [5]. The 'working' element is therefore

[1] Cf. R. Poignant, *L'enseignement dans les pays du Marché Commun*, Paris, Institut Pédagogique National, 1965, and A. H. Halsey et al., *Ability and Educational Opportunity*, op. cit.

[2] Cf. P. Jaccard, *Sociologie de l'éducation*, Paris, Payot, 1962, p. 220.

[3] *Études et enquêtes*, mai-juin 1967, Paris, Bureau Universitaire de Statistique et Documentation Scolaires et Professionnelles.

[4] And, for some Member States office workers and subordinate officials.

[5] Cf. Table 5 below.

proportionally smaller. Now, it is to be noted that the proportion of students from the working class is greater in the people's republics than it is in the Western countries. It is in the region of 11.2 per cent in Belgium, but in the region of 33 per cent in Hungary, 35 per cent in Poland and 38 per cent in Czechoslovakia [1]. It can therefore be concluded, on the face of it, that in the socialist countries of Eastern Europe, students from the working class have a better chance of entering on higher education than they have in the other countries of Europe. The case of Yugoslavia, which is rather special, provides a point in support of this argument. It is known that Yugoslavia has a social structure in which the primary sector predominates and the secondary sector is not as yet very developed. [2] Yet a high percentage of Yugoslavia's students are the sons of workers [3] which shows that Yugoslavia is educationally more favourable to working-class children than are the countries of Western Europe.

Some conclusions can be drawn from a classification of social categories into three levels (high, medium and low) comprised, on the one hand, of the active population and, on the other, of students. [4] This was the case for the Netherlands, which has data on:

1. The active population.

2. (a) Heads of families with children in a'secondary modern school' which leads on to higher vocational education or technical education; (b) heads of families with children in a 'general secondary school', which leads to university education; (c) heads of families with children at a university.

It is then possible to draw up Table 1.

The significance is clear: the higher the level of education, the higher in a marked degree, the proportion of upper-bracket children — for the boys, it rises from 5 to 46 per cent; for the girls, at an over-all disadvantage, the percentages increase differentially with the height of the father's social position. Social level has much more weight than in the case of the boys: at university, two-thirds of all the girls are from the upper social bracket, as compared with the boys' already high proportion of 40 per cent. For the lower social bracket, the position is exactly the reverse, with the percentage of enrolments declining steeply as the educational level rises. For boys the drop is from 41 per cent (a proportion already lower than that of the lower bracket in the working population) to only 10 per cent at university. With the girls the phenomenon is even more marked: the enrolment rate drops from an initial 38 per cent (which approximates to the boys' enrolment rate) to only 3 per cent at university. In the middle bracket, the enrolment rate for boys remains fairly constant over the three levels of education and is above the proportion of the middle bracket in the working population. For the girls the enrolment rate is almost the same as it is for the boys except at university, where it drops to 33 per cent, as compared with 44 per cent for boys. In a more summary but striking manner,

[1] Cf. Table 6 below.

[2] Cf. H. Janne and others, *Technique, développement, économique et technocratie*, Brussels, Institut de Sociologie, 1963, p. 94. Of course, increasing industrialization is gradually tending to change this structure.

[3] Cf. Table 6 below.

[4] Broadly speaking, the high level consists of the managerial classes (classes dirigeantes) members of academic or liberal professions and secondary-school teachers; the low level consists mainly of manual workers and unqualified administrative staff; the middle level includes those situated between these two levels: qualified administrative staff, primary school teachers, farmers and tradesmen, technicians.

Table 1

Enrolment ratios in secondary and higher education in the Netherlands by social category

		Social status of the father			
		High	Medium	Low	Year
Working population		% 5	% 40	% 55	
Children in secondary schools preparing for higher vocational education and technical education	(Boys)	5	54	41	1966
	(Girls)	6	56	38	
Children in secondary schools preparing for the university	(Boys)	25	52	23	1960
	(Girls)	31	53	16	
Children at a university	(Boys)	46	44	10	1961
	(Girls)	64	33	3	

Source: *De ontwikkeling van het onderwijs in Nederland*, dl I, 1966 (CBS publikatie).

the same disparity between the social structures of the working and student populations is to be noted for Sweden (see Table 2). [1]

Table 2

Social structures of the working and student populations in Sweden, 1960/61

Category	Male working population [1]	Social origin of students [2]
	%	%
Teachers, officers, directors	5	35
Working class	55	14

[1] Taken from the electoral statistics.
[2] First-year students.

It is emphasized that in Sweden there is no longer any significant difference at the upper secondary school level; it is at the university that the problem remains to be solved, where it results from the choice of career made by students and their families at the decisive turning point of 'graduation' from upper secondary school. [2]

It may be noted that the breakdown of students in higher education in Sweden into three social brackets, defined as for the Netherlands, gives the following figures for both sexes combined in 1961: upper bracket 39 per cent, middle bracket 43 per cent, lower bracket 14 per cent.

This distribution seems to check broadly with that for the Netherlands, except that democratization is much more advanced for the low bracket, assuming, of course, that the proportions of the three brackets in the working population are roughly the same. Turkey, on the other hand, with the same classification, shows only 7 per cent for the lower bracket. [3]

Carrying the analysis further, it becomes necessary to make use of increasingly debatable data and the conclusions will have purely indicatory significance. Girod's estimations of population distribution between social classes round the world give a proportion of 27 per cent of manual workers in the working populations of the U.S.S.R. and the socialist countries of Eastern Europe and 49 per cent for the other countries of Europe and North America. [4] This would seem to indicate that, in the first group of countries, the proportion of manual workers' children in the student population corresponds more or less with that of manual workers in the working population, whereas this is far from being the case with the other group.

In this connexion, more precise and revealing data is available for two countries. In Belgium, with manual workers representing 47,9 per cent of the working population,[5] 11.2 per cent of the students in higher education are children of manual workers. [6] In France, with married working men between the ages of 45 and 54 comprising 37.6 per cent of the working population, 8.7 per cent of students come from the working class,[7] whereas in 1962 the proportion of children of working men (generation born after 1918) entering higher education was only 2 per cent. [8] Working-class participation in higher education remains low, although here the definition is perhaps restricted to the university.

The case of the United Kingdom is also interesting, although the data supplied are strictly non-comparable with those of other countries. Data for the universities alone are presented in Table 3.

Table 3.

Social origin of students, with distribution by sex, in the United Kingdom (1961) [1]

Social category	University students	
	MF	Women
	%	%
Non-manual:		
Higher professional	18	20
Other professional and managerial	41	43
Clerical	12	11
Manual:		
Skilled	18	16
Semi-skilled	6	6
Unskilled	1	1
Unknown	4	3
	100	100

[1] Based on a sampling.

[1] Data provided for the conference by Sweden.
[2] A point in need of investigation, however, is whether there is not a relationship between scholastic performances and social origins: the fact is that performances influence the decisions made and more powerfully among the poorer classes than among the well-to-do for whom it is easier to accept the risk of failure at university. There are, however, traditions and prejudices distinctive of particular social strata as the Swedish report shows; working-class families regard law with disfavour whereas it is highly thought of in upper managerial and academic circles; manual workers have a poor opinion of commercial studies and the upper classes of social studies even for university careers.
[3] Data provided for the conference by Turkey.
[4] Oceania is included with North America. Cf. Roger Girod, *Étude sociologique sur les couches salariées, ouvriers et employés*, Paris, Marcel Rivière, 1961, p. 85. See also Table 7 below.
[5] General census of 31 December 1961.
[6] In 1962. See Table 6.
[7] See Table 7.
[8] See Table 9.

Corresponding data on the working population using the same classification are not available, but a few conclusions can reasonably be drawn.

The higher professional category supplies 18 per cent of the students, but certainly represents less then 5 per cent of the working population. The manual worker category (including agricultural workers and artisans) supplies 25 per cent of the students and represents more than half the active population; the democratization of university education in this sector is therefore only about half achieved. And yet, turning to Table 6, it appears that of all the countries of Western Europe the United Kingdom is by far the most advanced in this respect (artisans and agricultural workers are actually not very numerous). Only Norway, with its 20.1 per cent (which, incidentally, is statistically more precise than the United Kingdom — 25 per cent) shows equal progress, followed by Sweden with 14 per cent. There is also Finland with 17.6 per cent of students of working-class origin, but including agricultural workers. As regards Table 6, the reservations made above are again essential.

One can reason on the same lines about agricultural workers. We then find that with a primary producing sector representing 47 per cent of the working population, [1] the socialist countries of Eastern Europe have a proportion of students of rural origin of the order of 20—30 per cent. [2] It could therefore be concluded, again with the fullest reservations, that in this group of countries, though the access of peasants to higher education is much more straitened than that of industrial workers, it is nevertheless greater than in the countries of Western Europe. However, in Belgium, cultivators represent 8 per cent of the working population [3] and 4.9 per cent of students are the children of cultivators. [4] So the proportion is much the same as for the preceding group.

In France, on the other hand, these percentages are 36.5 and 6.2 respectively [5] and in the Netherlands, 19.3 and 5. [6] However, in considering the *evolution* of the proportion of students of this social category, it must not be forgotten that the category itself is rapidly declining in importance in the working populations of the industrialized countries.

The social determinants are not an inescapable fatality. Appropriate legislation can effectively counteract the unchecked development of inequalities.

As the situation now stands, the democratization of higher education, although steadily progressing — however slowly [7] — is far from full achievement in the countries of Western Europe. In this respect, the judgement passed by the Swiss authorities on the position in their country is of relevance: that surveys of the social origins of the pupils in the *Gymnasia* (general secondary schools) prove the proportionate figures of pupils in secondary education to bear no relation to the proportions of the social strata in the population, the poorer classes being very much at a disadvantage. [8]

As far as Western Europe is concerned, the most representative image of the situation comes from Sauvy and Girard, who have managed to demonstrate the 'losses' from one generation of French workers' children, the generation which began the first year of secondary school in 1957, and could have entered a university in 1964 (see Table 4).

Table 4

'Losses' (per cent) from one generation of French workers' children at the successive educational levels over the period 1957—64

		%
Initial working-class fraction of the whole	In 1957	35
Fraction eligible for secondary education on scholastic performance	July 1957	27
Working-class fraction of actual secondary school intake (sixth class)	October 1957	20
Fraction still left in the third class	October 1960	14
Fraction still left in the first class (terminal)	October 1962	12
Fraction at university	October 1964 or later	8

Source: Sauvy and Girard, op. cit., p. 228.

[1] See Table 5.

[2] See Table 10. Czechoslovakia seems to be an exception in this respect.

[3] General census of 1961.

[4] See Table 10.

[5] Demographic Yearbook of the United Nations, 1955, and Table 10.

[6] Ibid.

[7] For some countries, the statistics show the already low rate of working class in the student participation in higher education as stationary. Austria, the Federal Republic of Germany, Greece, the Netherlands, and perhaps Switzerland, are cases in point. However, the reservations already made about statistics of this kind need to be kept in mind. The figures are only indicative. Of course, the absolute numbers of students of working-class origin are nevertheless increasing as a result of the rapid growth of the over-all numbers in higher education. One is concerned here with their relative position.

[8] Data provided for the conference by Switzerland. See also Table 4.

Table 5

Estimated distributions by sectors of the economy of working populations around the world at mid-twentieth century

Regions of the world	Active population (millions)	Percentage by sector[1]		
		Primary	Secondary	Tertiary
Group I. Regions with about 75 per cent primary producers:				
Africa	89	75	11	14
Asia	528	73	10	17
TOTAL	617	74	10	16
Group II. Regions with about 50 per cent primary producers:				
Southern Europe	58	58	22	20
Eastern Europe	42	47	29	24
U.S.S.R.	88	45	30	25
Central America	18	62	16	22
South America	41	55	18	27
TOTAL	247	53	23	24
Group III. Regions with marked predominance of secondary and tertiary producers:				
North America	66	13	37	50
Western Europe	90	20	42	38
Oceania	5	17	37	46
TOTAL	161	17	38	45
Total working population of the world	**1 025**	**59**	**18**	**23**

Source: Roger Girod, op. cit., p. 82.

[1] Primary: agriculture, forestry, fishing, including working members of primitive groups with a subsistence economy. Secondary: major and minor industry (including handicrafts), including mines and quarries, water, gas, electricity and building. Tertiary: commerce, transport and other services.

Table 6

Percentage of manual workers' sons in the student body around 1955, 1960 and 1964

Country	Around 1955	Around 1960	Around 1964
Austria	6.0	6.0	5.0 (1964/65)
Belgium	5.0	11.2 (1962)	—
Bulgaria	22.2 (1956)	28.0 (1960)	34.5 (1964)
Czechoslovakia [1]	29.1 (1955)	39.3 (1960)	37.9 (1964)
Denmark	—	9.0 (1959)	10.0 (1964)
Finland	—	17.6 (1961) [2]	—
France	3.4 (1955)	5.3 (1960)	8.3 (1964/65)
Germany (Fed. Rep.) [3]	5.1 (1955/56)	5.2 (1959/60)	5.3 (1964/65)
Greece	2.3 (1956)	1.9 (1959)	0.1 (1962)
Hungary	33.1 (1955)	33.1 (1957)	—
Ireland	—	—	5.7 (1963)
Italy	11.2	13.2	15.3
Luxembourg	—	—	11.4 (1965)
Netherlands	4.0 (1956)	8.0 (1958)	6.0 (1961)
Norway	—	—	20.1 (1964) [4]
Poland [5]	31.3 (1957)	32.9 (1961)	35.0 (1964)
Romania	23.0	36.6	31.5
Spain	—	—	4.1 (1962/63)
Sweden	14.0 (1956)	14.0 [6]	—
Switzerland	—	3.7 (1961) [7]	—
United Kingdom	—	25.0 (1961) [8]	—
Yugoslavia [9]	—	56.0 (1960/61)	53.3

Source: data supplied by Unesco and OECD.

[1] Czech nationals studying full-time.

[2] Data provided for the conference by Finland ('workers and labourers').

[3] Data from Statistisches Bundesamt (Grosse Hochschulstatistik) for the years under consideration. In data provided for the conference by the Federal Republic of Germany, employees, foremen and workmen are classed together in a special category of the sector 'non-academic level': 1955/56: 16.2 per cent, 19,894; 1961/62: 16,8 per cent, 33,759; 1964/65: 16,5 per cent, 39,264.

[4] Data provided for the conference by Norway (includes miners, transport and communication workers, industrial and construction workers).

[5] Not including students enrolled in correspondence courses.

[6] ibid., Sweden, 1960/61 and 1961/62.

[7] Including agricultural workers.

[8] Data provided for the conference by the United Kingdom. Percentage at university (including agricultural workers and the small population of artisans). For teacher training the percentage is 40 and for 'advanced further education', 38.

[9] Including employees.

Table 7

Estimations of distributions of social classes round the world at mid-twentieth century (Percentages: total for each region = 100)

Region	Primary: cultivators, fishermen, etc. (including self-employed)	Secondary and tertiary			Working population (millions)
		Workmen	Non-manual wage earners	Employers and independent	
	%	%	%	%	
Africa and Asia	74	8	3	15	617
U.S.S.R. and Eastern Europe	46	27	26	1	130
Latin America and Southern Europe	57	22	12	9	117
Western Europe, North America, plus Oceania	17	49	25	9	161
Total working population (millions)	610	200	100	115	1 025
Idem as percentage	59	20	10	11	

Source: Roger Girod, op. cit., p. 85.

Table 8

Breakdown of students in France according to social class (1963)

Social class	1954 census, non-bachelors of ages 45 to 54 (1)	French students, June 1963 (2)	Ratio of column 2 to column 1	Index numbers relative to:	
				Professional managerial base	Working-class base
Agricultural wage earners	%	%			
Workmen	5.1	0.6	0.12	—47.1	+ 0.5
Cultivators	37.6	8.7	0.23	—24.6	1.0
Service workers	18.9	7.2	0.38	—14.9	+ 1.7
Employees	1.6	1.1	0.69	— 8.2	+ 3.0
Artisans and shopkeepers	8.1	8.2	1.01	— 5.6	+ 4.4
Industrialists	13.3	14.8	1.11	— 5.1	+ 4.8
Other categories (army, clergy, police, artists)	2.4	3.6	1.50	— 3.8	+ 6.5
Intermediate management grades	2.0	7.8	3.90	— 1.4	+17.0
Liberal professions and managerial grades	5.9	19.2	3.35	— 1.7	+14.1
	5.1	28.8	5.65	1.0	+24.6
	100.0	100.0			

Sources: Alfred Sauvy and Alain Girard, op. cit., Orders of magnitude are comparable to those in the table published by P. Bourdieu and J. Passeron in *Les Héritiers* (Paris, Editions de Minuit), for the year 1961/62 (see p. 142—3). [1]

[1] According to P. Bourdieu and J. Passeron (op. cit., p. 15, table 1), the chances of receiving a university education, depending on the father's profession, are in France as follows (1961/62): agricultural wage earners, 1.0 per cent; workmen, 1.5 per cent; employees, 9.5 per cent; artisans and shopkeepers, 16.0 per cent; the intermediate management grades, 29.5 per cent; managerial grades, 58.5 per cent. In view of the bases of this inquiry, these data are indicative only, although founded on an interesting method.

Table 9

Percentual variations, with father's socio-economic status, in highest levels of education taken in France (population born in 1918 or later) [1]

Socio-professional category of the father		Primary education with or without apprentice-ship	Technical education	Secondary education	Secondary education followed by technical education	Higher education	Total
Agricultural land holders	M	84.3	4.2	7.7	1.5	2.3	100.0
	F	83.4	4.2	9.4	2.3	0.6	100.0
Agricultural wage earners	M	88.8	5.5	5.3	0.3	0.1	100.0
	F	88.1	5.9	5.0	1.0		100.0
Industrialists and merchants	M	28.2	16.1	25.8	15.2	14.7	100.0
	F	27.9	14.2	30.5	17.0	10.4	100.0
Small shopkeepers and artisans	M	56.0	15.0	16.6	6.6	5.6	100.0
	F	48.0	11.7	24.7	12.9	2.0	100.0
Liberal professions	M	9.4	2.2	23.7	8.8	55.9	100.0
	F	13.9	2.1	39.0	16.9	28.1	100.0
Upper managerial grades (including teachers and engineers)	M	10.9	12.4	24.5	14.9	37.2	100.0
	F	16.1	8.1	28.6	25.6	21.5	100.0
Intermediate management grades and foremen	M	36.5	20.9	19.8	13.5	9.2	100.0
	F	34.6	19.2	24.2	17.0	4.8	100.0
Employees	M	50.2	18.9	15.3	11.0	4.5	100.0
	F	47.4	20.7	15.2	13.3	3.1	100.0
Skilled workmen	M	67.5	16.9	14.2	4.0	1.0	100.0
	F	66.1	16.5	8.4	7.5	0.8	100.0
Specialized workmen	M	76.2	10.4	9.8	3.1	0.5	100.0
	F	73.5	12.4	7.7	6.2	0.2	100.0
Factory workers	M	81.1	8.8	7.9	1.2	0.7	100.0
	F	83.4	9.4	4.8	2.0	0.1	100.0
Others gainfully employed	M	52.9	18.0	16.8	6.5	5.8	100.0
	F	45.8	19.4	21.7	8.4	4.7	100.0
Non-gainfully employed	M	52.8	11.5	21.4	4.2	9.7	100.0
	F	49.0	13.6	22.2	7.9	7.3	100.0
Totals per level of education	M	61.9	12.1	14.1	5.6	6.2	100.0
	F	59.7	11.9	15.8	8.7	3.7	100.0

Source: Études et enquêtes, May-June 1967, p. 7 and 8.

[1] Figures for the 'non-declared' category are not shown.

Table 10

Percentage of students from rural areas in higher education, about 1955, 1960 and 1964

Country	About 1955	About 1960	About 1964
Austria [1]	5.0 (1956/57)	3.0 (1959/60)	2.0 (1965/66)
Belgium	—	4.9 (1962)	—
Bulgaria	31.5 (1956)	32.0 (1960)	26.5 (1964)
Czechoslovakia [2]	13.4 (1955)	9.2 (1960)	8.3 (1964)
Denmark	—	9.0 (1959)	10.0 (1964)
Finland [3]	—	—	—
France	6.0 (1955)	5.7 (1961/62)	6.1 (1964/65)
Germany (Fed. Rep.)	4.3 (1955/56)	3.5 (1961/62)	3.3 (1964/65)
Greece	23.8 (1956)	24.5 (1959)	25.7 (1962)
Hungary	22.2 (1955)	18.3 (1957)	—
Luxembourg	—	—	10.0 (1965)
Netherlands	4.0 (1954)	5.0 (1958)	—
Poland	21.3 (1958)	21.4 (1961)	21.2 (1964)
Spain	—	—	5.3 (1962/63)
Switzerland [1]	—	4.0 (1961)	—

Source: data provided for the conference by Member States.

[1] Sons of independent cultivators only. Their absolute numbers are growing since the total number of students is itself increasing.

[2] Nationals attending university full-time.

[3] The Finnish university student population included 19.2 per cent of farmers' sons (1961) but this figure needs correcting by adding the other categories of 'country boys' certainly included in the category 'workers and labourers' (17.6 per cent). From data provided for the conference by Finland'

OTHER DATA CONCERNING THE CORRELATION BETWEEN ACADEMIC PHENOMENA AND SOCIAL STRATIFICATION

In this section, an account is given of a few selections from the data available — which are voluminous but uneven — on the possible relationships of social stratification (and its cultural aspects) with young peoples' intelligence, with their academic achievements (relative successes, retardations, dropouts, targets) and with the attitudes, motivations and prejudices of the families and the young people themselves.

It should be recalled that the social level is here assessed by the father's occupation; usually no other yardstick is available.

Intelligence and academic achievement

A suitable starting point is the survey made in France by Sauvy, Heuyer and Piéron in 1944 on the intellectual level of 95,000 French schoolchildren between the ages of 6 and 12 years. Although dated, the survey is unique for its amplitude. It is of interest in showing how greatly average intelligence, as early as in primary schooling, is conditioned by a particular socio-occupational milieu. The social stratification will accordingly influence scholastic results, act as a determinant in retardation, and affect eligibility for success in secondary education. Thus, the shaping of the future social structure of higher education begins as early as at the primary level. The children were given the Gilles 'Mosaic' test, which eliminates the verbal element. [1] Results are shown in Table 11.

Table 11

Intelligence and scholastic success in France (1944) [1]: average variations from the norm (in points) according to socio-occupational background (differentiated according to the urban or rural character of the locality)

Socio-occupational background	Locality	Average variation from norm
Cultivators		—9.7
Manual workers	Less than 2 000 inhabitants	—6.2
	More than 2 000 inhabitants	+1.6
Employees	Less than 2 000 inhabitants	+2.9
	More than 2 000 inhabitants	+9.5
Industrial management grades and businessmen		+12.4
Liberal and intellectual professions		+25.8

[1] The highest possible mark was 204, the lowest 0.

[1] See Alfred Sauvy and Alain Girard, op. cit., p. 213

The differences are significant, coinciding exactly with the order of social levels. There are, of course, good, medium and poor IQ's in each category; but it is the average for the category which is inexorably influenced by social position.

But what exactly do the tests measure? A kind of intellectual ability undoubtedly, yet can this ability give the measure of the 'intelligence'? Rather, it merely shows certain aspects of intelligence which are precisely those chosen by psychologists since the time of Binet for measuring scholastic aptitudes. The concept in fact is a relative one. Like a quality such as courage, 'the intelligence of an individual can only be conceptualized and only exist in relation to a particular social definition of that value'.[1] Now a society's system of values — its culture — conforms to the cast of mind of the circles and individuals directing the society; it is that system which the school is required to inculcate. Is it therefore surprising that children from the leading circles should have mentalities which their whole family life has predisposed towards such 'intellectual' manners of reaction as the tests will be spotlighting? The 'combinative' aspects of those tests and their 'eliminatory or comparative logic' are in tune with the types of games provided for upper-bracket children, whereas children from other social levels are more apt to go in for games of manual skill and strength, play guessing games which exercise their all-round intuition, find their fun in live activities set in the real world rather than in a world of toys, and develop their disposition to note the factual rather than the formal logic. Everything depends therefore upon the type of intellectual operation emphasized by the society and the school. The definition of intelligence is a social judgement.[2]

The fact that on the average all social groups produce results (intellectually) which reflect their way of looking at the world about them is not surprising, although one is, of course, hardly aware of it.

Bernstein has already pointed out that, in the upper brackets, parents *explain* logically to the young child why it must do this and not that.[3] This is the 'why — because' stage. In the lower brackets, whether pleasantly or not, parents *order*, *ordain* (e.g., 'you mayn't pick your nose'), without any 'because'. Thus children from the upper social strata are, in a manner of speaking, brought up to the type of ratiocinative activity which is the type found too exclusively in the schools. Furthermore, the language used for 'demonstration' is a better preparation for verbal facility than the language relating solely to concrete acts.[4] However, the evolution of the modern society and the growth of democracy are slowly but surely changing the schools, notably by the use of the 'active method'. Thorough study is therefore required to find out exactly what children actually learn in the schools, pick out what it is really desirable for them to learn and make this clear to the parents — considered as educators — so that they can precondition for and assist the school instead of unconsciously working against it as is the case in certain social circles.

P. Clerc's survey of June 1963[5] in the Paris area shows that, given fathers of the same standard of education, there is no correlation between income and the academic success of the child, but that, conversely, given parity of incomes, the fathers' qualifications and their children's successes are closely correlated. *Culture is thus the decisive criterion.*

What is true about success in the combinative tests is obviously more so in regard to success at school, where the socio-cultural factors appear throughout. Minon's survey of 5,366 primary school leavers in Liège, in 1961, shows that at this stage the numbers with a year's retardation were 50 per cent higher and the numbers with two years or more of retardation were three times higher among the children of miners and unskilled workers than among those with fathers in an upper-bracket occupation.[6]

Obviously, retardation and poor results in primary school tend to bar secondary education to children from the lower social strata or, at best, to channel them towards those branches of secondary education which do not lead on to higher education.[7]

The survey made by Jean-Frédéric Rouiller reveals the magnitude of school retardation in Geneva:[8]

'(I) Among the children of unskilled *labourers*, not one par-level pupil is found in our schools, from the age of 17—18 years for boys and 19—20 years for girls, i.e., retardation is 100 per cent for this group. Within it, the amount of retardation is two years or over for one quarter of the boys and half of the girls. Among the children of *skilled workers*, at 19—20 years of age, 3 per cent of the boys and 1 per cent of the girls are still at par-level.

'(II) In the middle strata the proportion of the "retarded" pupils exceeds that of the par-level from the age of 16—17 for boys and a year older for girls. Finally, at age 19—20, 5 per cent of the boys and

[1] For this point see Jean Stoetzel, *La psychologie sociale*, Paris, p. 124 *et seq.*

[2] See also Reuchlin, op. cit., p. 48 and 49.

[3] B. Bernstein, 'Social structure, language and learning', *Educational Research*, III, June 1961, p. 163—76. The functional structure of the spoken language differs in working-class circles and in the higher social strata.

[4] See Davis, Havighurst and others, *Intelligence and Cultural Differences*, Chicago, University Press, 1951. See also Halsey, op. cit., p. 36.

[5] 'La famille et l'orientation scolaire au niveau de la sixième', in *Population*, 1964, No. 4, p. 627—72.

[6] Paul Minon, *Facteurs sociaux de la première orientation scolaire*, Travaux de l'Institut de Sociologie de la Faculté de Droit, Liège, 1966.

[7] Similar phenomena were noted earlier by F. Hotyat, 'Le retard scolaire en Belgique', in *Revue internationale de pédagogie*, 1957, No. 2.

[8] *Taux de scolarisation et retard scolaire dans les écoles publiques genevoises*, Geneva, 1965.

4 per cent of the girls are left at par-level. The same phenomenon is found among the children of *salaried employees*, where the proportion of "par-levels" is 9 per cent for the boys and 6 per cent for the girls.

'(III) In like manner, the proportion of par-levels among middle-échelon children is 12 per cent for the boys and 16 per cent for the girls; while in the case of the *managerial classes* the proportion is 20 per cent for the boys and 15 per cent for the girls.'

What is true for Switzerland must also hold true to some extent in the other highly industrialized countries.

Reuchlin shows the extent to which lack of academic success eliminates a far higher proportion of socially lower-bracket children in the course of the educational process.[1] He instances, in particular, a survey made in the United Kingdom by the Central Advisory Council for Education in 1952/53 on drop-outs in secondary education after the age of compulsory schooling.[2] The correlation with the social level of the father can be seen from Table 12. The losses from one level to the next reduce the proportion of workers — who in any case were under-represented from the start — and increase that of the children of the managerial classes. This phenomenon is fully confirmed by French statistics.[3]

Table 12

Secondary school drop-outs in the United Kingdom in 1952/53 broken down according to father's occupation

Parental occupational group	Percentage in active population	Grammar school	Higher studies
		%	%
Professional and managerial	15	25	44
Clerical	4	10	12
Skilled manual	51	44	37
Semi-skilled manual	18	15	6
Unskilled manual	12	6	1
	100	100	100

According to Bourdieu and Passeron, 'the proportion of students of "par" age decreases steadily down the social scale towards the most underprivileged classes, with a rising trend in the proportion of students of humble origin in the highest age groups'.[4]

No equivalent data are available for the socialist countries of Eastern Europe. However, as noted in the preceding section, the percentage of workers' children in higher education is approximately the same as that of the workers themselves in the active population. For this category there has undeniably been greater democratization of higher education, though its extent is less in regard to children whose fathers are engaged in rural employments.

As a matter of sound method, however, it must be inquired whether here, as elsewhere, the families higher up the scale, intellectually (proportionately to the functions performed) and culturally, provide a necessarily more favourable environment as a preparation for and background to schooling. It will be answered that the bias of education is definitely more towards the concrete than in Western Europe, a factor which compensates for differences in social background. While this is certainly true, the total elimination of the advantages of an enlightened family and of its greater intellectual preparation for and attention to schooling hardly seems possible. How then can the statistical accord between the proportions of workers in the population and in the student body be explained? In Poland, bonus marks for the entrance examinations to institutions of higher education must by law be awarded to pupils from less 'education-minded' social backgrounds, to compensate for disadvantages for which they are not responsible. Similarly, in the U.S.S.R. candidates for admission to higher education who have spent at least two years in productive work and those who come direct from secondary school sit for *separate* examinations.

Reorientations

It is not only retardations and a high incidence of mediocre results that tend to channel children from the humbler social backgrounds directly into gainful employment or to schools that do not lead on to the university, but also the advice of their teachers and the immediate advantage to their families, plus the latters' prejudices and lack of information.

Reverting to the matter of drop-outs from secondary school, which are variants of the same process, Reuchlin's conclusions about the date available on the subject are as follows: 'It is observable that in the *lycées* (secondary schools) the same categories which are under-represented on entry[5] have the highest proportion of losses as the course proceeds.[6] Such pupils go straight to work or transfer to 'short cycle' mainly vocational) secondary schools.

[1] Op. cit., p. 52 *et seq.*

[2] Ministry of Education, *Early Leaving*, London, HMSO, 1954.

[3] Cf. Reuchlin's table, op. cit., p. 55, which shows that in 1961/62, children with fathers in the professional or managerial class made up 14.9 per cent of the sixth class of the *lycée* and 22.3 per cent of the terminal class; whereas for the workers the movement was in the opposite direction: 20.3 to 9.7 per cent.

[4] *Les héritiers*, op. cit. The writers note that drop-outs and retardation are particularly marked in the literary sectors: 'Paradoxically, those who are most handicapped culturally feel their handicap most of all in that very area to which they are relegated by the effects of their handicaps' (p. 22—4).

[5] The lower social strata.

[6] Op. cit., p. 56.

An investigation by Girod [1] of one generation of adolescents in the city of Geneva (those born in 1942/43), in respect of the period between their twelfth or thirteenth and their sixteenth or seventeenth birthdays (1955/56—1959/60) led to conclusions no less definite: by the age of 16—17, two-thirds had left school for apprenticeship and work, but in the proportions of nine-tenths for the children of labourers, three-quarters for the children of skilled workers, one-half for the children of shopkeepers, craftsmen and office employees, one-quarter for the children of management personnel and only one-tenth for the children of top executives.

Not all drop-outs, of course, are a result of failure at school: the decisions of the poorer families are influenced by their immediate interest (the lure of an extra wage packet), by fear of the consequences of failure in secondary studies (delayed start in working life), and by prejudices regarding the value of an intellectual training.

Reorientations are on the lines shown in Table 13.

The differences are already marked at 12 years of age and more so at 15 years of age. It will be seen that 4.5 per cent of the children of office workers have had to give up the idea of university studies while there is a rise of 11.5 per cent opting for apprenticeships or unskilled work, including the 7 per cent of former 'undecideds' who have since made up their minds. Similarly there has been a massive switch by the children of unskilled workers from the 'undecided' group to apprenticeship or work, while only 5 per cent still opt, at 15 years of age, for university studies — against 75 per cent of the children of executives (10 per cent more than at 12 years of age).

A rigorously researched book [2] by Firouz Tofigh, a pupil of Girod, confirms the latter's findings. Tofigh's survey covered 2,354 boys in Geneva's public schools (classes 5 to 9). Its conclusions may be summarized as follows.

The *social background* has a decisive influence on adolescent's career choices. This is verifiable regardless of the results obtained at school, the age and the place of birth of the adolescent. At the same time, the effects of the social background are more marked in the higher age group: the gap between the working-class and well-to-do groups widening as the pupils grow older. The mother's occupation seems to have no influence [3]; on the other hand, the juridical status of the father's work does exert some influence on the level of the son's aspirations: the level aimed at by children whose fathers are of 'non employee' status is slightly higher than that of children whose fathers are in salaried employment, particularly in the case of the higher professional categories.

The author also considers the articulation of the scholastic with the occupational system. The branchings of in-school education broadly reflect the stratification of the surrounding society. Although social origin may determine to a large extent the academic stream which a child joins, it appears to become less important once the child is committed. The conclusion drawn, however, is that the graduated structure of the system appears not to be the main instrumentality through which selection and social circulation are effectuated in the schools, but is itself no more than a reflection of the real cause, the society's stratified structure. The choice of schooling would appear to be governed to a large extent by the choice of occupation. Even if the many kinds of schooling were to disappear (to make way for the

[1] 'Système scolaire et mobilité sociale', in *Revue française de sociologie*, 1962, N°. 1, p. 3—19.

[2] *Du choix des professions*, Geneva, Libr. Droz, 1964, Travaux de droit, d'économie, de sociologie et de sciences politiques.

[3] Yet the influence of the mother's culture must play an important educational role during earliest infancy — a conclusion which all the data of psycho-analysis tend to point. However, to the best of the writer's knowledge, there has been no scientific attempt to define the phenomenon objectively and to measure it. It is known, however, from the pathological phenomenon of hospitalism, that normal children, starved of intellectual and affective stimuli, suffer from retarded development.

Table 13

Breakdown according to social origin of career choices by one generation of adolescents in the city of Geneva between 1955—1966 and 1959—1960

Choice made	At 12 years			At 15 years		
	Workers	Managerial executives	Clerical	Workers	Managerial executives	Clerical
	%	%	%	%	%	%
Undecided	64	29	57	24.5	19.5	50
Apprenticeship or work not requiring qualification	29	6	8	70.5	5.5	19.5
Pre-university studies	7	65	35	5	75	30.5
	100	100	100	100	100	100

'comprehensive school'), the occupational destinations of the pupils would not be substantially changed. This is probably a question of degree, although the margin may be important.

The degree of scholastic success has a twofold impact: first, as an independent factor with a selective effect (regardless of any other factor, including social background, school retardation lowers the level of aspiration); secondly, as a mechanism reinforcing the powerful influence of the social background (higher retardation rate among children from the lower brackets). *Eliminating school retardation entirely would demand a complete reorganization of the schools.*

The above-mentioned survey of Minon confirms the foregoing findings as regards orientation. Table 14 is the most typical in this respect.

The conclusions are obvious. To begin, the above population structure has already undergone a large measure of democratization and the process is continuing. But there is still a long way to go. In the case of secondary studies, for example, the percentages increase sharply with each step up the social ladder, whereas the reverse applies in the case of technical studies, fourth degree and immediate employment.

In Great Britain, the *Crowther Report* [1] arrives at similar conclusions, though starting from different bases (see Table 15).

[1] Volume II (HMSO, 1960), p. 132, quoted by Halsey, op. cit., p. 106.

Table 14

Career orientations of students according to family social status in Belgium, 1941—49 and 1961

Social status of family and period	Secondary studies	Technical studies	Fourth degree [1]	Gainful employment	Over-all
	%	%	%	%	%
Mine worker:					
1941—49	12	26.3	25.8	35.9	100
1961	19.7	63.5	3.7	13.1	100
Other workmen:					
1941—49	22.8	27.4	20.2	29.6	100
1961	40.2	50.7	3.5	5.6	100
Lower level public service:					
1941—49	41.1	24.2	16.6	18.1	100
1961	61.3	34.8	1.1	2.8	100
Independent:					
1941—49	45.2	18.8	16.9	19.1	100
1961	62.6	30.8	1.8	4.8	100
Clerical:					
1941—49	71.3	13.9	10.4	4.4	100
1961	77.8	20.4	0.9	0.9	100
Managerial and professional:					
1941—49	80.9	11.0	4.3	3.8	100
1961	92.1	7.9	0	0	100

Source: P. Minon, op. cit., p. 132, table IV.

[1] Two additional years following the three degrees of primary schooling. The fourth degree is a dead-end and today is practically non-existent.

Table 15

Contrasts in the occupational composition of the grammar school-leavers up to, and over, 16 in the United Kingdom before 1960

Parental occupational group	Leavers up to 16	Leavers at 17 and 18
	%	%
Professional and managerial	17	39
Clerical and other non-manual	17	20
Skilled manual	51	34
Semi-skilled manual	9	5
Unskilled manual	6	2
TOTAL	100	100

The breakdown shows the 'manual' groups in decline in the case of the after 16 school-leavers. And yet there has been a high degree of democratization in Great Britain (See Table 16).

Table 16

Social origins of boys entering secondary grammar schools in Great Britain, 1931—41 and 1946—51

Occupations of fathers	1930—41	1946—51
	%	%
Professional and managerial	40	26
Clerical and other non-manual	20	18
Manual	40	56
	100	100

Sources: Glass, *Social Mobility in Britain* (London, P. Kegan, 1954), table VII, page 129; the *Crowther Report*, op. cit., table X, p. 130. The comparison is taken from Halsey, op. cit., p. 97.

French data on the subject point the same way. Only one parameter of the phenomenon of orientation according to social category is illustrated here. (See Table 17.)

Table 17

Class 6 intakes of children of disparate social categories in France (by percentage)

Social category	Non-entries	Lycées	General secondary schools (collèges d'études générales)	Total class 6 entry (columns 2 and 3)	Grand total	Social professional distribution
	%	%	%	%	%	%
Agricultural workers	68	11	21	32	100	3.4
Self-employed cultivators	60	16	24	40	100	15.2
Urban workers	55	16	29	45	100	39.6
Skilled manual and shopkeepers	34	32	34	66	100	10.3
Office and other non-manual	33	33	34	67	100	16.6
Middle-level managerial	16	55	29	84	100	4.1
Industrialist, businessmen	15	57	28	85	100	3.2
Liberal professions	7	75	18	93	100	
Higher managerial	6	75	19	94	100	4.7
Over-all	45	27	28	35	100	100[1]

Source: Sauvy and Girard, art. cit., in *Population*, 1965, No. 2, table V, p. 217.

[1] Including 2,9 per cent without occupation and miscellaneous.

Certain conclusions are obvious:

1. Forty-five per cent of primary school pupils do not go either to *lycée* or to *collège*. [1]

2. But the percentage drops to 6 for the higher managerial group; again rises to 55 per cent for urban workers and to over 60 per cent for the rural groups.

3. Seventy-five per cent of the children of the higher managerial or professional categories enter the *lycée*, as against only 16 per cent of manual workers' children, although the manual categories represent 39.6 per cent of the active population and the higher managerial only 4.7 per cent.

The development of a cleavage can be seen, with four separate layers: (a) agricultural workers, cultivators and urban workers; (b) skilled manual, shopkeepers and non-manual employees; (c) middle

[1] It should be remembered that the *lycée* is the avenue to all branches of higher study, particularly to the university.

managerial, industrialists and businessmen; (d) liberal professions and higher managerial. [1]

The highest incomes tend to be found in group (c) rather than group (d), but the position is reversed as regards level of education and culture. Similarly the (b) group incomes are not always higher than those in group (a) (there is certainly an area of overlap), but the desire for culture and education is often stronger in group (b) than in group (a). These are statements not yet fully confirmed but they do suggest once again that the cultural preponderates over the income factor, as Sauvy and Girard have already shown in regard to academic success.

Connexion of father's profession and type of education of the child

Sauvy shows that the father's type of education is a more influential factor than his income level. Obviously, linked to the 'father's education' factor is that of his profession, whether directly (e.g., medicine or engineering), or indirectly (qualifications in law or economics may lead to an executive post in business or a civil service administrative appointment).

In a note on 'rigidities' in the supply of labour in relation to a demand that is changing constantly to meet new technical needs, Halsey writes: 'The most useful general index of the extent to which the supply of labour is fluid is some measure of the propensity of children to enter and remain in occupations of the same or similar grade as those of their fathers.' [2]

That a son's educational choices are directed by the kind of education his father has is an unmistakeable fact. The reason for which many children of skilled workers are attracted to technical education is that their fathers were trained on those lines and have influenced the child's upbringing and aspirations, taking their stand, consciously or unconsciously, on the values informing technical education.

In 1956/57, children entering class 6 (first year of secondary schooling) in Belgium chose between three sections: Latin, modern, and technical or domestic.

Table 18

Family socio-cultural level and secondary branches chosen by schoolchildren in Belgium (1956/57)

Section chosen	Family socio-cultural level [1]			
	(1)	(2)	(3)	(4)
Latin	71	60	39	33
Modern	29	32	43	46
Technical or domestic	0	8	18	21
	100	100	100	100

[1] (1) university; (2) secondary school certificate; (3) lower secondary leaving certificate; (4) primary school leaving certificate.

Derivière investigated the distribution in correlation with fathers' levels of education, from a sample of 352 children between the three sections in 1956/57. [3] The figures are set out in Table 18.

It will be seen that 71 per cent of the children of university graduates joined the Latin (classical) section, with a degression, per group passing a well-marked threshold after group 2 ('secondary' family level). Conversely, attraction to the *modern* sections passes the same threshold in reverse to reach percentages of 43 and 46 for groups 3 and 4: the 'humanities' are out of the picture. The same applies to technical education, though in any case it comes last — being still greatly undervalued.

In a statistical table for the Federal Republic of Germany which compares three academic years, 1928/29, 1952/53 and 1962/63, there are separate breakdowns by father's occupation for men and women students in higher education, but with a further differentiation: within each occupational category, between those with fathers holding a university degree and the others (see Table 19). It will be noted that in 1962/63, one-third of the students' fathers held university degrees, as compared with about 20 per cent in 1928/29 and 27 per cent in 1952/53. This proportion is still substantial when account is taken of the small percentage of university graduates in the active population. Moreover, the largest social categories in the active population are also those which have the lowest proportion of graduates fathers. The trade and industry category is, however, an exception to the pattern, success in business and the intellectual capacity which it implies apparently compensating for lack of a degree. Naturally enough, the 'manual' category includes no fathers with university degrees.

This statistical table permits the postulate that the father's education has a major influence on the child's chances of progressing in his studies. This is a 'disparity factor': given two children of equal capacity, the graduate's child has much more chance of entering a university. This phenomenon tends to perpetuate the social hierarchy.

There are also some interesting statistics for the Netherlands (see Table 20 p. 60). They indicate that their fathers' university education exerts a powerful influence on choices by male students of the following branches: medicine (54 per cent), applied sciences (47 per cent), physics-mathematics (40 per cent), law (34 per cent), veterinary medicine (33 per cent).

[1] Table rearranged in order to present cleavage more distinctly.

[2] Halsey, op. cit., p. 92, no. 1.

[3] R. Derivière, 'De la sélection à l'orientation dans une expérience de "tronc commun" en première année du secondaire', *Travail humain*, (Paris), 1959, Vol. 22, no. 1—2, p. 61—80. Quoted by Reuchlin, op. cit., p. 45.

Table 19

German students [1] at institutions of higher education according to the father's ocupation, winter semesters of 1928/29,[2] 1952/53,[3] 1962/63 [3,4]

Occupation [5]	Male students						Female students					
	1928/29		1952/53		1962/63		1928/29		1952/53		1962/63	
		%		%		%		%		%		%
Officials												
A	10 538	12.3	10 902	12.7	25 072	14.9	2 443	20.2	3 138	19.3	10 913	21.1
N	28 651	33.3	21 597	25.2	30 228	17.9	3 845	31.9	3 379	20.7	8 012	15.5
Clerical and other non-manual employees												
A	985	1.1	3 970	4.6	11 839	7.0	187	1.6	1 064	6.5	4 550	8.8
N	9 679	11.3	16 085	18.8	38 764	23.0	1 016	8.4	2 295	14.1	9 440	18.2
Workers												
N	1 977	2.3	4 224	4.9	10 152	6.0	89	0.7	226	1.4	1 461	2.8
Liberal professions												
A	5 228	6.1	7 188	8.4	15 298	9.1	1 109	9.2	2 206	13.6	6 872	13.3
N	1 668	1.9	1 961	2.3	3 713	2.2	196	1.6	389	2.4	1 158	2.2
Independent farmers												
A	167	0.2	251	0.3	533	0.3	14	0.1	67	0.4	193	0.4
N	4 745	5.5	4 108	4.8	5 607	3.3	327	2.7	453	2.8	1 338	2.6
Trade and industry												
A	1 091	1.3	958	1.1	1 764	1.0	183	1.5	263	1.6	721	1.4
N	20 171	23.4	14 237	16.6	23 014	13.6	2 517	20.8	2 748	16.8	6 427	12.4
Other occupations												
A	193	0.2	20	—	144	0.1	34	0.3	10	—	73	0.1
N	318	0.4	207	0.2	2 655	1.6	20	0.2	61	0.3	608	1.2
All occupations												
A	18 202	21.2	23 289	27.1	54 650	32.4	3 970	32.9	6 748	41.4	23 322	45.0
N	67 209	78.1	62 419	72.8	114 133	67.6	8 010	66.3	9 551	58.5	28 444	55.0
Without occupation, or unemployed	586	0.6	76	0.1	—	—	94	0.8	14	0.1	—	—
TOTAL	85 997	100	85 784	100	168 783	100	12 074	100	16 313	100	51 766	100

Source: G. Kath, Das Soziale Bild der Studentenschaft in Westdeutschland und Berlin

Excluding students on leave and unenrolled students.

[1] German Reich, universities and technical high schools, according to: Deutsche Hochschulstatistik, Berlin, 1929.

[2] Federal Republic less Berlin

[3] Including higher teacher-training institutes or the like at the universities of Erlangen-Nürenberg, Frankfurt (Main), Giessen, Hamburg, Cologne, Munich, Saarbrücken, Würzburg and at the technical high school in Aachen.

[4] A = with university education; N = without university education.

Table 20

Choice of faculty by male students with university-trained fathers in the Netherlands (1958/59). Distribution according to father's subject of study (as a percentage)

Father's faculty	Total number of sons studying	Percentage in the different faculties									
		Medicine and dentistry	Veterinary medicine	Physical sciences and mathematics	Applied sciences	Agronomy	Theology	Philosophy and letters	Law	Economic sciences	Other [1]
Medicine and dentistry	1 642	**54**	1	11	12	1	1	3	7	5	5
Veterinary medicine	122	19	**33**	10	15	2	1	3	6	3	9
Physical sciences and mathematics	570	18	1	**40**	18	3	1	4	6	4	7
Applied sciences	1 122	17	1	11	**47**	2	1	3	6	8	4
Agronomy	170	11	2	24	27	**15**	1	2	5	8	5
Theology	538	15	1	14	8	2	**22**	13	8	4	12
Philosophy and letters	288	17	—	22	9	4	4	**20**	9	6	9
Law	944	13	0	11	14	1	2	7	**34**	10	7
Economic sciences	227	12	0	10	19	1	1	3	15	**30**	9
Other [2]	173	14	—	18	18	2	—	7	9	12	**19**
TOTAL	5 796	26	2	15	20	2	3	5	12	7	7

Source: Centraal Bureau voor de Statistiek, De sociale en regionale herkomst der studenten bij het hoger onderwijs, 1958/59, Zeist (Netherlands) 1960.

[1] Social sciences, political sciences, geography, psychology, pedagogics.

[2] Indonesian law, indology, geography and psychology.

Table 21

Choice of faculty by female students with university-trained fathers in the Netherlands (1958/59). Distribution according to father's subject of study (as a percentage)

Father's faculty	Total number of daughters studying	Percentage in the different faculties									
		Medicine and dentistry	Veterinary medicine	Physical sciences and mathematics	Applied sciences	Agronomy	Theology	Philosophy and letters	Law	Econonic sciences	Other [1]
Medicine and dentistry	631	**25**	0	12	0	2	1	24	13	1	23
Veterinary medicine	41	22	**12**	15	—	—	2	32	10	—	17
Physical sciences and mathematics	255	16	2	**22**	2	2	1	19	9	—	26
Applied sciences	426	15	1	14	**4**	5	1	22	11	0	27
Agronomy	64	17	3	22	—	**14**	—	11	5	3	25
Theology	158	13	—	9	—	—	**4**	34	14	—	25
Philosophy and letters	151	9	—	9	1	—	3	**52**	10	1	17
Law	391	10	0	8	1	2	1	34	**27**	0	71
Economic sciences	97	18	2	10	1	2	1	24	14	**2**	26
Other [2]	52	17	—	15	2	2	—	23	10	4	**27**
TOTAL	2 266	17	1	13	1	2	1	27	14	1	23

Source: Centraal Bureau voor de Statistiek, De sociale en regionale herkomst der studenten bij het hoget onderwijs, 1958—59. Zeist (Netherlands), 1960.

[1] Social sciences, political sciences, geography, psychology, pedagogics.

[2] Indonesian law, indology, geography and psychology.

The influence is much less marked in the case of the girls (see Table 21). Swiss statistics tend to confirm the existence of such an influence in the case of medicine and law (see Table 22).

Despite the disparate and sporadic nature of the data, it would seem that the father's studies and subsequent occupation — particularly at university level — are all-important factors in the vocational guidance of the children (particularly boys). A striking example comes from Sweden, where fifteen or twenty years ago 100 teachers were sending to the university and other institutions of higher education 20 times more children than 100 farmers with the same income. The proportion, however, must be much less today.[1]

ATTITUDES, MOTIVATIONS, PREJUDICES

Of relevance here are not only statistics covering specific levels of study, places or periods, but also unverifiable factors which fall within the realm of sociology and social psychology but which deserve to be taken into consideration as working assumptions. These include the following.

1. It is often said that the poorer the background, the more the choice of subject for study at the university is influenced by the duration of those studies. This would explain the lack of appeal of the liberal professions for the less well-to-do families, particularly in the case of medical and law studies and their longer apprenticeship.

2. It is also said that some parents, particularly from working backgrounds, are wary, lest their children become culturally and socially estranged from the family by attending the university. More generally, it is felt that circles with a particular idea of the 'working class' would regard university study as something in the nature of a 'betrayal' of a class which, in their view, should advance as a whole, with its own élite sharing the lot of all. Such is not unlikely in regions already heavily industrialized in the nineteenth century and in which the tradition of 'class struggle' is still very much alive. Here, the concept of 'social distance' advanced by Dahrendorf comes into play.

3. Youth organizations influence to some extent the motivations of young people in regard to the choice of studies and profession. A democratization policy should take into account the opportunities which such organizations offer, as is the case in the U.S.S.R.

4. It is generally accepted that certain circles — the families of teachers and subordinate officials[2] — aspire to social mobility *for* their children *through* study. Is it a fact and, if so, to what extent?

5. Is the university — and particularly the student body — a conservative element dominated by a 'sub-culture' based on the values of the ruling class, despite certain superficial non-conformist aspects? Does the 'intelligentsia', as a socio-cultural group, welcome recruits from the working classes (Western Europe) or does it tend to form an interest group with its own cultural features (Eastern Europe)?

6. Are the children of larger families favoured in regard to social mobility and, in the first place, success at school? Usually, the children of large families are not so successful at school[3], but this would seem to be due to the straitened circumstances of most such families, i.e., in such cases the number of children is an 'index' not the cause. In considering the number of children, account must also be taken of religious views. Some profoundly religious circles provide an extremely favourable climate for education (e.g., the Mormons in the United States). This factor represents a problem rather than an additional criterion of success at school.

7. One hypothesis already suggested by serious studies would seem to explain despite its very limited scope, certain pro-scholastic attitudes.[4] Families belonging to a class that is working its way up—links in a rising genetic and social line — form an environment propitious to scholastic success. Other families belong to a stabilized milieu and aim only at ensuring that their status is retained by the following generation; this, of course, would always be the case of families in ruling circles, whose main fear is of losing their position, hence their determination that their children's studies shall be at the same level as the father's. Lastly — it is said — some families belong to a 'socially regressive' stream; their morale at low ebb, they put up scarcely any struggle for the children's education, endeavouring only to save face by steering them towards work that is not frowned upon, although unremunerative and having no future. This 'sociological' hypothesis, it is said, explains the differing attitudes towards studies of families in the same social stratum. Except in periods of revolution when individual attitudes count little, such an explanation could be valid for any political system, each of which has its own channels of social mobility.

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[1] For this question as a whole see Torsten Husén and Gunnar Boalt, *Educational Research and Educational Change: The Case of Sweden*, Stockholm, Almqwist and Wiksell; New York, John Wiley and Son, 1967.

[2] The view of Sauvy, supported by his survey.

[3] On this point, see Alfred Sauvy and Alain Girard, the findings of the surveys of the INED team in *Population*, 1965, No. 2 (op. cit.), and particularly Girard and Henri Bastide in *Population*, 1955, No. 4, p. 605—26.

[4] See S. De Coster and G. Van der Elst, '*L'ascension sociale par les études*', *Cahiers de l'Institut de sociologie Solvay*, Brussels, 1954, No. 9. See also Girard, *La réussite sociale en France*, Paris, PUF, 1961.

Table 22

Breakdown of Swiss students acording to father's education, branch of study and sex (absolute figures) in 1959/60

Father's education	Universities												Higher technical education							Higher School of Commerce	
	Theology		Law		Economics		Medicine		Philosophy I		Philosophy II		Arhitects, constructional engineers	Mechanical, electronic engineers	Chemists, pharmacists	Agronomy, etc.	Mathematics, Natural sciences	Total	Number of women	Total	F
	M	F	M	F	M	F	M	F	M	F	M	F									
Theology	**20**	**4**	19	3	8	1	29	5	29	10	36	8	6	5	3	7	3	24	—	3	—
Law	7	1	**201**	**20**	35	4	73	19	43	46	50	**12**	30	32	9	7	10	88	2	10	—
Economics [1]	6	1	28	2	**26**	**5**	19	8	13	12	17	5	8	14	3	1	6	32	1	11	—
Medicine	7	—	48	8	20	3	**246**	**40**	42	47	49	21	27	37	15	5	19	103	10	11	—
Dentistry	2	—	17	1	7	1	**92**	**9**	10	9	14	5	6	10	4	1	4	25	1	3	—
Veterinary medicine	1	—	4	—	—	—	**33**	**1**	1	4	9	—	3	—	—	**2**	2	7	—	1	—
Philosophy I	7	3	26	4	13	—	33	6	**57**	**29**	**41**	**6**	11	16	2	2	12	43	1	3	—
Philosophy II	5	—	24	2	15	3	50	16	**28**	**24**	**98**	**27**	4	14	15	2	12	47	5	6	—
Other faculties	1	—	—	—	—	—	**2**	—	2	2	1	—	3	2	—	—	—	5	1	—	—
Constructional engineering	3	—	9	1	3	1	11	5	11	9	14	3	**29**	5	4	2	8	48	4	3	—
Architecture	—	—	2	2	8	—	7	4	5	6	4	—	**26**	4	4	—	3	37	1	1	—
Mechanical engineering	3	1	14	5	6	—	20	9	2	7	8	6	14	**26**	9	—	6	55	6	3	—
Electrotechnical engineering	4	1	7	1	10	—	22	4	11	8	14	5	15	**37**	9	1	15	77	10	2	—
Chemistry	1	—	6	1	1	1	14	1	6	7	14	3	6	6	**18**	—	7	37	1	5	—
Pharmacy	—	—	2	—	—	—	2	—	—	2	—	—	—	—	**17**	—	4	**21**	3	1	—
Forestry	2	—	1	—	2	—	6	—	3	3	1	1	1	3	1	**1**	2	8	1	—	—
Agriculture	—	—	8	1	3	—	9	2	6	3	4	**2**	5	5	3	**8**	4	25	1	2	—
Agronomic engineering and surveying	—	—	—	—	—	—	1	—	—	1	4	1	5	3	—	**2**	—	10	—	—	—
Mathematics-physics	—	—	1	—	—	—	3	—	2	—	2	2	1	2	—	—	**1**	4	1	—	—
Natural sciences	—	—	—	—	—	—	2	—	1	1	1	—	3	1	1	—	**2**	7	1	—	—
Other sections	—	—	—	—	—	—	—	1	—	—	1	—	1	3	—	—	2	6	—	—	—
Faculty unknown	2	—	10	1	9	—	12	2	6	11	8	**2**	5	2	**2**	1	1	11	—	1	—
TOTAL	308	22	1025	97	776	48	1581	255	1292	626	1480	229	722	803	352	193	425	2498	95	951	7

Source: Die Studierende an Schweizerischen Hochschulen. Erhehung 1959/60, Bern, Bureau Fédéral de Statistique, 1962. Taken from table 19, p. 124—5.

[1] Including Higher School of Commerce.

8. The theory of generation-by-generation 'stages' was the subject of the Belgian study mentioned earlier. According to this theory, the stages of social advancement include a progressive move to the city, a deliberate limitation of the family in order to spare ressources, the fixing of limited but carefully chosen objectives (the worker's or peasant's son becomes a teacher in a medium-sized town; the teacher's son will have a university job in a big city; the latter's son will join the ruling class by starting from a high level and making a 'good' marriage; his son in turn will develop such attributes of social and worldly prestige as the situation requires; and then comes the struggle to maintain the position until some sort of failure initiates a decline), steady increases in income (with the accompanying accumulation of savings) and the constant improvement of the intellectual level (to be well read, to keep up with things more and more at each stage in order to prepare for the future social position). If this process is to succeed and to take the symbolic form of 'making a name', the individuals concerned must, for three or four generations, have perfect health and immunity from physical accidents; a systematic mastery of everyday acts is also essential.

9. Present trends in the distribution of the active population encourage social advancement through study, for it is the more highly skilled strata which are developing most, and this means that the 'demand' is for higher qualifications, provided at all levels by the specialized schools. The increase of the urban population by development of the 'tertiary sector', the growing use of specialists in all fields of culture, and the expansion of the public sector and managerial class — all mean an enlargement of those circles which, as indicated, are the most education-minded. This is the process known as 'induced social mobility'.

THE FINANCIAL FACTOR

Although no longer requiring a lengthy technical development, the financial factor will be dealt with separately here, as the rest of the document might suggest that it is of secondary importance. For this factor is still, indeed, all-important. If the difficulties stemming from lack of income could be overcome in each individual case, the other problems would be attenuated and more easily resolved.

To say that no individuals should be prevented from studying by financial obstacles is to state a prerequisite of any policy of educational democratization. The other essential is to eliminate obstacles resulting from the structures of the school system; a special chapter will be devoted to that question.

While it would be naïve to imagine that the problem of equality of opportunity is a purely financial problem [1], it would be equally naïve, and more seriously so, to look upon the financial factor as secondary. If this factor could be eliminated whenever parents and children were faced with a choice, however, it would be a great advance. Although that particular question is not of direct concern to this report, it is of interest in that study grants help to correct the effects of social stratification [2].

It is not enough to provide free education or even to cover the living costs of the poorer students. The loss of income resulting for the poorer families, or for the student himself if he is the head of the family, must also be made good — or partially, at least, since studies are financially profitable in the medium run.

Nevertheless, for the market economy countries, in which a high proportion of the children of the ruling and wealthy classes attend university, while some social categories — and the largest at that — are still very under-represented, the provision of an over-all grant of an identical amount to all students, regardless of background, would not be the right answer. It would provide an unnecessary gift to a mass of well-to-do students, while so many potential students remained socially bogged down in what the specialists have called 'reserves of ability'. What would be effective — and this does not exclude the idea of providing a very modest basic allocation to *all* students — is the allocation of study grants sufficient to meet the real needs of each individual case. *And this grants should be provided at all levels of education after the period of compulsory education.* In calculating the amount of the grants, account should be taken of the needs of each age and each type of study, as well as of the actual loss of earnings to the family (though the loss need not be made good in full). At the same time, there should be a speedy and widespread development of student hostels and restaurants and cultural and sports services at the higher level. Such an infrastructure would help to make it possible to reduce the amount of the study grants and, by enabling students to participate to the full in university life, would offset some of the drawbacks felt by students from the less educationally-minded families.

The socialist countries of Eastern Europe have made much progress in resolving the problems involved in the financial factor. The linking of study with

[1] See Van Heek (and his research project mentioned above), who condemns this error.

[2] The question was studied in detail by the Fourth Conference of European Ministers (in the restricted sense), in London in April 1964. The Dehnkamp report surveyed the situation and showed what could be done for the market-economy countries. The resolution of this problem by the planned-economy countries will be examined shortly.

'productive work' is one factor which has enabled these countries to bear the financial burden resulting from the democratization of studies. However, study grants in any country are not merely a means of democratization; they can also help towards meeting a country's economic needs for qualified leaders. [1] In this context, a differentiation of grants by specialization could be considered.

CONCLUSION

The influence of social conditions, including social stratification, is still very marked in regard to access to all levels of education, academic success, backwardness and drop-outs, and, finally, educational and occupational guidance. It is the last element which determines to a large extent the future social level of each individual and is in turn affected not only by social conditions but also by the very structures of the educational system and their relative ability or inability to correct and offset those conditions.

The effects of social conditions are cumulative: poor results at school impede access to higher education, while, for the poorer pupil, retardation cuts it off altogether. With such access cut off and/or mediocre results, the student finds himself channelled to lower-ranking studies leading to lower-ranking occupations. Such vocational guidance is particularly essential in cases in which academic success is the only stimulus to the aspirations of poorer families.

The question of access to higher education in general (and even more so to the university) is decided long before the student reaches the age of admission. Yet there are unquestionably reserves of unmobilized aptitudes, proof of the social injustice — frequently unfelt — from which a large section of youth does in fact suffer.

It has been noted, however, that the cultural factor, through the family, preponderates. It is true that this factor, stemming as it does from the education of the head of the family, is closely related to social stratification. But the latter is not mainly a matter of income but rather of the extent to which the family environment is pro-scholastic *(éducogène)*. Once a decent minimum living standard has been reached, material conditions seem to be of secondary importance, for example, in some poor minority groups which nonetheless possess a long-standing and dynamic cultural tradition, the family atmosphere may be highly *éducogène*. [2] All the same, a satisfactory system of study grants can help considerably to offset unsatisfactory social conditions.

With regard to the socialist countries of Eastern Europe, it has been seen that the pro-scholastic nature of the family must inevitably vary with the father's rank and the culture imbibed from his studies. What are the effects of such differences in Soviet society and in the People's Democracies? Has the question arisen? What, if anything, is being done to compensate for such differences? In particular, what results have been obtained from the differential system of marking competitive entrance examinations, where applied?

It has been seen that in Eastern Europe, according to the statistics, the proportion of workers' children in higher education is equal to the proportion of workers in the active population. This is not yet the case of peasants' children, although democratization is in general more advanced in these countries than in other European countries.

Non-mobilized intellectual ability

GENERAL COMMENTS

The capacity to succeed in studies at a given level obviously depends on intellectual ability but also on determination and perseverance. Those who have not continued beyond compulsory education can only be presumed to have that capacity on the basis of an intellectual criterion, the only measure available.

Each country in Europe has its own enrolment rate for age-groups between 5 and 24 years. It is practically 100 per cent for the period of compulsory education, at the end of which, however, some slower pupils fulfil the legal obligation without completing the full 8 to 10-year course.

After the compulsory period, the rate of enrolment drops more or less sharply with age, depending on the country. What reserves of ability are felt underdeveloped among those at each level who do not continue their education? If present enrolment uses up all the ability available, any increase in the numbers of students must lead to a fall in educational quality. Even with optimum vocational guidance, permitting more pupils to be accepted, once the structure is saturated, the deterioration will inevitably begin.

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[1] See Chapter 3 below.

[2] In the New York schools, the intellectual performances of children of families of Polish-Jewish origin are usually excellent. (cf. Leona E. Tyler, *The Psychology of Human Differences*, New York, Appleton-Century, 1947, p. 122).

If ability remains to be mobilized, it is important to know the needs at each level of education. As essential data for education policy purposes and economic growth planning, such information should be determined separately in respect to science, technology, mathematics, languages and so on.

There is a certain amount of unco-ordinated evidence to show that such unmobilized potential does in fact exist in the advanced countries. Those who go on to secondary education are proportionately fewer all the way down the social scale; the proportions are still lower at the university, and lower (all the way) for girls than for boys [1]. Certain areas (particularly rural areas) are similarly less favoured than others [2]. These phenomena vary, of course, in extent and incidence from country to country; and the proportions of workers and of girls are much more representative in socialist countries in Eastern Europe. The variations by social level, sex and region in countries at the same level of development, together with improvements in others since the Second World War, indicate that considerable ability still remains to be mobilized throughout Europe.

Otherwise, the possible, but extremely unlikely, genetical explanation would have to be admitted that certain social strata produce less talent than others, and, moreover, that there are appreciable differences in this respect between the same strata in different countries. [3]

PRESUMED EXISTENCE OF RESERVES OF ABILITY

The following can be put forward as a working hypothesis: If one country reaches a given enrolment rate for a given level of education, any other country with similar social-economic and educational structures should be able to attain the same rate by tapping its existing reserves of ability. Enrolment rates in North America and the Soviet Union, the equal enrolment of girls in universities in many countries, and the enrolment rates reached in certain Scandinavian countries indicate that considerable reserves must exist in other countries. This hypothesis is borne out by various surveys and local evidence:

1. Surveys in France by the National Institute for Work and Vocational Guidance Studies show that between 33 and 50 per cent (depending on the survey) of pupils finishing primary but choosing not to continue to secondary school had exactly the same educational level as those who went on and, in 25 per cent of cases, an even higher level — a tangible case of waste of ability [4].

2. A survey made by the National Institute for Demographic Studies covering 20,000 pupils in the final primary class (1961/62) and whose intentions as regards schooling during the following year were known, indicates that:

(*a*) Practically all pupils rated 'excellent' and 'good' from the highest social levels go on to secondary school, but only 80 per cent of farmers' and workers' children. For pupils rated 'fair' the percentages were as follows: managerial and liberal professions 60, workers 10, farmers 9, agricultural workers 3. Percentages for pupils marked 'poor' were: managerial and liberal professions 30, workers 3, farmers 5, agricultural workers 0.

(*b*) The waste per cent of ability is evident. Among the 'excellent' and 'good' pupils, 20 per cent from the lower social strata are lost, their places taken by 'fair' and 'poor' pupils from the higher strata who thus act to force down the level of education. [5]

3. A Seine Department survey covering children who, despite success in school, go directly to jobs on completing their compulsory education, shows: (a) that more boys than girls continue to study; (*b*) that 83 per cent of farmers' children go back to farm work; the children of agricultural workers, shopkeepers and artisans also usually take up jobs; (c) that the larger the family, the more frequently are the children put to work; (d) that once at work there is no returning (lure of additional income, absence of schools or places in schools, desire to earn a living and to be accepted as adult) [6].

It is scarcely necessary, therefore, to prove that unused ability can be mobilized at higher education level, since all signs indicate its existence. Its sources can be guessed and should, as a matter of urgency, be ascertained and measured.

MEASURING THE TOTAL RESERVES OF ABILITY

This difficult problem has been tackled by different methods in England, Sweden and the Nether-

[1] See below, 'The factor of sex'.

[2] See below, 'The regional factor'.

[3] In any event, influencing the genetic factor — assuming this to be possible and feasible — would by its very nature give results similar to any attempt to improve a species, over a very long period, whereas many ways of influencing environment are scientifically sound and would produce results much more quickly (see Halsey, op. cit., p. 24, 33).

[4] See the *INOP Bulletin*, by Reuchlin (special number for 1958), by F. Longuet (No. 4, 1961) ,by M. Barnet and J. Pelnard (No. 3, 1962). Cf. Jaccard, *Sociologie de l'éducation*, Paris, Payot, 1962.

[5] Girard, Bastide, Pourcher and Clerc: articles on the national survey on entrance to the sixth class and democratization of education, in *Population* 1963, No. 1, p. 9—48, 1963, No. 3, p. 435—72; 1964, No. 4, p. 627—72; 1964, No. 5, p. 829—64.

[6] Girard and Henri Bastide, *Population*, Vol. 10, 1955, No. 4, p. 605—26.

lands [1], described in the Halsey Report on the OECD Conference held in Kungälv, in June 1961, in co-operation with the Swedish Minister of Education [2].

For the United Kingdom, the report of the commission presided by Lord Robbins states that 'for the next twenty years' the growing numbers of young people with the qualifications and capacity required for higher education are unlikely to diminish due to lack of ability potential. The number likely to benefit from higher education depends not only on heredity, but upon such factors as family income and attitude to education, educational level of preceding generations, and so on.

Stress is laid elsewhere on the need of employing exceptionally gifted individuals in such a way as to satisfy professional requirements of the economy [3]. However, brilliant studies are not necessarily always followed by brilliant careers.

With a view to the democratization of education, the approach in this present report is that every child is entitled to highest degree of education which he is capable of assimilating; the concern is less with exceptional gifts than ordinary abilities which may not be as well developed by education as they might be.

Lord Robbins' belief that the ability reserve would be of sufficient numbers in higher education for many years without lowering standards, is based on surveys dating from 1947, in particular the study made in 1947 by Grace Leyborne-White in Manchester [4] and the Crowther Report (1956—57), a survey of a representative group of army recruits [5].

Sweden is dealt with in studies by Husén and Härnqvist, mentioned earlier. Assuming an IQ range covering the various levels of study, Husén investigated the IQ, level of education and residence category of 40,000 Swedish recruits. Higher IQ's than required for actual level of education give a measure of the reserves of ability, and a correlation was then made with residence category.

Husén found that 10 per cent of all recruits who had attended primary school only (17 per cent in cities) could have unaertaken second cycle secondary studies.

Survey by Netherlands Central Planning Bureau. [6] Dutch conscripts undergo regular tests, including the Ravens' matrix test, used to determine ability reserves. The percentage of conscripts from each of the three major social strata (higher, middle, lower)[7] obtaining points qualifying for university studies was calculated and compared with the actual social distribution of university students by these same three categories, thereby revealing the extent of unmobilized ability. The results are roughly as follows: 3.9 per cent of males in the age-group are at university; according to intellectual ability, there might be 8.5 per cent, i.e., more than double. Table 23 shows participation by social stratum. Middle stratum participation might be doubled, lower stratum participation multiplied by 7.5.

Table 23.

Social participation, actual and potential, in university studies according to intellectual aptitude, Netherlands, 1953/54

Social stratum	Actual	Potential
	%	%
Higher	25.6	25.6
Middle	4.9	9.9
Lower	0.7	5.3

[1] British method: the average student IQ is determined From the IQ range in a representative sample of the corresponding age-group, the proportion of non-students who might have studied is deduced. The Swedish method calculates the chances of members of an age-group to attend a university several years before entrance, and compares the result with the maximum chance represented by the highest class. The possible sources and margins of error in both projections are discussed by their authors.

[2] Chapter 6, by P. de Wolff and K. Härnqvist, is entitled 'Reserves of ability: size and distribution', and has an excellent technical appendix.

[3] See Chapter 3 below.

[4] *The Intelligence of University Students*, Pilot Papers, Vol. II, No. 1, March 1947, p. 69. The IQ range of 993 students was assumed to be representative of students in British universities and was compared with the IQ range of a representative sample of the total corresponding age-group, in 1945/46, with the following results:

IQ		Percentage of Manchester students at or above each IQ level shown in first column	Percentage of total population of student age at and above each IQ level actually attending a university
135		19	25
130	IQ's qualifying	31	29
125	for university studies	47	20
120		66	14
115		82	10
110		93	7
105		98	5

Thus in 1945/46, only a fraction of the most intelligent in the relevant age-group was at the university; two out of three students possessed the intellectual requirements, but only one out of seven was at university. Even allowing for personal inclination and the qualities of character demanded, the size of the ability reserve here is obvious.

[5] Space is not available to comment on this summary. It may be noted, however, that the proportion of holders of the General Ceroficate of Education, Advanced level (giving admission to the university), could at present be raised from 9 to 16 per cent. — Crowther Report op. cit.

[6] J. G. Spitz, 'De reserve van hoger intellect in Nederland', *Universiteit en Hogeschool*, December 1959.

[7] See above: comparative analysis of school enrolment according to social strata.

CONCLUSION

With a few reservations, de Wolff and Härnqvist conclude: 'Nevertheless, the experience gained so far seems to justify the conclusion that the techniques already available, provided they are applied with great care and critical sense, are sufficiently developed to yield results of great practical value to policy-makers.'

The quantitative results described above, although differing, all point to the same conclusion: that considerable reserves of ability are available in each of the cases reviewed.

Statistical data since the publication of the Halsey report [1] in 1962 indicate that progress in democratization has been only very moderate. Plenty of higher education potential remains unused (this refers of course to market economy countries in particular).

The case may be different in the socialist countries of Eastern Europe, in which democratization of education is more advanced, although peasant participation has not reached the dimensions of that of the working classes [2]. The accurate assessment or forecasting of aptitude for higher education is rendered difficult in the Soviet Union by the policy of recuperating ability lost in an age group through the opportunities offered by evening classes and correspondence courses now available practically everywhere.

The factor of sex

PROPORTION OF WOMEN AT THE VARIOUS EDUCATIONAL LEVELS

There is a marked trend towards equality of the sexes in access to higher education. The increase in the number of female students is patent everywhere, both in absolute terms and in relation to the total number of students [3]. The situation in the socialist countries of Eastern Europe, however, is different from that of the other European countries, the participation of women in education being distinctly higher in the former.

It is generally found, however, that although girls are admitted as a matter of principle [4] and are subject to the same conditions of admission as boys, they do not in fact go on to higher education in the same numbers and do not specialize in the same subjects as boys.

In the first place, fewer girls than boys complete the 'long' *secondary* school course (see Table 26). There are exceptions to this, however: in the United States of America, the U.S.S.R. and France, sexual equality in this respect has been achieved. It seems, moreover, that in the countries where there is still inequality, it is not due to a difference in the rates of access to secondary education. Some studies indicate, on the contrary, that more girls than boys take up vocational secondary education rather than technical education. [5] It is therefore during secondary education that wastage among girls appears to be more marked than among boys.

Wastage between secondary education and higher education is greater among girls than boys (see Table 27), except in the United Kingdom (the socialist countries of Eastern Europe are not represented in this table). The Swedish data here are illuminating (see Table 24).

Table 24

Wastage among students in the transition from secondary to higher education in Sweden, 1964/65 and 1965/66

	Total	Girls
Total number of certificates at termination of secondary education, giving access to higher education (1964/65)	27 880	12 958
Number of students enrolled for the first year of higher education in 1965/66	22 334	9 280
Not enrolled for higher education in 1965/66	5 546 (20%)	3 678 (28%)

Source: Data provided for the conference by Sweden.

[1] Halsey, op. cit.

[2] Unfortunately, no data are available.

[3] United Nations, Economic and Social Council, Commission on the Status of Women, 'Access of Girls and Women to Higher Education', 3 February, 1966 (E/CN6/451). This report, based on questionnaires to which eighty-four States replied, clearly shows signs of development since 1955.

[4] Except, of course, in military schools and seminaries

[5] See more particularly R. Girod, 'Système scolaire et. mobilité sociale' in *Revue française de sociologie*, no. 1, 1962, p. 3—15; P. Minon, *Facteurs sociaux de la première orientation scolaire*, 1966. (Travaux de l'Institut de Sociologie de la Faculté de Droit de Liège.)

Wastage among female students at entrance to higher education is therefore far greater than the average wastage among students as a whole (girls and boys).

In France, the breakdown by sex of the over-all enrolment rate (year 1964/65) reveals the same phenomenon [1]. At the age of 18, the percentages are still practically equal: 12.3 for boys and 12.2 for girls. At 19, 20 and 21 years of age, deterioration becomes more marked:

	Boys	*Girls*
19	8.9	8.1
20	6.3	5.1
21	5.3	4.3

As the wastage is greater among girls than boys during secondary education and in the transition from secondary to higher education, there are fewer girls than boys in higher education (see Table 28). Three groups of countries can be singled out:

1. Those in which the proportion of female students is 40 per cent or higher: Finland (49), U.S.S.R. (43), Bulgaria (43), France (42), Hungary (42).

2. Those in which the proportion of female students is between 30 and 40 per cent: Belgium, Czechoslovakia, Denmark, Ireland, Italy, Poland, Romania, Sweden, United Kingdom, Yugoslavia.

3. Those in which the proportion of female students is 25 per cent or lower: Austria, Federal Republic of Germany, Netherlands, Norway, Switzerland, Turkey.

This classification should not be interpreted too strictly; in some cases the number of female students per 100,000 inhabitants belies the impression given by their percentage in higher education. Thus, there are only 25 per cent of female students in the Netherlands, but there are 539 per 100,000 inhabitants; in Belgium the percentage is 33 per cent and for 100,000 inhabitants there are 583 girl students; in Denmark the corresponding figures are 31 per cent and 676.

The comparative success in education between boys and girls forms a controversial subject upon which little significant research has been done. By way of indication, reference can be made to the results at a British provincial university in June 1965, which the Crook report [2] describes as 'reasonably typical' (see Table 25). Certain reservations must be expressed concerning the conclusions to be drawn from this table: (a) medicine is not included, yet in England, women get better marks than men; (b) the categories of study (with their peculiar difficulties) and the distribution of men and women students would form essential data to frame an opinion; (c) the table covers only a total of 827 students, in one establishment in a single country.

Subject to these reservations, the female students have fewer very brilliant or very indifferent results than the men; they have rather fewer 'average plus' results and approximately half — or almost twice as many as the men — reach the true 'average' level.

Table 25

Results of study programmes according to sex of students in the United Kingdom, June 1965

Class of degree	Men	Women
	%	%
First	13.4	8.6
Upper second	36.5	31.7
Lower second	25.8	48.4
Third	9	10.6
Ordinary	15.3	5.7
	100.0	100.0

Source: M. J. Crook, op. cit., p. 8.

BRANCHES OF STUDY IN WHICH WOMEN TEND TO SPECIALIZE

Men do not choose the same disciplines as women. Table 29 shows that: (a) they tend to specialize in education, arts and the fine arts ; in the educational and literary branches, there are often more women than the men; [3] (b) a certain number settle on medicine, particularly in the socialist countries (where generally more women take up medicine than men); (c) applied sciences (engineering) and agronomy are always masculine strongholds, especially in the Western European countries. A high percentage of women is noted among the engineering students in the U.S.S.R. and among the students of agronomy in Finland.

A few characteristic trends in the present-day situation are amply explained by the foregoing considerations. In 1963/64, for instance, the percentages for women in the French faculties were as follows: arts 63.75, pharmacy 62.45, science 29.55, law 29.47, medicine 26.89, general mean 42.19. However, the growth of the tertiary sector and the general movement towards the so-called 'consumer' urban society calls especially for women's vocational activities. Pardoning the neologism, it might be said that the vocational trend of girls is quickly becoming 'tertiarized'.

An indication of this trend is furnished in 1952/53 in France, where 55 per cent of the girls enrolled in

[1] *Tableaux de l'éducation nationale* (1966), Ministère de l'Éducation Nationale (Service central des statistiques et de la conjoncture), p. 206.

[2] Cf. M. J. Crook, 'Access of girls and women to universities in the United Kingdom', in *Communication*, No. 1, February 1967, p. 8.

[3] Even in secondary education, women already show a literary bent.

State vocational secondary schools were following 'industrial' courses, whereas in 1963/64 not more than 29 per cent were doing so. On the other hand, 45 per cent of the girls enrolled in 1952/53 in State vocational secondary schools were receiving a 'commercial, administrative and social' education, and 71 per cent were doing so in 1963/64. The change of trend in about ten years is thus very striking.

What is more, the number of women qualifying for technical careers is rising noticeably. In 1952/53, girls studying to be 'technicians or medium-level executives' represented 16.7 per cent of the pupils; in 1963/64, 27 per cent. In commercial, administrative and social studies, this percentage rose from 11.5 to 23 per cent and was consequently doubled; whereas, in industrial education, there was a drop from 5.2 to 4 per cent. Studies directed towards the tertiary sector are therefore more conducive to the qulification of women for a career than those leading to industry.[1]

The prejudices against women account for these differences and are based on a certain traditional image of women: women differs from man in the matter of intellectual and affective qualities, and of the part she 'naturally' plays in social life.[2]

The persistence of this image is stronger at the levels of wishes and aspirations of parents, wishes and aspirations of the girls themselves, opinions and advice from teachers, and the promotion of women to certain higher grade posts.

Legal and statutory restrictions are disappearing; the highest posts, however, are seldom occupied by women, who are usually confined to research work or social services, and they seem to be diverted from jobs requiring authority, objectivity and absence of emotion. There is an unwillingness to place men under the orders of women and the tendency is more marked in the private sector than in the public one. In the U.S.S.R., however, more women are appointed to responsible positions (many women engineers, for instance). Since 1958, in France, the awarding of engineering diplomas to women has remained constant at approximately 4 per cent. The percentage of women students in applied science in the U.S.S.R. is 52; in the other Eastern European socialist countries, 14 to 21 per cent; in Ireland it is 11, in Turkey 7 and less than 5 percent in the other countries.[3]

Thus, everything tends to restrict access to higher education for girls or to guide them towards certain branches of study corresponding to the pre-established area of functions which are in fact open to women or are strictly 'feminine'. They thus turn towards studies which are considered useful for family life or leading to a profession which lends itself — according to present-day standards of work organization — to family life (teaching [4] or pharmacy). They often seem, too, to undertake studies without any thought of a subsequent career, in order to improve their general education, by taking an interest in certain subjects or simply by spending a few years living among agreeable surroundings and people richer from the intellectual point of view than the family circle.[5] Many forms of vocational training are not even designed for women.

FACTORS INFLUENCING STUDIES

Wastage among the girls during higher education does not differ appreciably from wastage among the boys[6]. Among girls, however, the most frequent cause of dropping out appears to be marriage, a phenomenon also linked to the persistence of a certain traditional image of women. This will reappear after education for, when married, the majority of young women do not take up a career.[7] Dropping out occurs very frequently during the period of their life when many women have to bring up small children. This loss of investment on the part of the community is also resented in business undertakings by the employers, who hesitate to engage and to train a woman who may or may not continue with her career. The problem is to draw up professional regulations adapted to the circumstances of a woman's life and permitting, more particularly, interruptions in the career which are not prejudicial (to pension, promotion, etc.). Fundamentally, at present, it is more important to keep active those women who have adopted a profession, than to aim at a problematic large-scale recruitment.

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[1] For this point, see *Tableaux de l'éducation nationale*, op. cit.

[2] This traditional image is apparent, for instance, in the replies which certain States have given to the questionnaire of the Commission on the Status of Women (United Nations, op. cit.). Such replies set forth 'evident' social reasons why certain studies are considered as especially suitable for one sex or the other (p. 40).

[3] See Table 29. In England in 1964/65, out of a total of 19,781 students, 481 women students, or less than 2.5 per cent, were enrolled for applied science. — M. J. Crook report, op. cit., p. 7.

[4] It should be noted that, in general, the teaching profession tends to include more women, except at the higher level. In France, at a competition for the recruitment of 'certificated teachers' in 1964, out of 2,465 secondary school teachers, 1,453 or 59 per cent, were women.

[5] After primary school, the girls engage in studies in which it is scarcely possible, as it is in the case of boys, to detect clearly a bent for any given occupation (for instance: fewer manual apprentices than among boys). On this subject, see R. Girod, op. cit., p. 14. This explains the predominance of girls on the literary side.

[6] See the comparative tables in Chapter 1 above. Some countries, however, indicate slightly greater wastage rates among the girls (Denmark, Finland, Federal Republic of Germany) the others point to the opposite trend.

[7] It must be noticed, however, that the higher the level of education, the more numerous are the women who carry on a profession. This factor is in correlation with the motivation for the choice of study.

The admission of girls to higher education is also linked to certain other factors independent of sex, but which operate differentially in relation to sex. As stated, the rates of admission differ, according to the country and according to the system [1]. These rates are also linked to two factors: (a) social, economic and cultural background; and (b) age of the parents.

Social, economic and cultural background

Although the data available are fragmentary, they show clearly that the effects of social inequality are felt more by girls than by boys [2]. P. Bourdieu and J. C. Passeron state, for instance, that in France 'although girls taken as a whole have slightly more than 8 chances in 100 of being admitted to higher education while the boys have 10, the difference is more marked at the bottom of the social scale, while it tends to lessen or to disappear among the upper and medium-level executive classes' [3].

What is the position with regard to the influence of social stratification? The highest rates for girls of 19 years of age are among the following social-professional categories: liberal professions 87.7 per cent, teachers and various intellectual professions 80.3, and managerial grades 76.2. These are three categories for which boys of 19 years of age also have the highest rates of enrolment. On the other hand, the lowest rates are those in the following categories: skilled workers 19.4 per cent, miners 18.3, farmers 15.4, semi-skilled workers 15.2, agricultural workers 14.8, and labourers 10,3.

For all practical purposes this social stratification of the school attendance rates is the same for girls as for boys. For the category of 'service workers', the rate of enrolment for girls of 19 years of age is 25.8 per cent as against 14.7 per cent for boys. . . (?). The opposite is true of the 'medium-level staffs of medical and social services' (41.2 per cent for girls as against 60 per cent for boys) and for 'Commercial employees' (30 per cent against 37.6 per cent). In these two latter cases, it would appear that the great attraction for women exerted by the 'tertiary' sector operates in these typical categories, causing them to give up their studies prematurely. For the two agricultural categories, on the contrary, school attendance is higher, though only slightly, for the girls, because the fathers quickly recruit their sons for work, whereas the girls can but continue their 'studies'.

It is possible in this connexion that the image of the woman is more traditional in poorer families. Account must be taken, however, of the fact that financial restrictions in these families make admission to higher education for several children a difficult matter. In this case, the boys will be given preference over the girls [4], for a profession is still of more vital importance to the majority of men than to women. In wealthier families, on the other hand, it is not unusual for several children to go on to higher education, so that the daughters of such families have a better chance than those of economically weak families.

It must also be taken into consideration that in comfortably-off circles, the traditional image of the woman may be expressed in another form: the girls go on to higher education for the purpose of improving their general education rather than with an eye to a future career. This foctor is evident in the choice of studies.

The age of parents

Certain studies have shown that the likelihood of going on to higher education is definitely less for girls than for boys when the parents are pensioners or retired, when the latter belong to the older generations which are 'backward in the women's emancipation movement'. [5]

CONCLUSION

Wastage among girls during secondary schooling and between secondary and higher education, the disciplines chosen, dropping-out due to marriage and maternity, and the comparatively small proportion of women in professional life are pointers to the persistence of a certain traditional image of women. This image varies, however, according to the country, the system, social circles and generations.

One half of the human race still forms an immense 'pool' of abilities. The fact that only a few women hold responsible positions nevertheless poses a problem: how far does the admission of girls to higher education represent a loss of investment? In any case, it should be noted immediately that the indirect

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[1] These rates could also be related to the different national characteristics: general rate of school enrolment, rate of enrolment in higher education, democratization of education, rate of urbanization, whether education is free of charge, extent of the employment of women, etc. But the direct approach accounts sufficiently for the phenomena.

[2] R. Poignant *(L'enseignement dans les pays du Marché Commun)* gives a few of the national statistics which are available: United Kingdom, p. 199, United States, p. 200; Federal Republic of Germany, p. 201. For Switzerland: *Les étudiants en Suisse*, 1959/60 survey; *Contributions à la statistique suisse*, No. 31, Bern, 1961, p. 36. For Greece: J. Labiri-Dimakri *Les chances d'accès à l'enseignement en Grèce* (photocopy).

[3] Bourdieu and Passeron, op. cit., p. 19.

[4] And the elder over the younger.

[5] A. Sauvy and A. Girard, 'Les diverses classes sociales devant l'enseignement', op. cit., p. 231.

effects of raising the level of women's education are not to be overlooked: the impact of this phenomenon on the training of future generations is considerable.

In this context comparisons between European countries indicate wide differences in the rates of admission of girls to higher education. Only a detailed comparison between countries would make it possible to define the institutional factors (degree of planning, national economic goals, structure of education, system of social guidance) which may have implications on the participation of girls in education and in professional life.

A useful conclusion is to be found in the resolution (1208, XLII) recently adopted by the United Nations Economic and Social Council at its 24th session (1967) on the subject of access of women to higher education, jobs and professions. In this resolution, the outcome of a debate by the Commission on the Status of Women on the report already cited, the problem is viewed from a world-wide angle. Its content is fully confirmed by the data and by results of the present report, as far as Europe is concerned. The complete text is as follows:

The economic and social council,

'*Having regard* to the need for women's abilities to be used to the full in economic and social development, and to the importance of higher education in preparing girls and women for positions of responsibility on an equal footing with men,

'*Recognizing* that such full use of women's abilities calls for consideration of the factors which may cause interruption of studies before or during higher education,

'*Having regard* to the importance of the role of guidance services before entry to higher education and at all the stages thereof,

'*Believing* that all measures for life-long education should apply to women as well as to men, in order to assist the continuous adaptation of the individual to the needs of a rapidly changing world and to national needs,

'*Recommends* member states:

'*(a)* To develop or encourage the establishment of guidance services for schools, universities, technical and other training institutes to assist women students to select, from among the available types of higher education, those appropriate to their aptitudes and to make similar guidance services available to all adult women desiring to begin or resume higher studies;

'*(b)* To encourage girls and women, as well as men, to take advantage of such higher education, either upon completion of secondary education or after an interruption of their studies, particularly by such means as scholarships, evening and correspondence courses, instruction by radio and television, residential facilities for women students, married or unmarried, leave for study purposes, and other such means as may be appropriate to the countries concerned;

'*(c)* To promote the access of women to higher education on conditions of equality with men;

'*(d)* To promote the access of women who have completed higher education to all jobs and professions to which their education entitles them to aspire and for which they are qualified'. [1]

Table 26

Number of secondary education diplomas giving access to higher education, by sex, in 1964/65

Country	Men	Women	Percentage of women
Belgium	38 612	13 856	35.9
Bulgaria	62 153	32 943	53.0
Cyprus	3 232	1 350	41.8
Denmark [1]	8 958	3 986	44.5
Finland [1]	13 444	7 633	56.8
France	96 924	47 489	49.0
Germany (Fed. Rep.) [1]	50 400	17 500	34.7
Greece	31 990	15 411	48.2
Hungary	44 769	25 588	57.2
Ireland	11 014	5 809	52.7
Italy	130 366	54 185	41.6
Luxembourg	612	192	31.4
Malta	1 477	577	39.1
Netherlands	82 291	40 272	48.9
Poland [2]	205 638	115 350	56.1
Romania	81 095	44 833	55.3
Spain	35 455	12 112	34.2
Sweden	27 880	12 958	46.5
Yugoslavia	62 454	30 843	49.4

Source: Data provided for the conference by Member States.

[1] General education only.

[2] Including evening classes and correspondence courses.

[1] 1470th plenary meeting, 29 May 1967.

Table 27

Students enrolled in the first year of higher education, by sex, in 1965/66: number and percentage relative to secondary education diplomas in 1964/65

Country	Number of first-year students		Percentage relative to secondary education diplomas	
	Men	Women	Men	Women
Belgium	18 050	11 668	89.1	63.6
Bulgaria	10 560	7 788	36.2	23.6
Cyprus	36	22	1.9	1.6
Finland	4 564	4 935	78.5[1]	64.7[1]
Germany (Fed. Rep.)	22 000	9 953	66.9[1]	56.9[1]
Hungary	8 105	6 049	42.3	23.6
Italy	68 202	37 278	89.5	68.8
Luxembourg	254	167	60.5	87.0
Malta	802	227	89.1	39.3
Netherlands	23 458	9 352	55.8	23.2
Poland [2]	34 226	23 222	37.9	20.1
Romania	19 342	14 189	53.3	31.6
Sweden	13 053[3]	9 280[3]	87.5	71.6
Yugoslavia	27 689	15 931	87.6	51.7

Source: data provided for the conference by Member States.

[1] The figures for secondary education refer only to general education.

[2] Including evening classes and correspondence courses.

[3] Provisional figures.

Table 28

Number of female students compared with total number of students and with the population, about 1965

Country	Year	Total number of students enrolled	Female students		
			Number	Percentage compared with total	Per 100,000 inhabitants
Austria	1965	39 457	10 029	25	260
Belgium	1965	84 191	28 004	33	583
Bulgaria [1]	1965	100 102	43 427	43	1 065
Czechoslovakia	1965	141 687	54 764	39	767
Denmark	1965	32 600	10 300	31	676[2]
Finland	1965	41 994	20 627	49	862
France [3]	1965	413 756	173 360	42	696
Germany (Fed. Rep.)	1965	358 100	84 200	24	258
Hungary	1965	51 002	21 611	42	412
Ireland	1965	21 280	6 487	30	452
Italy	1965	297 783	105 736	36	395
Netherlands	1965	132 144	33 394	25	539
Norway	1965	19 460	4 725	24	253

Poland [1]	1965	251 864	94 400	38	582
Romania [1]	1965	130 614	51 360	39	528
Spain	1965	130 600	29 690	27	181
Sweden [4]	1965	68 065	24 500	35	630
Switzerland [4]	1964	30 488	5 751	19	196
Turkey	1964	91 198	18 909	21	124
U.S.S.R.	1965	3 860 500	1 660 015	43	1 381 [2]
United Kingdom	1965	312 200	119 649	38	427
Yugoslavia	1965	184 923	62 011	34	619

Source: Unesco/Mineurop/3b.

[1] Including evening classes and correspondence courses.

[2] Calculated for the 1964 population.

[3] Universities only.

[4] Universities and institutions conferring university degrees only.

[5] Including courses for workers.

Table 29

Higher education: percentage of women students compared with the total number of students enrolled in each discipline

Country	Year	Literature	Education	Fine arts	Law	Social sciences	Natural sciences	Engineering sciences	Medicine	Agriculture	Total
Austria	1964	49.3	35.0	47.3	16.0	19.3	25.4	4.7	31.6	8.2	23.9
Belgium	1964	41.7	62.0	21.3	16.5	30.6	24.8	0.6	41.1	3.2	32.4
Czechoslovakia	1965	66.9	48.9	37.9	54.9	53.2	65.4	14.3	62.5	26.0	38.2
Denmark	1964	51.9	54.6	30.3	29.4	18.5	22.5	4.4	31.5	7.3	36.1
Finland	1965	75.5	55.0	30.5	26.8	43.3	37.4	3.6	48.8	39.0	49.1
France	1965	64.9	—	—	28.2	...	30.4	—	34.5	—	41.3
Germany (Fed. Rep.)	1965	39.3	62.2	42.4	11.2	12.5	13.3	1.8	29.8	12.5	23.6
Hungary	1965	68.7	79.6	43.6	52.4	53.4	58.8	18.7	51.3	19.0	42.4
Ireland	1965	36.1	70.5	31.9	18.0	22.7	27.4	11.1	24.1	2.3	30.5
Italy	1965	65.9	77.7	26.0	16.4	27.9	31.9	0.5	18.3	2.9	35.5
Netherlands	1964	39.1	51.0	—	23.5	12.6	12.2	1.3	19.4	12.9	17.9
Norway	1963	40.1	29.4	22.1	7.7	7.1	17.3	2.5	19.6	6.5	22.4
Poland	1965	67.0	56.5	44.9	37.7	38.5	57.6	14.7	63.5	32.8	37.5
Romania	1964	60.3	55.0	43.3	18.3	33.8	51.7	21.0	54.7	20.6	38.4
Spain	1963	61.6	65.2	16.7	12.0	15.6	24.7	0.8	20.6	2.0	20.7
Sweden	1961	50.7	50.3	...	17.3	25.9	26.6	4.4	32.6	9.2	34.3
Switzerland	1965	41.3	51.7	13.2	11.7	11.5	15.1	0.8	21.4	5.5	19.8
Turkey	1965	39.2	24.8	33.1	25.0	18.4	23.2	7.2	23.4	13.0	21.2
U.S.S.R.	1964/65	...	——— 64 ———		...	...	29	52	...	...	...
United Kingdom of England and Wales	1964	64.5	...	...	...	23.0	21.7	1.2	26.0	13.1	38.0
Scotland	1961	...	83.0	———			37.8	———			56.4
Northern Ireland	1964	44.2	64.9	40.9	13.8	31.3	16.3	1.9	25.4	5.9	33.5
Yugoslavia	1965	56.9	45.3	40.5	29.6	34.3	39.6	13.9	50.1	14.7	33.5

Sources: Unesco, *Statistical Yearbook for 1966* (in production); United Nations Economic and Social Council, Commission on the Status of Women (E/CN6/451), 'Access of Girls and Women to Higher Education', 3 February 1966.

The regional factor

DEFINITION

For every European country, regional discrepancies of varying degrees occur in regard to the over-all totals for participation in education.[1] These discrepancies — which are sometimes considerable — appear at the level at which education ceases to be compulsory; they are then cumulative, participation in higher education being affected by regional differences, some of which originate at secondary school level.[2]

ANALYSIS OF REGIONAL DIFFERENCES IN THE MATTER OF EDUCATION

Even a brief study of the available data shows at once a dividing line between the rural and urban communities. In Belgium, for instance, the rates of school attendance between 10 and 20 years of age range between that of the highly urbanized province of Brabant (20.6 per cent) and that of the essentially rural province of Luxembourg (9.7 per cent).[3]

In Sweden, the distribution of newly registered students at universities reveals a very definite difference between the towns and the rural areas,[4] but it is gradually diminishing. Similarly, in the Netherlands, the most urbanized provinces like Utrecht and Noord-Holland have the greatest participation in higher education. Conversely, rural provinces such as Overijssel and Gelderland have a relatively low rate of participation.[5]

The data concerning France show a similar trend: the least urbanized departments have the lowest school attendance rates.[6] In the U.S.S.R., regional differences are less marked, but are nevertheless considerable: for example, 186 students per 10,000 inhabitants for the Russian Federal Republic, but only 104 for the Republic of Turkmen. Here, however, there is a comparatively high rate of improvement (7.5) compared with 1940/41.[7]

RELEVANT FACTORS

A more datailed analysis shows, however, that underlying this contrast between rural areas and the towns is the complex interaction of a whole series of factors.

Population density is the first factor to be considered. Even where standards and proportional distribution of schools are the same, scattered populations find it more difficult to frequent educational institutions[8]. In this connexion, it is striking that the French *départements* with the lowest attendance rates[9] 'all have a population density per square kilometre lower than the national average of 80'.[10]

In this field, of course, *the facilities made available to the various communities* can play an important part, for it is abundantly clear that regional variations are due not only to the 'demand' for education, but also to the 'supply'.[11] Thus, in the United States of America, where development of auxiliary educational services (school canteens, boarding houses, transport, etc.) have been greatly extended, the variations in school attendance between town and rural populations are very slight.[12]

A factor of the same order is the *proximity of an educational establishment*, which has an appreciable differential effect. A good example is provided by the Netherlands where, in the province of Groningen — in which there is a university — the rate of educational participation is definitely higher than in Overijssel or Gelderland, although, from the standpoint of degree of urbanization, conditions in these provinces are more or less the same.[13]

All things equal, however, it seems certain that 'the attitude of families in the different social groups varies fundamentally: some send all their children systematically to secondary school, whereas with others it is more the exception'.[14] This leads back to the *social and cultural factors*. One first point must be noted: the *average income* among the rural population is generally lower than in the towns. But there is another factor, independent of the question of income. A concomitant of the rural environment is a *sub-culture* which adversely affects access to higher education; its bias towards the concrete discourages the theoretical and abstract cast of mind which is

[1] Cf. R. Poignant, *L'enseignement dans les pays du Marché Commun*, op. cit., p. 87 *et seq.*, and J. Ferrez, 'Regional inequalities in educational opportunity', in A.H. Halsey *et al.*, *Ability and Educational Opportunity*, op. cit., p. 71 *et seq.* More recent data is provided in the *Tableaux de l'éducation nationale* (1966 edition), but these tables give the distribution of pupils without reference to the school-age population.

[2] Cf. J. Ferrez, ibid.

[3] Cf. R. Poignant, op. cit., p. 88.

[4] See Table 30.

[5] See Table 34.

[6] See Table 31.

[7] See Table 36.

[8] Cf. R. Poignant, op. cit., p. 91.

[9] Secondary school (sixth class) entrance rates in some *départements* in France in 1961/62: Seine 72.6, Var 62.2, Corsica 60.7, Loir-et-Cher 23, Mayenne 22 (R. Poignant, op. cit., p. 88).

[10] J. Ferrez, op. cit., p. 73.

[11] Cf. R. Poignant, op. cit., p. 90.

[12] Ibid.

[13] Cf. Centraal Bureau voor de Statistiek, *De sociale en regionale herkoder studenten bij het hoger onderwijs*, Zeist, Netherlands, 1960, and Table 34 below.

[14] Cf. R. Poignant, op. cit., p. 91.

inseparable from higher education. In addition, farmers and rural artisans withdraw their children from education earlier in order to have them available as helpers and to train them as their successors.

What has been said contains the implicit assumption that the standard of education offered at primary and secondary level is the same for all, rural and urban. However, this is not the case. Primary education is often of inferior quality in the countryside, as a result of the 'single class' system. As to secondary education, in the rural areas it often means a short course, 'which makes the low rates of secondary-school attendance in these areas even more serious'.[1] The variety of subjects available is not so great as in the towns and is one of the reasons for abstentions. Hence *the quality of primary and secondary education* is likewise a differentiating factor in regard to access to higher education.

There are some facts, however, which are not adequately explained by the factors of a general order just outlined. In the Netherlands, for instance, the *type of town* has a differential effect on the destinations of primary school-leavers, with secondary school figuring more frequently in mercantile towns and administrative centres than in industrial towns.[2] This prompts the question whether, more than the high population density, it is the conditions of urban life created by the spread of a developed tertiary sector which constitute the most powerful pro-scholastic factor *(facteur éducogène)*.

In France, it is notable that, aside from the Paris area, 'the areas lying south of a line running from La Rochelle to Besançon have a higher rate of school attendance than the areas lying to the north of this line'.[3] This line coincides roughly with an historical frontier (that of the zone where Roman civilization took root most vigorously), a dialectal frontier (that of the langue d'Oc) and a political frontier (that of the Leftist-majority regions). Here, therefore, some weight can be given to the persistence of unusually strong regional cultural traditions.[4] There is little doubt, however, that the explanation of this geographical scission should be sought in the conditions of life in the rural areas of southern France,[5] where the pressures to abandon agricultural life are extremely strong. Parents may therefore see in education the avenue to social mobility.[6] This explanation could also account for the apparently exceptional case of Greece, where peasant families appear more inclined 'to send their children to the university than working-class families'.[7]

Table 30

Breakdown by geographical origin of freshman enrolment in Swedish universities for 1947 and for 1960/61

Region of origin	Percentage of age group	
	1947	1960/61
Urban	4.7	12.3
Rural [1]	1.2	6.8

Source: *Educational Policy and Planning*, Sweden. Paris, OECD, 1967, p. 212.

[1] In the sense of the type of habitat only, with no occupational connotations.

Table 31

Average coefficient of school attendance in France in 1959 [1]

Departments with the lowest attendance rate		Departments with the highest attendance rate	
	%		%
Loir-et-Cher	18.2	Alpes-Maritimes	70.2
Mayenne	18.9	Seine	61.4
Vendée	22.2	Bouches-du-Rhône	55.8
Deux-Sèvres	23.2	Haute-Garonne	55.2
Eure	24.3	Seine-et-Oise	55.2
Gers	24.7	Hautes-Pyrénées	55.1
Eure-et-Loir	24.8	Var	54.9
Indre	24.9	Hérault	54.3
Aube	24.9	Savoie	50.1

Source: Jean Ferrez, 'Regional inequalities in educational opportunity', in A. H. Halsey *et al.*, *Ability and Educational Opportunity*, opt. cit., p. 72.

[1] Calculated from total secondary level enrolment (ages 11 to 17).

Table 32

Rates of school attendance in the final classes of secondary education in France in 1959/60

Rate approximating to the national average: Grenoble Academy 116.72% (National average = 114.76%)			
Rates below the national average		Rates above the national average	
Academy	Rate (%)	Academy	Rate (%)
Amiens	71.02	Bordeaux	128.33
Besançon	96.36	Aix	178.30
Caen	62.86	Clermont	139.82
Dijon	76.48	Lyon	131.76
Lille	80.48	Montpellier	154.95
Nancy	92.82	Paris	170.51
Nantes	79.27	Toulouse	148.84
Orléans	80.14		
Poitiers	88.15		
Reims	69.03		
Rennes	102.18		
Strasbourg	88.25		

Source: R. Naudin and P. Maes, *Étude sur la prévision des effectifs universitaires, 1961—1970*, Paris, Bureau Universitaire de Statistique, March 1962, p. 37 et seq.

[1] Cf. J. Ferrez, op. cit., p. 75.
[2] Cf. R. Poignant, op. cit., p. 89.
[3] Cf. J. Ferrez, op. cit., p. 71.
[4] ibid.
[5] ibid.
[6] ibid.
[7] Cf. Jeanne Lambiri-Dimaki, op. cit., p. 201.

Table 33

Percentual variations with types of geographical location in the scholastic careers of boys and girls leaving primary school in the Netherlands (1962)

Type of geographical location	Advanced primary schools		Secondary schools	
	Boys	Girls	Boys	Girls
	%	%	%	%
Mercantile towns and administrative centres	33.2	36.7	22.5	19.2
Industrial towns	30.7	33.5	19.6	15.0
Slightly industrialized communes	30.4	32.9	13.4	9.1
Rural communes	28.5	31.6	9.7	5.9

Source: R. Poignant, op. cit., p. 89.

Table 34

Participation in higher education [1] in the Netherlands, by province, 1954/55 and 1961/62

Province	1954/55		1961/62		Index (1954/55 = 100)
	Students (absolute figures)	Percentage relative to total population in the 18—29 age-group	Students (absolute figures)	Percentage relative to total population in the 18—29 age-goup	
Groningen	1 255	16.2	1 708	21.7	134
Friesland	879	11.6	1 217	16.3	141
Drenthe	364	6.9	642	12.4	180
Overijssel	1 032	7.9	1 702	13.0	165
Gelderland	1 040	9.9	3 501	15.9	161
Utrecht	2 192	20.3	3 356	28.3	139
Noordholland	6 033	18.3	8 582	25.2	138
Zuidholland	6 910	15.8	10 923	24.3	154
Zeeland	390	8.9	644	15.2	171
Noordbrabant	2 007	7.8	4 025	14.2	182
Limburg	1 381	9.0	2 423	14.9	166
Netherlands	24 483	13.1	39 430	20.1	153

Source: Netherlands, Centraal Bureau voor de Statistiek, *De sociale en regionale herkomst der studenten bijhet hoger onderwijs*, 1958—1959 *and* 1961—1962 (2 vols.), Zeist, 1960 and 1965.

[1] University education only, excluding theology.

Table 35

Number of students in higher education in the republics of the U.S.S.R. (for the beginning of the school year)

Republic	1914/15		1940/41		1966/67		Number of times more in 1966/67 than in:	
	Students (thousands)	Per 10,000 inhabitants	Students (thousands)	Per 10,000 inhabitants	Students (thousands)	Per 10,000 inhabitants[1]	1914/15	1940/41
U.S.S.R.	**127.4**	**8**	**811.7**	**41**	**4 122.5**	**166**	**32.3**	**5**
R.S.F.S.R.	86.5	9	478.1	43	2 469.8	186	28.5	5.1
Ukrainian S.S.R.	35.2	10	196.8	47	739.1	152	21.1	3.7

Byelorussian S.S.R.	—	—	21.5	24	115.9	120	—	5.3
Uzbek S.S.R.	—	—	19.1	28	188.4	157	—	9.8
Kazakh S.S.R.	—	—	10.4	16	163.1	119	—	15.6
Georgian S.S.R.	0.3	Less than 1	28.5	77	81.4	168	271.3	2.8
Azerbaijan S.S.R.	—	—	14.6	44	78.3	144	—	5.3
Lithuanian S.S.R.	—	—	6.0	20	50.7	155	—	8.5
Moldavian S.S.R.	—	—	2.5	10	40.6	108	—	16.2
Latvian S.S.R.	2.1	8	9.9	52	35.9	146	17.1	3.6
Kirghiz S.S.R.	—	—	3.1	19	36.7	122	—	11.0
Tadzhik S.S.R.	—	—	2.3	15	34.7	118	—	15.1
Armenian S.S.R.	—	—	11.1	82	43.3	177	—	3.9
Turkmen S.S.R.	—	—	3.0	22	22.7	104	—	7.5
Estonian S.S.R.	3.3	35	4.8	45	21.9	166	6.6	4.5

Source: *L'instruction publique en Union Soviétique*, thirty-first session of the International Conference on Public Education, Geneva, 1967, Moscow Editions, 1964.

[1] Data for the 1965/66 academic year.

The factor of education itself

DEFINITION OF THE PROBLEM

The organization of the school system (specialized schools, sections and 'streams'), the contents of the curricula, the values — explicit or implicit — determining the aims of education, the teaching methods, the systems of guidance and selection, the geographical location of the teaching establishments, the policy in regard to combining the various types of education (general secondary and technical, for instance) or keeping them distinct, the policy as to whether evening and correspondence courses qualify for regular accreditation, the constitution of cultural groups through a particular form of education (the humanities, for instance) or particular types of establishments (certain British colleges, the 'X' [1] in France) — all these aspects of education are in close correlation to social and cultural factors.

In the course of history, education has long been both the product and the reflection of the social system; it has constituted the institutional means whereby society preserves existing structures through appropriate training of new generations. In other words, the above-mentioned correlation has, hitherto, operated in one direction only.

At present, the highly industrialized societies are evolving extremely rapidly, and are in the throes of scientific and technical progress, leading to economic expansion on an unprecedented scale.[2] Meeting this great urge for consumer goods, culture, leisure and organized activity is recognized by the most advanced peoples as one of the tasks of society. At the same time — regardless of particular political régimes or social structures — has arisen a strong demand for equality: the right to education or, in other words, the democratization of studies.

NEED FOR THE RADICAL REFORM OF EDUCATION: THE PRINCIPLE OF GUIDANCE

The educational system should, therefore, continue to undergo radical reforming, with two ends in view.

First, in order to ensure that educational systems, through preserving existing structures and the values underlying them, do not act as obstacles to the rapid changes inherent in progress and the civilization of 'growth' to which modern peoples attach such importance, they should help to offset the persistent consequences of social stratification and the anti-educational attitudes of certain circles.

Second, instead of concentrating mainly, as hitherto, on the training of an 'élite' by selective methods, education should be designed to train the young generation by guiding every individual to enable the best possible use of his natural abilities.[3] This

[1] *Grandes écoles.*

[2] Although partial recessions may occur, they do not affect the general trend of these societies' activities.

[3] See, in this connexion, the study of T. Husén'The relation between selectivity and social class in secondary education', in *International Journal of Education, Science*, 1966, Vol. I, p. 17—27.

is, of course, Utopian, but could be made the goal of the whole educational process at every level. It is the key to the transformation now taking place. Only by organizing education on these lines can the needs created by scientific, technical and economic progress be met; lack of qualified personnel bids fair to become the bottleneck of modern development.

In view of the foregoing, it is intended to concentrate, in the present report, on the various aspects of education, viewed in relation to the social, economic and cultural background of students.

THE THREE BASIC TRENDS OF THE REFORM

Since no systematic study of these questions has been made, the only solution is to give a few facts. There are however, three main trends emerging in modern education, and which correspond to the general aims set forth above:

1. The system is becoming more flexible, so as: (a) to do away with the obstacles hitherto encountered by the best pupils belonging to the lower ranks of society; (b) to make it possible to transfer from one section to another, at the same level, thanks to the elimination of restrictive regulations and the provision of assistance to pupils changing over; (c) to introduce the broadest possible 'common core' for all basic subjects.

2. The principle of negative selection in secondary education is gradually being replaced by that of positive guidance for pupils. This point is closely connected with the preceding one, since the application of this principle is inconceivable within a rigid system. This guidance consists in (a) observing pupils; (b) giving them an opportunity, at the beginning of the secondary cycle, to try various subjects (possibility of choice); (c) subjecting them to intellectual and psychological guidance tests; (d) deciding, for instance, not that their progress is insufficient to 'move up' into the next class, but, rather, that their abilities and ambitions are such as to make suitable further studies in another section, to which they will be helped to adapt; (e) organizing a 'guidance' system to provide pedagogical assistance in case any serious difficulties arise; (f) supplying parents and pupils with information about possible courses of study and the professions to which they lead, the employment situation as far as can be foreseen, and the actual work involved in the various occupations; (g) establishing links between education and everyday life, through regular contacts and more systematic use of training courses.

3. Teaching methods are tending to become more individualized: this follows from the preceding, and involves an entirely new conception of 'didactics' with the teacher as an adviser rather than as instructor. This method calls for smaller classes and a reduction of the curriculum, the remaining course contents being taken in greater detail, using active teaching methods.

Applying the principle of educational guidance entails organizing facilities for adult study and retraining, which should be readily accessible regardless of participants' financial or professional status. This means, in particular, resuming the organization of part-time (especially evening) courses, and correspondence courses at all levels.

These three different but closely interlinked lines of development are calculated to offset the disadvantages suffered by students belonging to poorer families, and who are particularly affected by lack of information or proper guidance, leading to mistakes which, under the old, rigid system would have been fatal, but which the present increased flexibility should fortunately redress. Since these students receive no support from their family environment, they need a readaptation system, with individual teaching methods and guidance, in order to face the anxieties and risks of switching over to a different course of study. A vocational guidance system based on a positive approach would have the advantage of preventing children in schools from falling so far behind and dropping out unnecessarily, whilst at the same time enabling them to chose the programme, for which they are best fitted, a service their parents are unable to do for them, owing to lack of the requisite information. Small classes are a great advantage for children from the lower social classes, for whom closer supervision is absolutely essential; in addition, smaller classes, combined with the individualization of teaching, make it easier to pick out and encourage particularly gifted children. But the term 'individualization' must not be misunderstood: it means that teachers must adapt their methods to the personality of each individual pupil with a view to achieving the best results, not by dint of senseless competition with their classmates, but in relation to their own individual capacities. This does not imply that each pupil works on his own; quite the contrary, schools should provide training for the co-operation and team work required in all modern organizations.[1] These new trends call for a revolution in teaching and in the traditional educational system.

[1] To claim that the teacher must adapt his methods to the pupil is to reverse the traditional system, under which the pupil must adapt his work to the methods of the teacher. This reversal of roles is, sociologically speaking, parallel to the replacement of Taylorism (adaptation of the worker to the machine) by psychotechnics (adaptation of the machine to the worker). Both changes are a reflection of an identical social and cultural climate.

Since it is vitally important, for the future, that these three trends should be maintained, it would be well to demonstrate that they do in fact meet the existing situation.

Reuchlin, in the conclusion to his work, points out the difficulties of acquiring a clear idea of the lines on which various national education systems are developing. He does, nonetheless, succeed in bringing out certain common trends in line with the conclusions set forth above.

'(I) As regards the length of schooling, the only change made is to prolong it. There are cases of the entrance examination for admission to secondary school being abolished, and once abolished, it is never reintroduced. Any changes in the age at which pupils are selected for secondary schools of specific types tend to postpone it. All new curricula introduced provide for closer integration at the immediate post-primary stage, and more general education in the technical sections. The difference between the long school course and the short, in so far as this is changing at all, is being reduced. The regulations on access to higher education are evolving steadily towards a widening to a greater section of society. With more special regard to the services responsible for guidance and the methods they employ, there are several points to remark: in some instances, vocational guidance has developed into a combination of educational and vocational guidance; the Ministry of Education's competence in regard to guidance has been extended to cover not only children in difficult situations or pupils attending vocational schools, but all pupils in post-primary schools; vocational tests taken on leaving school have been replaced by constant guidance throughout the school course; teachers now have the assistance of psychologists, doctors and social workers. Such changes are occurring in some countries, though not in all; but there is no country where changes have occurred in the opposite direction. In other words, all the changes we are witnessing are designed to the same end. They lead not merely to different organizational systems but to systems some of which, chronologically speaking at any rate, are more advanced than others.

'(II) That all these partial changes appear irreversible indicates that there exist certain more general factors governing them all: ...technical progress and the democratization of education as a form of social progress.'

Bowles has expressed his views on the process of evolution of secondary education by singling out three types existing in the world today: [1]

Structure A. The separation of secondary education into three parallel lines. This is the traditional structure: one line of student direction — intermediate — preparatory to the university (such at any rate is the purpose for which this type of education is designed); a second line — teacher training — consisting of a general education cycle followed by a cycle of teacher training, and designed to turn out primary-school teachers, both for specialized and general subjects; and a third line, providing vocational and technical education of a 'practical' type. Each line has its own specific aims and character; and is, in principle, 'watertight', which means that pupils are obliged to decide, once and for all, at the age of 12—13, on the course they wish to follow.

Structure B. The separation of secondary education into two parallel lines. This is a simplified version of structure A: 'It maintains the single line of student direction for general education as the only method of access to universities, but in a second line also provides a common programme of general education as the first cycle of secondary education for the other students. At the end of the first cycle, pupils who pass a selective examination may either continue in a teacher-training or technical programme ...or leave school entirely.'

The duration of this second cycle may be four or five years, but it does not in fact overlap the higher education course, except chronologically. This system has the further advantage of rendering social standing dependent on education rather than on family background.

Structure C. A common programme followed by a separation into two or three lines [2]. 'In this form of organization all primary graduates may enter secondary school without examination. It is therefore the form represented graphically in the centre segment of the upper of the two lines plotted in Figure 2, Chapter II. It has, therefore, a high rate of entry to secondary education, and also a high drop-out rate.

'In this form, teacher training tends to disappear as a programme within secondary education and it, instead, is offered within higher education, either by the university or in separate normal schools. Technical education, branching off from general secondary, is often part of the programme within a comprehensive school and includes certain of the core subjects which also appear in general secondary. General secondary, in turn, is presented as a fairly broad programme which permits the students a good deal of freedom of choice. In such systems, the formal school-leaving examination has tended to disappear. Its place as a requirement for university entrance has been taken by university entrance examinations.

[1] See F. Bowles, op. cit., p. 105 *et seq.*
[2] ibid., p. 108.

'In this type of organization the school-leaving age is usually 15 or older, and students generally remain on to the end of secondary school, although there is a sizeable loss at about the age of 15.

'In 1950, seven countries followed this pattern.'

The three changes mentioned above have been systematically incorporated into the Swedish educational reform.

The introduction of guidance, as opposed to selection by elimination and as a leading principle of educational policy, is one of the key factors of present developments and is, in one form or another, being adopted everywhere. It was Reuchlin who was responsible for expounding the theory of vocational guidance. In the subsequent and numerous 'meetings' which have been held recently to discuss this subject,[1] the object in most cases has been to extend vocational guidance to include first oducational guidance, followed by orientation based en psychological tests.[2]

The statement to the effect that one of the results of the reform of education is the democratization of studies is likewise corroborated by Bowles:[3]

'It seems clear from this evidence that several changes are taking place in secondary education.

'1. A movement to reduce or eliminate entrance examinations and to open up some or all forms of secondary education to all who complete primary school.

'2. A movement to develop a longer common period of general education within secondary education, thereby permitting the student to defer his choice of specialization.

'3. A shift of certain secondary school programmes, particularly teacher training, to higher education.

'4. Opening of more avenues to higher education from specialized forms of secondary education.

'5. More freedom of movement between programmes of secondary education.'

Measures for the democratization of studies and the development of aptitudes

SOME GUIDING PRINCIPLES OF MODERN EDUCATION

In carrying out reforms designed to render organization more flexible, introducing educational guidance instead of selection by elimination and making teaching more individual, schools might adopt certain guiding principles which the present report suggests:

1. Schools should take account of their country's economic and social structure when planning developments and changes. Steps should be taken, as far as possible, to ensure that schools are not treated as a separate cultural environment, developing, as it were, in a vacuum.

2. The influence of schools should counteract economic, social and cultural factors when these are inimical to the democratization of studies and the exploitation of untapped intellectual aptitudes, but reinforce them when their influence is progressive. The fact of making coeducation the general rule is calculated to dispel anti-feminist prejudice and to extend educational opportunities for girls.

3. Training for men and women at all levels should include a common general education, and a polyvalent rather than narrowly specialized instruction in view of the fact that industrialized societies are liable to undergo radical transformations.

4. The adaptation of teaching should be carried out on the basis of scientific research, particularly in psychology, pedagogy,[4] sociology and the econometrics of education. Such research could provide more information on 'output', with special reference to higher education, which is extremely unsatisfactory in numerous countries (a large percentage of students dropping out before taking their final diploma). Further, a general theory of the correlation between education and the social structure should be evolved.

5. More radical measures should be taken in adapting curricula and teaching methods, to apply the principle of democratization, to bring education into closer touch with society and to give it the polyvalent quality necessary for modern man. Instead of encyclopaedic learning and the memorization of facts and figures which quickly become out of date, the main emphasis should be placed on developing intelligence, powers of observation and experience, making children adaptable, and

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[1] Reuchlin, op. cit., lists in his 'preface' no less than ten international meetings on this subject between 1958 and 1963.

[2] In this connexion, useful information is contained in the report of the *Thirty-sixth International Conference on Public Education* (Geneva, 1963), which discussed the organization of educational and vocational guidance. A general idea of the spread of this facility and its applications throughout the world is given therein.

[3] Op. cit,. p. 110.

[4] In particular, concerted work should be done on the relations between television and education, and an experimental study made of audio-visual communication media. Such should be the case as well for tests and measures of estimating the educational standard of individuals and groups.

inculcating the critical spirit requisite for the progress of technological and democratic societies.

SOME MEASURES ADOPTED OR ENVISAGED BY VARIOUS COUNTRIES, AFTER STUDY AND RESEARCH, WITH A VIEW TO THE DEMOCRATIZATION OF STUDIES

It is proposed, in this section, to deal first with measures relating to secondary education, and then with those relating to higher education. Access to the latter is, as indicated above, governed by factors and processes which affect secondary education. Higher education, through the control it exercises over the admission and selection of students and their line of study, completes or, in some cases, corrects the effects of factors and processes pertaining to the secondary level and persisting right through to this stage.

Secondary education

Prolongation of the period of compulsory schooling. The school leaving age should be raised by law to the point already clearly indicated by the spontaneous increase in school attendance of the revelant age-group, and taking account of the standard of general education required by the spread of culture (due in particular to 'mass communication') and the basic knowledge needed for coping with technical progress. This is typically a matter of political judgement which must, however, be based on objective data. If the school-leaving age were raised, measures would have to be taken to make schooling for the extra period completely free of charge, but without entailing the withdrawal of study grants valid at the time of the decision. This is important, since a prolongation would mean a 'failure to earn' affecting precisely the type of families which feel obliged financially to curtail their children's studies. Indeed, it would then become legally impossible for them to send their children out to work, as they had formerly been able to do. Making school attendance compulsory would do away with the effects of different social origin, sex and regional conditions; but it would not, in itself, affect the factors which determine academic success or failure, and which influence the choice of career.

Comprehensive schools. It would be possible, on the model of the sweeping over-all educational reform introduced in Sweden a few years ago (taking account, also, of various other experiments along the same lines, such as the 'observations and guidance cycle' in the Belgian schools) to develop a type of 'comprehensive school' system in which children would, as a matter of course, receive guidance in their studies and be able to transfer, when necessary, both to other parts of the school system (including technical establishments) and, in particular, to other parts of the same school. It is a case of replacing schools of the old type educational units. This system provides a 'common core' of general education, and an increasingly wide and elastic choice of subjects at each successive level.

This reform affects the market-economy countries in much the same way as the Soviet secondary education system affects the countries with a fully planned economy. In the Soviet system, all levels and types of educational establishement (general, vocational, secondary and higher) are interrelated.[1]

Development and reform of mathematics teaching. Thisisa subject on which scientific research and concerted experiments should be carried out, since it forms the starting point for careers in science and advanced technology. It has been shown possible, through the use of appropriate teaching methods, and through the systematic organization of diploma programmes for employed adults, to tap hitherto unsuspected reserves of talent (discarding false ideas about the so-called 'bump' for mathematics!). The experiment of the 'new mathematics', now assuming international proportions, should be followed very closely in relation to Europe.

This point is important, since it is in mathematics that the specific 'father's education' factor exerts the most influence. This phenomenon accounts for the fact that certain families tend, traditionally, to provide the technical and scientific élite in a society.

Using vocational guidance as a means of improving studies. Vocational guidance and reorientation — operated on an objective basis — should be introduced as the principal methods of selection, leaving eliminatory methods to play only a minor part. Viewed from this angle, 'centres' staffed by doctors, psychologists, sociologists and statisticians, for the purpose of extending and applying this system, assume topical importance. In addition, members of the teaching profession should be trained to intervene at an early juncture (in particular, picking out 'cases, and deciding whether individuals have made the right choice), and also to work in co-operation with the guidance centres. In some countries, youth organizations help young people to find their bearings both at school and in the matter of vocational training. It is essential that vocational guidance be regarded not as an auxiliary aspect of teaching, but rather as a basic means of exploiting individual aptitudes to the full.

The psychological aspect is important; but experimental psychology is not yet sufficiently advanced, in the relevent branches, to provide abso-

[1] See under U.S.S.R. in document Unesco/Mineurop/3.

lutely reliable scientific data and methods for all aspects of school and vocational guidance. It is a matter of making a psychological study of normal people, in a normal environment, subject to normal stimuli, not of people conditioned by an abnormal environment and abnormal stimuli. However, the definition of what constitutes a normal milieu must be somewhat elastic, since social origins and the resulting stimuli explain attitudes, motivation and behaviour patterns. Educational guidance involves the application of these considerations to children, adolescents and young people at secondary school. The progress made in child psychology and pedagogy could prove a valuable contribution to educational guidance.

Last and equally important is the individual aspect, which is frequently 'pathological' in the broad sense of the term. Thereby vocational guidance becomes a 'clinical' activity, wherein the personal factor is all-important.

It would follow from the above that the situation calls for the establishment of interdisciplinary research institutes covering both school and vocational guidance, the two being essentially interlinked. These institutes should be backed by a dense network of psycho-medico-social guidance centres, designed to supply the basic data and material for research. Teaching staff trained in guidance work could serve as 'observation posts' amongst the children at school, thereby extending the coverage of the system.

Data in such quantities necessitates the use of up-to-date methods, with automatic processing by multiple copiers and computers. The number of subjects — even in sampling — is considerable, and the variables innumerable. Central research institutes should be equipped accordingly.

Co-operation amongst the countries in Europe in this domain might therefore concentrate on: (a) determining the best type of organization for scientific research in school and vocational guidance, by common agreement and after exchange of information on individual countries' experience; (b) drawing up of joint research programmes, or programmes allocating different subjects for the attention of the countries best equipped for the purpose; (c) arranging for the systematic exchange of results achieved, in relation first to guidance methods used and, secondly, to the institutional aspect of guidance work; (d) considering the use in secondary schools of criteria based on guidance instead of examination systems based on the principle of selection by elimination [1].

Vocational guidance should never call for compulsory decisions. The very fact that the advice given is impartial, and backed by precise data, is naturally a strong influence frequently followed for its authoritative results. Thus the question of compulsion does not even arise.

Individualization of teaching. The fact that classes in contemporary schools are composed of children with different social and cultural backgrounds (and have, therefore, ceased to be homogeneous), combined with the implications of the very principle of vocational guidance, appears to call for a more individualized type of teaching, as a way of evening out excessive differences of standard, and compensating certain children for shortcomings in their family background and homework conditions. Means of helping disadvantaged children should be devised, and special classes arranged. This involves teacher training in methods based more on the psychological aspect than on the standardized form of lessons. Given, in addition, the fact that teachers will be required to assist in guidance work, it follows that the teacher-training system, at all levels, will have to be radically revised. But the extent to which teaching can be individualized depends largely on the size of the classes: heterogeneous classes appear to necessitate a raising of the teacher-pupil ratio. In this connexion, it might be possible to depart from the usual practice of making all classes a standard size. Bernstein points out a feasible plan to vary the size of classes in schools, according to social and regional conditions [2].

Further, it might be possible to employ assistants and tutors in secondary schools in order to relieve specialist teachers of non-essential tasks, as is done in higher education establishments. This would help both to cover the cost of adapting education and also to offset the shortage of teachers. There is no hiding the fact that it is here a question of reforming the whole of the teaching at secondary level. It is a matter of urgency, demanding the introduction of new teaching methods, proven sound by research and testing. In this connexion, it would be advisable to organize international research programmes on the use of audio-visual media and 'teaching machines' and so avoid the proliferation of costly experiments.

Another important aspect of education is the systematic development of para and out-of-school activities, which can constitute an effective means of filling in gaps in cultural background and com-

[1] As regards the principle of research, some interesting information is contained in the report of a lecture given by Reuchlin, under the title 'Potentialities, lacunae and future prospects of experimental psychology in relation to school and vocational guidance', in BINOP (bulletin of the Institut National d'Étude du Travail et d'Orientation Professionnelle), January-February 1966, p. 27—49. As regards the importance of the problem of guidance, and the stage reached, see the book by Reuchlin, already cited.

[2] The humbler the social background of the pupils, the smaller should classes be. See Bernstein, based on Halsey, op. cit., p. 36. In short, luxury classes for the poor, ordinary classes for the rich. This is one way of compensating for shortcomings of social background.

pensating for shortcomings in social or family environment. [1] A comparative study of the measures taken in this field in various European countries and of the results achieved would be extremely valuable.

Training of teachers. Teacher training should be based on the new principles now emerging in European education of which the main trends in this field are outlined above. It would be useful if the European countries could arrange to exchange views on the subject.

Development of evening and correspondence courses. The aim of this system is to provide courses leading to diplomas equivalent to those awarded for full-time studies. A system culminating in the award of 'external', 'special' or 'non-recognized' diplomas is not considered satisfactory.

The experience of the U.S.S.R. and Sweden is interesting in this connexion. In the U.S.S.R. pupils are divided into the following categories, on the basis of their results in the secondary school entrance examination:

1. The group at the top of the list receives places for full-time education.

2. The next group is admitted to evening courses (including certain full-time practical study courses); the employment time-table is specially planned so as to provide these students with time-off for study (they are entitled to supplementary paid leave for oral and written examinations, laboratory work and the preparation of papers, theses and so on; they receive time-off to attend certain courses; they are not sent on distant missions or transferred to another place of work; and they have the use of specially equipped factory libraries and laboratories for carrying out their practical work). Such part-time study, of course, takes longer than full-time study.

3. The remaining candidates, should they wish to study, are encouraged to take correspondence courses (the duration of which is longer still).

The students with the best results in evening courses are transferred to the full-time study category, whilst the top students in the correspondence category move up into the evening-course group.

Consideration should be given to the expansion of evening and correspondence courses. The measures taken for adapting these courses to the particular type of educational system, employment conditions, [2] specific requirements and means and resources will, naturally, differ widely from country to country. The importance of this category of education as a factor for the democratization of studies cannot be over-estimated; it is essential that all those who, for reasons of social origin, sex or regional conditions, have either curtailed their studies or followed courses contrary to their vocation or aptitudes should dispose of facilities for resuming their studies, by evening or correspondence courses organized on a regular basis. A systematic exchange of information on the problems existing and the experience acquired in this field would be most useful. [3]

Efficiency of school systems. There is no doubt that reforms bearing on the points mentioned above, could contribute to improved efficiency in schools, as defined by the ratio of the number of graduation diplomas to the number of entrants in any particular educational cycle. The methods still employed today for estimating a student's ability for admission to and progress in a specific course of study appear to be out of date and empirical, and to yield disappointing results. The adoption of guidance as the main means of selection would not eliminate the need for an evaluation of students' aptitude for the course of studies advised. Thus tests and measurement for ascertaining the value of examinations assume more importance than ever, and it is desirable that scientific research be done on the subject, and information exchanged between different countries and institutions. This is particularly important for the democratization of studies. At present, not only the methods of interrogation and marking but also the types of knowledge required of students, together with the kind of written work expected, are influenced — or are always liable to be influenced — by the cultural models of the ruling classes of society. Such a system clearly favours the children from that milieu.

Financial and material support. In certain countries, study grants for secondary-school students are much smaller than for those attending higher educational establishments. Here again, it should be repeated that access to higher education is governed largely by factors operating at secondary-school level.

It is true, of course, that higher education costs more, and that a resulting 'failure to learn' is more

[1] An example of this stystem is the pioneer 'palaces' or 'houses' in the U.S.S.R. designed to provide children with facilities for exercising their talents and developing their particular interests (music, scientific research, plastic arts, dancing, cinema, photography, and so on). Similar facilities are also available in other countries ('Jeunesses musicales' and 'Jeunesses scientifiques' in Belgium).

[2] The possibility on laying down legal regulations on 'study leave', with compensation under social security system, should be considered in market-economy countries.

[3] Some idea of the specially technical nature of genuine correspondence education is given in Börje Holmberg, *Correspondence Education* (Hermods-NKI, 1967), which lists the principal correspondence education colleges in the world, and contains an up-to-date bibliography. Unesco now has a publication on the subject in production: Renée Erdos, *Teaching by Correspondence.*

serious at this level, owing to the student's age. It is, nonetheless, important to ensure that pupils attending secondary school do not cut short their studies for financial reasons when they have the intellectual aptitude to complete the programme. But this element is merely the first step in democratization, since children's attitudes to the importance of studies, scholastic success, school-leaving and choice of calling are affected — frequently without their realizing it — by other influences than the financial factor. Therefore, instead of being fixed empirically or in the light of political considerations, study grants at secondary level should be determined on the basis of scientific investigation, without distinction between the different sections of secondary education or the different subjects taught. Some exceptions to this basic principle might perhaps be made to encourage the training of specialists in certain fields, to meet the needs of the economy. But there may be grounds for arguing that the provision of information about openings in various fields would in itself suffice to influence students in the required direction; it might prove wiser to influence choice by stressing the attractions of these jobs (pay, status) rather than by grading grants, with the implication that certain courses of study are intrinsically more important than others.

Adults wishing to embark on or complete secondary studies should receive financial support corresponding to their needs. Study grants could be supplemented by long-term, interest-free loans, not repayable by students obtaining a certain level marks. In regard to financial and material support, both for schoolchildren and for adults the socialist countries of Eastern Europe appear to be nearer to a satisfactory solution than other European countries. This may be attributed partly to two features which are peculiar to the socialist countries: the existence of a limitation in the numbers of admissions, calculated to meet the needs of the Economic Plan (with rigid figures for the budget and grants, and an assured economic return), and the fact that enterprises — all publicly owned — are in a better position to adopt time-tables and pay systems enabling workers to follow courses of studies.

Indirect support is given by the provision of hostels, restaurants and miscellaneous services (in particular, transport), either free of charge or at less than cost price (unless study grants are calculated to cover normal prices). Hostels virtually cancel out the handicap of distance. The creation, in school, of a complete social environment would, provided it did not cater solely for the least privileged students, compensate for handicaps due to social, cultural and family background.

In regard to financial and material support for studies, arrangements might be made for systematic exchanges of information between authorities responsible for this matter in different countries. Lessons could be learned, at the international level, from 'model' or pilot achievements.

Higher education

As regards access, the question is usually settled for most youngsters by the time they are in a position to enrol. Nevertheless as a result of procedures for admission, the financial and material support which education involves, the choices open (more particularly concerning duration and diversification), the changes of completing studies undertaken (education, training, guidance, types of examination) and opportunities for adults to 'catch-up' through evening classes and correspondence courses, higher education can either seriously aggravate the disadvantages due to social origin, sex and region or, on the contrary, compensate for such inequalities for the benefit of the youngsters who, in the age group concerned, remain academically capable of following these studies. The less favoured who remain 'in the running' at this stage will either abandon their studies at once, or will soon drop out or again will have less success than students in a socially favourable position — unless higher education itself is a powerful agent for the correction of socio-cultural and financial disadvantages.

Systems of admission. The regular completion of secondary education is a prerequisite for the candidature of students in the normal age-group for enrolment. This is not the place to draw comparisons between procedures for establishing and maintaining this standard qualification in the various countries. Universities and higher education establishments, however, should be able to avoid a strict enforcement of the rules in marginal and special cases. A wide degree of latitude should be allowed in verifying suitability for entrance; this practice would make it possible to build up gradually a jurisprudence governing special cases for admission.

In the U.S.S.R., for instance, students with practical experience enjoy certain advantages. This rule applies to persons who have spent an instructional period of at least two years in industry, as well as to demobilized soldiers and sailors.

In the entrance competitions, students who have undergone a practical course of instruction and those who come from secondary education compete separately. To enable the former to be well prepared for these competitions, courses are organized in firms, schools, higher education establishments, etc.; this preparatory instruction may last up to ten months and is often given by higher education students. This educational provision for young people already employed offers an interesting example for other countries.

It should be possible to accept the principle of 'omnivalence' for all secondary studies, provided that their minimum duration is uniform for the purpose of entrance to higher education, subject to one condition: the testing of knowledge specifically necessary for admission to certain given branches of higher education (for instance Latin for classical or romance philology; certain branches of mathematics for applied science and physics) [1].

In this connexion it would be desirable to establish throughout Europe equivalences of secondary education certificates for the purpose of admission to higher education and to determine minimal required qualifications.

Enrolment in higher education should be preceded by a formal interview of every candidate for purposes of information and guidance. Before taking a decision to enrol, the candidate should be acquainted with the curriculum, the requirements, the difficulties and the openings offered by the studies which he is contemplating. He should know what 'line' is most appropriate for him to follow, having regard to the results of his secondary studies and the tests which he has taken. He should further receive preliminary advice and guidance — adapted to his individual case — concerning academic, social and cultural life in the establishment chosen. There should be a department upon whose services entering students can call, and providing counsel as to the best ways of meeting their spontaneous cultural aspirations, in the light of the studies chosen (to fill the gaps left by their specialized nature; to take maximum advantage of the extensions offered therein).

The cases of an enforced policy of limited admissions, either as a general principle in the planned economy countries, or as a measure dictated by the possibilities of admission or by the statutes of institutions in the market economy countries, might usefully form a subject for discussion. The right to education, in fact, applies equally at the higher level as elsewhere, and undoubtedly forms a desirable response to the 'social demand'. However, the economic motives invoked in the U.S.S.R. are highly relevant [2]. The solution obviously lies in the organization of information and guidance, thus allowing only marginal difficulties to subsist. In addition, the types of training given in higher education should be such as to ensure, each in respect of a reasonable wide field, those capacities for adaptation, interchangeability and multivalence of diplomas required by a society of rapidly changing techniques and structure. This remark raises the problem of a far-reaching alteration in the mentality of university education and still more of higher technical education, as far as degree of specialization is concerned. If a reform were achieved in this direction, the problems of guidance in relation to openings would be greatly simplified.

Following the example of the Yugoslav system, the admission to higher education of adults — that is to say, anyone who is over the normal age of enrolment by at least five years — should in the absence of a secondary education certificate, be exempt from this requirement, but subject to an aptitude examination. During actual studies, moreover, 'adults' would not be subject to the strict procedure of examinations in order to obtain an 'annual diploma'. As they are exempted from keeping the periods normally and legitimately compulsory for students coming directly from secondary education, these students should be able progressively to accumulate certificates covering the subjects included in the curriculum and to obtain their annual diploma by presenting the total of necessary certificates.

Continuing higher education. Owing to the sudden changes which are constantly affecting the economic and technological sectors, both a capacity for adaptation and a provision for regular refresher courses should be made available and developed for the benefit of graduates. Access should be readily available, on the sole condition that ability to participate with profit be established. Refresher courses constitute one of the ways in which higher education can be carried into the community; the preparation of curricula and the teaching of new subjects necessarily imply recourse to outside authorities, associated more or less temporarily with educational institutions. The methods and procedures for refresher courses might form the subjects of organized exchanges of experience among the appropriate authorities in European countries.

Development of non-university higher education. Two precautions are worth mentioning: (a) dispersion of schools and sections should be avoided, in order to maintain a high standard of quality of staff and equipment and to ensure a sufficient number of students in each establishment (the degree of concentration can of course be varied according to the need to encourage development in certain regions); (b) suitable opportunities should be provided for transfer (giving full credit for years spent in technical education) to university studies, appropriately shortened in the case of related disciplines

[1] Towards the end of a period of study, secondary education should include special classes of intensive preparation to enable students to meet such requirements which have arisen tardily (cf. the Belgian Law of 8 June 1964).

[2] See 'Higher Education in U.S.S.R.', in document Unesco /Mineurop/ 3, p. 10.

(technology, chemistry, commerce, social sciences, education, etc.).

There is a general tendency towards such a development throughout Europe. In France, for instance, the establishment of the *Instituts supérieurs de technologie* (two years' study after the baccalauréat) and in the United Kingdom the upgrading of the colleges of technology are relevant examples. This is a channel for social mobility through education which can effectively correct the untoward effects of social background.

Introduction of additional terminal examinations in universities. Having regard to the growing mass of students, among whom many, although suitable for higher education, are less qualified to pass the final diploma examinations after four to seven years of study (Continental countries), and to the misgivings felt by poorer families at the protracted period of university education, the question arises as to the advisability of recognizing the 'first cycle' as a complete course of training at that level. The 'first year' diploma today is, in itself, devoid of all value; it is simply a certificate of admission to the degree course and is refused to students who in fact are sufficiently qualified as 'first-year students' but whose ability is doubtful according to degree criteria. Consideration should be given to the advisability of converting the 'first year' ('candidature') diploma into a final diploma. Some of these diplomas, moreover, would bear the endorsement, 'admissible to sit for such-and-such degree'. The non-admissible 'candidates' would later be able to attempt to obtain admission by sitting for an appropriate examination. In the meantime, the 'first-year' diploma would qualify for functions which, once specifically defined in the public sector (more particularly on qualification for entry in certain competitions [1]), would usually encourage similar practices on the part of private enterprises and organizations. The 'junior colleges' in the Anglo-Saxon countries have for a long time functioned along these lines.

The validation of the 'first cycle' would have positive repercussions on motivations regarding entrance to the university from the standpoint of the democratization of education.

Financial and material support. The desired aims and principles are not different from those in secondary education. Owing to the age of students, however, a greater amount of aid due to 'failure to earn' must be considered. At this level, the student himself should receive the allocation, rather than the head of the family.

As far as market economy countries are concerned, a special difficulty arises. Students from less well-to-do families tend to avoid undertaking studies lasting more than four years: law, medicine, applied science (engineering). Consequently, greatly increased financial support might be contemplated for programmes of study exceeding four years.

In the same connexion, consideration should be given to the question of post-graduate studies, which may be assimilated to a professional activity and should therefore be remunerated as such.

Lastly, it would be advisable to expand rationally student hostels, restaurants and common services (social, recreational, and cultural, etc.). For through such facilities, social-cultural handicaps tend to disappear and individual financial assistance proves least costly and most effective. These consequences are more decisive in the case of higher education than in secondary education. It is worth while, as in the case of adults, to supplement study grants by the right to borrow on favourable terms. In any case, academic achievement exceeding the average should assure the waiving of repayment of such loans.

Organization of higher education establishments (especially universities). The management of these establishments should be neither entirely in the hands of the government, nor of governing councils composed of eminent persons and professors, nor yet of appointed or elected chancellors or rectors. A meaningful democratization of education, in forms appropriate to the conditions in each country, should ensure student participation in management, not only of those departments of material concern to them, but also of the establishment itself [2]. The technical problem of methods and procedures is, of course, very complicated and inevitably gives rise to serious difficulties.

This matter is particularly worthy of attention. As the less-favoured social categories increasingly gain access to higher education and as students in general tend to seek involvement in issues relevant to their situation, subsequent pressures will operate in the direction of a greater democratization of education and a greater comprehension of student problems — problems all the more acute when the young people happen to be of lower social origin.

Another consequence of student participation will be a better adaptation of the university cultural community to the reception and assimilation of young people of social classes which have recently gained access to higher education, or of foreign students.

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[1] 'Candidates' in arts and sciences, in particular, could be appointed as 'instructors' in secondary schools, with the task of aiding teachers and reinforcing leadership for the pupils.

[2] In the U.S.S.R., for instance, students take part in the management of higher education establishments, in the faculty committees for the grant of fellowships and in guidance,

Movement of students between higher educational establishments in Europe. Greater mobility among the universities and colleges in Europe can have none but beneficial effects in correcting socio-cultural handicaps. 'Travel broadens the mind.' Such movement should be encouraged, without losing sight of the fact that these exchanges often take place at present under 'cultural agreements'. [1]

Orientation and guidance, creation of an environment suitable for students, and yield of studies. Choice of studies and guidance have an important part to play from the moment of entry into higher education. During study, guidance should become a preponderent factor in student progress through his university work, in his own life and in his prospects of the future. Counsel would, of course, be based on an awareness of individual problems, not of imperative pressures. Higher education establishments would therefore be provided with a 'guidance centre'. In the universities, such centres would normally be offshoots of institutes of psychology and psychiatric clinics; at this level, the guidance centres — deontologically autonomous — would also be scientific research centres, connected with the other centres of psychology, sociology and pedagogy.

An essential compensating factor for students of modest background, bereft of family assistance in organizing their work and handicapped by cultural gaps prejudicial to their studies, would consist of adequate pedagogical leadership. The teacher should be generously assisted in proportion to the number of their students. This 'technical' condition would encourage improvement in the yield of studies. This particular factor, moreover, raises a serious problem, particularly in universities where too many students fail examinations or do not complete the course. There is no doubt that leadership and guidance would substantially improve the situation, although the examination systems should also be called in question, Docimology at university level should be the subject of systematic research. Basically, the evaluation of the advantages of examinations spread over the scholastic year or concentrated in one session of written or oral examinations, of cumulative 'credits' or of a required pass in all branches, during a single session — these evaluations have not been thoroughly made. In this matter, empiricism and prejudice prevail. Relevant research and exchanges of experience should be organized.

Evening course sand correspondence courses. Only recently has the value of these forms of education at the higher level been admitted. The principles applied in the U.S.S.R. outlined above concerning secondary education [2] are also applicable in this context.

Admission to these forms of education should be subject solely to a suitable verification of the levels of ability and knowledge required.

While adults, of chief concern in this connexion, lack the advantage of the training afforded in an institution of higher education and especially of university life, they bring to their studies the valuable experience gained in their own field of economic activity. In fact, it is undesirable that all leaders of society should be trained in exactly the same way. Some curricula, of course, call for practical work, for attendance in laboratories and hospitals, for standard courses of instruction. The educational system should provide for this instructional programme through the organization of 'evening sessions' and the introduction of 'holiday studies'.

In addition, the most brilliant students taking evening courses and correspondence courses should be admitted to full-time study and should receive adequate financial grants for that purpose.

Again, the solution of this type of problem is easier under a system of planned economy, although its implementation would not be impossible in a market economy.

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[1] The international circulation of students is also a factor of mutual understanding and of a more efficient use of the most valuable educational centres in all fields.

[2] In the case of higher education in the U.S.S.R., the additional holidays may, for the whole period of study, amount to a total of about a year.

3

Access to higher education in relation to the present and foreseeable requirements of the development of the community[1]

Introduction

This study will discuss the planning and organizing of access to higher education in order to meet the requirements of the development of the community. Emphasis will be placed on the manner in which policy measures taken with regard to access to higher education might increase the contribution of institutions of higher education to the present and foreseeable development of the community. It is clear, then, that the pivotal point in such a policy discussion will be the relationship between higher education and socio-economic growth.

While it is evident that considerations of educational policy in an economic context must be of a distinctly pragmatic nature, there remains nevertheless the need for a brief theoretical clarification of terminology — the frame of reference within which such terms as 'access to higher education' and 'development of the community' will be discussed.

The term 'development' is widely used in various United Nations documents and in relevant literature. Within the context of the present study, the pertinent terminology and distinctions used in the Unesco publication, *Economic and Social Aspects of Educational Planning*, may be utilized: 'In a narrow sense, economic development plans aim at raising national income per head and developing productive capacity. In the wider sense, their task is to raise levels of living, which is a more complex matter. Social development plans in the narrow sense are those which make State or corporate provision for the essential living levels of people with insufficient incomes. In a wider sense they include ways of creating those social structures, value systems and incentives which favour economic and social progress. In a still wider sense they carry out the aims and needs of society as a whole and we arrive at the concept of over-all development. The United Nations Statistical Commission has suggested nine major components of a satisfactory index of levels of living: health; food consumption and nutrition; education; employment and conditions of work; housing; social security; clothing; recreation; human freedoms. The last two are difficult or perhaps impossible to measure. Development also means the widening of the effective area of choice open to individuals and to societies as to how they spend their daily lives; and the pursuit of moral objectives; and the promotion of various types of culture, as distinct from recreation, are also development ends.[2]

It is clear, then, that the widening of the notion of economic development leads of necessity to the social and cultural realms. Any discussion of the 'collective aspects' of development — GNP increase, organization, growth of national economy — must eventually include the necessary development of the institutional facilities of social organization to meet the needs of the individual, to better utilize his abilities and potentialities, and, equally as important, to increase his possibilities of cultural enrichment.

In the quest of a working definition of *community*, the term 'society', taken in its most global sense as the composite of all social strata and classes of the population, is a useful synonym. From this perspective, an analysis of the development of the community will of necessity include efforts to raise the standard of living, to improve institutional organi-

[1] This comparative paper was prepared at the request of the Director-General of Unesco by Professor Jan Szczepanski, former rector of the University of Lodz. It was presented to the conference as document Unesco (Mineurop) 5.

[2] Unesco, *Economic and Social Aspects of Educational Planning*, Paris, 1964, p. 17

zation, to enrich the gamut of employment possibilities, to enlarge participation in cultural activities, etc., for all sectors of the population. When the notion of development is annexed to this term, a clear distinction must then be made between the idea of community development as incorporated in the literature dealing with developing nations, and the term as placed in a European context. The Report of the Secretary-General of the United Nations in 1962, outlining the proposals for action in the United Nations Development Decade, situated community development as a rural or local action, including the key element of land reform. This study, by contrast, is concerned with problems of development in the context of national societies. More specifically, in discussing the necessary requirements for the development of the community, or society, the focus is to be placed on the relation of education — those requirements dependent upon the general school system, upon the structures of higher education, etc. — to the development process, quite apart from specific economic considerations (capital resources, etc.).

These requirements may be grouped in six general categories. First, the requirement of *technological progress*, which in developing countries is synonymous with industrialization, and which in more developed countries involves modernization, automation, etc. Such technological advancement as may precipitate increased industrialization or automation and a rising index of the GNP *per capita*, has also undesirable consequences: social disorganization, family disruptions, health problems, etc. It is important, therefore, to remember that the role of higher education, in filling the requirements of technological progress, must provide trained manpower to service both the positive and negative consequences of that process.

The second requirement for community development is the *existence of a network of scientific and research institutions* providing the necessary basis for modernization and for technological and organizational growth. As a necessary complement, research facilities must be available which deal with the social consequences of technological advancement (medical research institutes, social science institutions, etc.). It is important to insist here that these institutions be integrated with and complemented by research organisms within institutions of higher education themselves. By training students in scientific methods of research and in problem-solving in a vocational context, universities may extend themselves beyond the teaching function in its narrow sense to a role which specifically deals with contemporary scientific and technological civilization.

Thirdly, development necessitates a *highly qualified, high-level manpower force*. Under the title 'High-level human resources', Myers includes the following occupational categories:

1. Entrepreneurial, managerial, and administrative personnel in private firms, public enterprises, government agencies, and educational institutions.
2. Professionals such as scientists, engineers, doctors, agricultural specialists and economists.
3. Qualified teachers, with a minimum of twelve years of education.
4. Sub-professionals of all kinds, such as agricultural assistants, nurses, technicians, supervisors, skilled manual and clerical workers.
5. Top-ranking political leaders, labour leaders, judges, and officers of police and armed forces[1].

Development of the community further requires the *existence of a set of social and political institutions concerned with the distribution of goods and income and with the modern organization of labour and productivity*.

By the same token, such development requires a *certain educational and cultural level of the entire population*. At this threshold it would be possible for every citizen to benefit from the regards of a highly organized economy which, in its social structure, would permit the necessary individual motivations and aspirations.

The final requisite to development of the community is *the existence of institutions of planning* — either governmental or non-governmental — *concerned with economic, social and cultural* development. Such institutions might be incorporated into the centralized system of socialist countries or integrated into a more indirect planning network of private companies, as in several countries of Western Europe.

In dealing with social development as it responds to particular requirements, it is necessary to study just how these requirements are envisaged. By what devices is technological progress to be measured and its growth furthered, given the fact that these goals are to be defined in social terms? How does one determine a significant relationship between the activities of institutions of higher education and the ratio of technological advancement? It would seem that only a general answer is possible: by widen-

[1] C. A. Myers, *Human Resources and World Economic Development: Frontiers for Research and Action*, Geneva, International Institute for Labour Studies, Reprint No. 8, 1967. Myers' distribution may be unacceptable in several European countries, as for example in nations in which 'intellectuals' are distinguished from 'professionals' or scientists placed in a different category from 'professionals'. It is also debatable whether 'top-ranking political leaders' are highly qualified manpower in the sense of having received instruction in political leadership at institutions of higher education. Further, the category of 'sub-professionals' is difficult to assess in educational terms and may not correspond to the definitions of this study whereby recipients of higher education are categorized as highly qualified manpower.

ing the scope of research in institutions of higher education, by enlarging teaching facilities, by extending the curricula in line with technological development will an effective contribution be made on the part of higher education.

Similarly, once having placed the notion of 'requirements' in a working context, one must immediately distinguish between *present* and *foreseeable*. For example, it has been stated that an essential requirement for community development is the existence of a network of scientific and research institutions. While one may determine the present requirements for such a group of organs, it is difficult to forecast future needs in terms of research institutions, given the rapid developments and sudden transformations in the scientific field. Or again, an estimate of present requirements of highly qualified manpower by economic or social branch can be relatively exact; but the forecast of the necessary number of highly qualified personnel in ten to twenty years can be carried out only within strict limits of probability. A slight change in technology, in organizational structures, in political life, etc., may significantly alter manpower requirements. Even in those countries operating under an integrally planned economy and in which manpower forecasts are taken from long-range development programmes, the economic plan may have to be modified as a result of a specific international political situation or economic agreement, thereby altering the requirements for highly qualified personnel.

By the same token, it is difficult to foresee the specific type of social, political and economic institutions necessary to assure a given ratio of social development. The same is true for forecasts of a desired level of education for the entire population. It must be borne in mind, when considering the contribution of higher education in meeting requirements of social development, that these foreseeable requirements are hypotheses based on more or less precise methods of estimation, and that their value is always relative. Policy-makers and educational administrators should be aware of all the variables when trying to harmonize programmes of higher education with forecasted requirements of social and economic development.

In this context, it is important to mention some general considerations in line with the contribution of higher education in meeting several requirements for development. The 'functions' filled by higher education in the over-all development scheme may be divided into two categories: the anticipated tasks *(fonctions idéales)*, foreseen and desired by public or private bodies organizing institutions of higher education, and the empirical consequences *(fonctions réelles)* of the training carried out in institutions of higher education and of scientific research — consequences which may be measured in economic terms of *rendement*. More precisely, the 'ideal function' is to be understood as the collection of those aims or objectives defined in laws, constitutions or statutes, and which define the purposes of activities undertaken in institutions of higher education, the forms and the scope of teaching, time and length of studies, etc. The actual conception of this function derives from the determination of certain social and individual needs to be satisfied by institutions of higher education, and from the knowledge of the relations between the collection of means and methods employed in the university (methods of teaching, time of study, breadth of curriculum) and the desired acquisition of those methods on the part of students and graduates. The ideal conception also postulates an effective causal relationship between the capacities gained by students during their university training and their influence as graduates on the economic, political, social and cultural development of the society.

Since all these conditions are never fully realized, the 'real' consequences of these ideal formulations *(fonctions idéales)* are always modifications, involving a series of unexpected reactions, procedures and effects. The entirety of these phenomena, both the anticipated and unanticipated consequences resulting from the satisfaction of individual and social needs by the actions of institutions of higher education, by the teaching and student bodies and by the graduates, may be termed the real function *(fonction réelle)* of higher education. If this distinction between anticipated and 'real' results seems overelaborate, it is none the less crucial. For in their estimations of the contributions to be made by higher education in meeting the requirements of the developing society, policy-makers are inclined to commit the serious error of working with these 'anticipated functions' and assuming them to be 'real functions'. Given a substantial divergence between the two, the results can be damaging. For the purposes of this study, therefore, any discussion of the influence of higher education on social and economic development will not revolve around the aspirations of statutes and charters, but rather around the specific results of the scientific analyses of that influence and of its actual contribution to development.

What form should the contribution of higher education take? Aside from the 'services' rendered to individuals in their demands for personal development the most important functions filled by its institutions would be the following: (a) conduct of research in all branches of science; (b) education of highly qualified manpower (including teachers); (c) education of social leaders and a future intellectual élite; (d) creation of cultural milieux in local communities, with the university as the focal point.

Closer consideration should be given to the first two functions. The importance of scientific research for development purposes is manifest. True, in several

European countries institutions of higher education are supposed to concentrate on basic research, leaving the field of applied research to industrial laboratories or other more specialized research institutions. But such is not always the case, and strong arguments exist for the erasure of this distinction and the implications which it entails for higher education. In any case, it must be borne in mind that institutions of higher education supply the personnel for extra-university research centres and are thereby significantly involved in determining the scientific level of such research. University graduates, employed in industry, agriculture, health services, social work, teaching, etc., will also have been trained for practical research activities. It is obvious that the level of research carried out in institutions of higher education is an important indication of the level of all research work done in a given country. [1]

The importance of the second educational function, the training of highly qualified manpower, is self-evident. The precise measurement of the influence of that training, however, is difficult to determine in terms of economic growth and social development. To cite a relevant example, Myers has carried out research resulting in the establishment of a correlation coefficient between the amount of highly qualified manpower in various countries and the rise of GNP per head: 'We found a correlation coefficient of 0.888 between the composite index of human resource development and GNP per head, and a negative coefficient (—0.835) between the composite index and the percentage of the active population engaged in agriculture. For such measures as were available of stocks of high-level manpower, there were correlation coefficients with GNP per head of teachers (0.755), physicians and dentists (0.700), and engineers and scientists (0.833).'[2]

Of course, it should be pointed out — and Myers is quick to do so — that such data do not necessarily prove causal relationships:

They do not show that an increase of x per cent in the enrolment ratios in second- and third-level education (the composite index) will lead to or bring about an increase of y per cent in GNP per head.'[3]

It can also be argued that successful businessmen and executive personnel do not necessarily require diplomas of higher education. In the study of France in Frank Bowles' *Access to Higher Education*, the 1954 census revealed that those holders of responsible posts who received their training several decades ago include only a small proportion of university graduates. 'Among those in senior positions, who number about 250,000, 6 per cent have no diploma at all, 30 per cent have the primary certificate, and only 30 per cent have a higher education diploma. Of those in intermediate posts, 10 per cent have no diploma at all and only 10 per cent have the *baccalauréat*. Of the 77,000 businessmen included in the census, 70 per cent have no diploma at all — except, in some cases, the primary certificate; 10 per cent went on to a higher education. [4]

Nevertheless, since the pioneering work of S. Strumilin in the U.S.S.R. in 1924 and his attempt to find exact measures of correlation between the growth of the educational level of manpower and the rise of labour productivity (and, as a consequence, of the level of GNP per head) the recent investigations of economists are rather convincing. [5] In any case, the indispensable role of highly qualified manpower in social and economic development has been proven conclusively enough to warrant the secure or perhaps superior ranking given to higher education in its use of national resources and capital. To be sure, the significance of its contribution to development is dependent on the scope of investment in higher education. A poorly equipped institution of higher education will not be able to supply the necessary number of qualified graduates, or to conduct research activities commensurate with recent scientific and technological advances. The amount of 'feed-back' (effective contribution to social and economic growth) is directly related to the amount 'fed in'.

It is also necessary to emphasize the importance of the remaining functions filled by institutions of higher education in social development. In treating the formation of social and political leaders, however, it must be pointed out that higher education trains experts rather than leaders — an indispensable condition of social development. Here again, the actual measurement of the effectiveness of this formation is extremely difficult, as witnessed in the cases of newly independent nations, in which the intellectuals holding diplomas of higher education supply the necessary cadres. In all societies using a 'planned economy', it is rather a complex combination of the knowledge, insight and power of imagination on the part of the national leaders which determines the eventual quality of the plans. It must be taken into consideration that in all spheres of social life the graduates of higher education must solve complex problems involving not only technical or 'material' manipulations and impersonal organizational factors,

[1] It is also worth noting that the existence in several European countries of a network of research centres (the research institutes of academies of sciences in socialist countries or such Western European institutes as the CNRS in France) creates problems of co-ordination and division of labour in devising a non-university research programme.

[2] C. A. Myers, op. cit., p. 437—38.

[3] Myers, op. cit., p. 438.

[4] F. Bowles, *Access to Higher Education*, Paris, Unesco IAU, 1964, Vol. II, p. 115.

[5] See S. Strumilin, 'The economics of education in the U.S.S.R.' ,in *Economic and Social Aspects of Educational Planning*, op. cit., Chapter III. Also Gary S. Becker, *Human Capital*, New York, National Bureau of Economic Research, 1964; F. Harbison and C.A. Myers, *Education, Manpower and Economic Growth*, New York, McGraw-Hill, 1964.

but also 'human' factors. It is important, then, that their educational training provide such a foundation of knowledge in the humanities and social sciences as will enable the understanding of the basic human needs and the fundamental mechanisms of group life. And it is here that the significance of any policy organizing the access to higher education must be firmly based: on the necessary guarantee that those young students entering into institutions of higher education possess the necessary combination of qualities, or rather capabilities, which will render them the best possible candidates for the fulfilment of the type of long-range objectives which have been designed in a particular society.

By placing the emphasis on the notion of 'access' or in other words, on the provision of possibilities to enter institutions of higher education, there is the danger of overlooking the less positive but more realistic counterpart to this notion: the admissions process. Attempts to expand the channels of access to higher education must always be measured against the purposeful and necessarily restrictive process of selection carried out directly in the schools and indirectly through economic and social barriers. To cite Bowles: 'The admissions process may be defined as the series of selections to which students are subjected by their country's educational system through the entire period in which they mature to the age of entrance to higher education... the process may be seen as commencing at that point in educational systems where students are first directed towards higher education, and ending at the point of entry to higher education.' [1]

As Bowles explains, the process begins to function as early as at the level of the primary school and eliminates, at each successive stage, a greater percentage of students until, at the terminal stage of secondary education, only a small percentage are allowed 'access' to higher education. It is essential at this point to note the many factors at play during the admissions process: the influence of the family, local community, of class and strata distinctions, of teachers and colleagues and, finally, of the abilities and motivations of the pupils themselves.

It must also be borne in mind that any planned or structured procedures for the selection of a percentage of candidates from an entire age group is, in fact, a relatively recent phenomenon. Generally speaking, until the beginning of this century, the admissions 'process' was a spontaneous interaction of economic, social and cultural forces, with privileges of birth, economic position and of urban habitation playing the major role in the attainment of admission to institutions of higher education. To be sure, in the course of these 800 years of European university experience there resulted certain mechanisms of adjustment to this spontaneous play of forces, in such a way that the free interaction of individual striving and social and economic factors came to give satisfactory procedures of placing the appropriate candidates in universities and, later, in professions for which they were suited. Yet, at present, it is now generally accepted that in an organized, industrialized mass society the rapid changes in technology, the organization of economic processes, etc., render such a spontaneous adjustment insufficient and inefficient. So that some form of planning device in the process of admission to higher education now exists in every European country; and, of greater importance to this particular study, there is within this planning process [2] an increasing effort to derive a structured policy or set or measures designed to select for admission to institutions of higher education the precise number of the most capable and suitable candidates required for social and economic development.

Types and Methods of Educational Planning

Historically speaking, in European countries the formulation of general theories of economic and social development was followed by the further formulation of a more specific policy of development. Next in the chain-reaction, there resulted policies of educational planning, within which the selective admission process to higher education finds its place. Such a progression would seem to indicate that at the point of planning the entry into higher education the following planning operations will already have been formulated: (a) the forecast of future economic and social needs and of the measures necessary to fill those needs; (b) the distribution of highly qualified manpower for all sectors of the economy; (c) the estimate of enrolment figures for specific institutions of higher education; and (d) the designation of the particular 'qualities' expected from graduates, that is to say, their scope of knowledge and abilities, their technical skill, their attitudes and motivations.

[1] Bowles, op. cit., Vol. I, p. 61.

[2] This sort of 'planning' function, of which mention has already been made, may necessitate a brief clarification. Placed in a functional frame of reference, one may define 'planning' as the process of preparing a set of decisions for future action directed at the achievement of specific goals'. Cited in H. S. Parnes, *Manpower Forecasting in Educational Planning*, Paris, OECD, 1967, p. 15.

A more detailed analysis of the types and methods of educational planning in European countries reveals two general categories: the type of economic and social planning — along with the necessary implications for educational planning — practised in Eastern European countries, and of which the best example may be found in the Soviet Union and, on the other hand, the methods of planning carried out in OECD member countries which, although more varied than those of the socialist pattern, have characteristics in common to all.

In the Soviet Union, the process of training specialists is an integral part of economic planning. Already at the secondary-school level a detailed educational plan is provided and organized in accordance with the different branches of the economy. The process is so continued at the higher educational level, each field of specialization in a given branch of industry being provided for in corresponding sections within the secondary-school system and in specialized faculties at institutions of higher education. [1]

Using this method, educational planners are able to provide exact numbers for enrolment and distribution of students to institutions at the secondary and higher education levels, in accordance with predetermined manpower requirements. Nozhko describes the process in greater detail: 'Data on the long-term demand for specialists in all subjects taught at higher and secondary specialized institutions are drawn up by all enterprises and offices, ministries, departments and regional economic councils *(sovnarkhoz)* on the basis of lists of specialized positions to be filled, plans for the development of various branches of the economy, statistics on the availability of skilled personnel and others. The information is set out in standardized form and submitted to higher management agencies, the Gosplan of the Republic concerned and the appropriate ministry or department of the U.S.S.R. where it is analysed and summarized and communicated to the State Scientific Economic Council, the Gosplan of the U.S.S.R. and the U.S.S.R. Ministry of Higher and Secondary Specialized Education. Estimates of the long-term demand for specialists are of immense importance for the national economy since they provide data not only on the demand throughout the country as a whole but also in each economic region and Union Republic and thus contribute greatly to improving the planning of specialized training and the geographical distribution of educational establishments, faculties and departments. [2]

As can be seen from the above description, the starting point for this type of educational planning is the assessment of the needs for highly qualified manpower as conceived in economic plans and formulated by institutions of economic planning. The forecasting of educational needs is carried out entirely in terms of economic and social development. The requirements for graduates in humanistic and cultural fields and in 'service' sectors are also established by various planning institutions. Nozhko goes on to analyse the particular methods and formulae used to determine enrolment numbers in this 'manpower approach' to educational planning. [3]

The methodology of educational planning in Western European countries follows a different pattern. It must be stressed at the outset that the very idea of educational planning has permeated more slowly into policy-making centres of market economy countries, and is, in fact, often considered as incompatible both with the principles of that economy and with the dominant code of 'right to education'. To give a pertinent illustration, the practice of *numerus clausus*, a necessary element in integrated educational plans, is regarded in many countries as unconstitutional. As a result, the development of educational planning in Western Europe has followed a more indirect method of implementation. To follow its functioning from its earlier and less exacting stages, one might examine the major objectives established in 1958 by the OEEC: 'Alerting official and public opinion to the urgent need for increased technical manpower; defining the relationship between investment in education and economic growth; obtaining more accurate data on current and future manpower needs; facilitating exchange of scientific, technical and educational personnel; increasing the effectiveness of science and mathematics teaching; providing special assistance for those countries in the process of developing their basic educational systems as a foundation for higher scientific and technical training.' [4]

In the years immediately following, educational planning became both a world-wide tendency and a more precise device, as may be judged by examining the replies to a questionnaire sent in 1962 by the International Bureau of Education to the Ministries of Education of seventy-five countries, including the OECD member States. The following conclusions were drawn from a study of the responses: 'Provi-

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[1] For a detailed breakdown of groups of specializations at the secondary and higher educational level, see K.G. Nozhko, *Methods of Estimating the Demand for Specialists and of Planning Specialized Training within the U.S.S.R.*, Paris, Unesco, 1964, appendixes 2 and 3.

[2] Nozhko, op. cit., p. 10. As stated above, educational planning in other Eastern European countries is similar, as can be judged from the following relevant publications: J. Timar, *Interrelation between Manpower Needs and Planning the Development of the Educational System*, Budapest, Periodica Polytechnica, 1963; Jan Auerhan, *Methods of Determining the Future Demands on the Development of the Educational System*, Prague, Czechoslovak Academy of Science, 1965; *Perspektivplanung der Arbeitskräfte*, Berlin (East Germany), 1966.

[3] Nozhko, op. cit., p. 28—9.

[4] Organization for European Economic Co-operation, *Forecasting Manpower Needs for the Age of Science*, Paris, 1960, p. 4.

sion for the organized general planning of education is made in only 40 per cent of the countries which sent replies for the inquiry, but there is a tendency everywhere to lay down long-term development programmes for economic and social life and in these programmes education plays an important role. Where no provision is made for general or integral educational planning in the strict sense, there are nearly always plans covering a more or less long period for providing the material conditions necessary to educational development (plans for school building, the recruitment of teachers, the allocation of increased funds to education.' [1]

The practices of forecasting educational needs and planning the means necessary to meet these needs have gained ground very quickly throughout Western Europe. Still more precise and comprehensive methods have been forthcoming. In 1961, OECD called a Policy Conference on Economic Growth and Investment in Europe in 1970. Among the published results of this conference, one finds the following statement: 'Whatever the economic system, it is now universally accepted that governments must direct their economic activities towards the welfare of society as a whole. The aims may be expressed in somewhat different ways in different countries, or by different political parties within any one country; but that does not affect the validity of the general statement. The aims are likely to be formulated in terms of distribution of income, of the level of employment, or of general economic progress. What is now being increasingly realized is that educational policy can make a major contribution to the general well-being of society; that it is, in fact, one of the most important instruments of economic policy. It may be used as a complement or as an alternative to other instruments of policy; but in both cases its role is a major one. [2]

In general, the approach to the forecasting and assessment of educational needs is a less unified process in market economy countries than in socialist countries. The various types of Western European planning methodology may be broken down into three major groups: (a) the socio-cultural demand approach; (b) the manpower approach; (c) other methods, particularly the returns-to-education approach and the economic model approach.

The socio-cultural demand approach. 'The essence of this approach to educational planning is that access to all levels of education should be available for those who are qualified by ability and attainment to benefit from them, and who wish to do so.' [3] The task of forecasting consists in the determination of the number of candidates who, in a specific time period, will be seeking admission to various types of schools. The task of planning consists then in the provision of the necessary places, teaching personnel, buildings and equipment. This form of planning, used frequently in Western European countries, is allied to the "manpower approach' in that the element of social demand is conditioned by the prospects of the labour market. As Parnes writes, 'thus planning to meet "social demand" does not relieve the planner of the necessity of making estimates of future manpower requirements.' [4]

The manpower approach 'takes at its starting point the belief that one of the most important functions of the educational system is to provide the economy with the "right" amount of different types and levels of education and professional qualifications. [5] A relevant example of this approach is to be found in the OECD Mediterranean Regional Project, designed to assess educational needs in Greece, Italy, Portugal, Spain, Turkey and Yugoslavia in the light of long-term targets for economic and social develop-

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[1] *Educational Planning. Twenty-fifth International Conference on Public Education, Geneva, 1962*, Unesco /International Bureau of Education, 1962, p. V.

[2] OECD, Policy Conference on Economic Growth and Investment in Education, *Targets for Education in Europe in 1970*, 1962, p. 21.

[3] *Handbook of Statistical Needs for Educational Investment Planning*, Paris, OECD, 1966, p. 12. See also Parnes, *Forecasting Educational Needs for Economic and Social Development, p. 63-7.*

[4] Parnes. *Manpower Forecasting*, op. cit., p. 10.

[5] *Handbook of Statistical Needs*, op. cit., p. 8. The term 'manpower approach' as used in the Parnes text, *Forecasting Educational Needs*, is described in greater detail in *Manpower Forecasting in Educational Planning.* For a more abbreviated explanation of the method, a citation from the *Handbook of Statistical Needs* may be useful: 'Since the logic of the manpower requirements approach is linking of the targets of the educational system to those of the economic system, the starting point consists of estimating the total output of the economy, usually GDP. The second step is to divide the estimate of total output among economic sectors, to provide estimates of sectoral output. Then estimates of inverse labour productivity in each sector are required, and when multiplied by sectoral output the result is an estimate of the number employed in each sector. Next, estimates of the future occupational pattern in each sector must be made and, when applied to the estimates of sectoral labour force, an estimate of the number in each occupation in each sector is formed. The estimates for each occupation in each sector are then added together for all the sectors to get an estimate of the total number in each occupation in the total labour force for the target year. To convert the estimate of the target occupational structure into an estimate of the target educational stock in the labour force, estimates of the education associated with each occupation in the target year are required. The total of these educational requirements for all occupations provides the estimate of the stock of education in the labour force required in the target year. If the number of those in the labour force in the basic year (start of plan period) who survive until the target year is subtracted from this estimate in each educational category, an estimate of the increment of manpower stock by education category is obtained. This is linked to total graduate flow from base to target year by applying graduate labour force participation rates (in inverse) by educational category' (p. 47—8).

ment.[1] The evaluation of the results of this project, published in a series of national monographs, gives an insight into the possibilities and limitations of this planning method, both for implementation in this particular region and in market economy countries in general.[2]

Other methods have been designed by economists in order to ascertain whether the planning procedures for investment in education are in fact the most appropriate. Parnes provides a brief description of the 'returns-to-education' approach, as well as of current methods of expressing 'in terms of mathematical models the relationship between target rates of economic growth and educational requirement.'[3]

At this point arises the very important — and controversial — questions of the 'quality' or 'excellence' of graduates. Clearly, not all forms of education can be inserted into programmes of social development. Moreover, the history of European education contains chapters in which the predominant educational influence was one of great conservatism, not to say stagnation. As Belough has pointed out, under certain conditions education might also impede the process of economic growth.[4] Although such is not presently the case in European education, the qualitative factor — and the problems to which it gives rise — are important considerations in any discussion of manpower provision. In educational terms, appraisals of quality might be made in terms of the content of teaching, length and distribution of schooling, pupil-teacher ratio, etc. From the viewpoint of socio-economic development, the most important task of the educational system is to provide not only the required numbers of graduates for all sectors of economic and social activity, but also to provide graduates possessing the required knowledge, technical skills, motivation and understanding of social realities. In this context, the measurement of 'quality' is altered, so that a qualitative appraisal is to be made in terms of examination results (testing the acquisition of knowledge) or in the acquired ability to apply technical skills to the solution of practical problems, or else in terms of social behaviour — or through all these criteria together.

Particular stress is placed in the course of this report on the qualitative aspect of educational planning, particularly in the admissions process. In the quest for superior candidates to higher education, several non-academic criteria are to be considered, as, for example, the capability to gain a diploma in a prescribed length of time or, more important, the ability to fill the necessary requirements of social development. For such development is not assured by good students but rather by good graduates, and, as a corollary, the measure of the 'quality' of higher education is to be judged by the quality of its graduates. In planning and supervising the access to higher education, then, certain qualitative 'control mechanisms' must be designed, either in the school system itself or in the professional ethics of the teaching staff at all levels, in order to provide a level of instruction guaranteeing provision of the best possible candidates for and graduates of institutions of higher education.

In general, both systems of planning — the Eastern as well as the Westerns European — independently of the difference in their theoretical foundations and political functions, do not deal sufficiently with the qualitative aspect of training the manpower force. From all statistical prognostications, no matter how exact, are derived only the enrolment figures for the faculties, departments or section of institutions of higher education. From an economic standpoint, the 'educational output' cannot be very well defined, much less measured[5]. The necessary considerations of quality, that is to say the level of excellence of the graduates entering upon professional activities, are far more crucial than quantitative consid-

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[1] The specific objectives of this project were the following:

(a) Estimate for the fifteen-year period 1960 to 1975 the 'required' number of graduates each year from the various levels of the educational system. For levels beyond the primary, these numbers must be broken down by broad subject-matter area—at least into graduates of scientific and technical curricula and those of all other curricula, since the content as well as the costs of these two broad divisions of the educational system differ considerably.

(b) Estimate, in the light of (a), the numbers of teachers required in the several levels of the educational system. As in the case of students, teachers of pure and applied sciences at levels beyond the primary must be differentiated from all others.

(c) Estimate, in the light of (a), the number of additional classrooms laboratories, school buildings, and the amount of equipment required, and plan the optimum geographical distribution of such educational facilities in the light of anticipated population distribution and the distribution of existing facilities.

(d) Assess the qualitative adequacy of existing educational programmes and make recommendations for needed improvements, including teaching methods and curriculum organization.

(e) Assess the need for new or expanded educational and training programmes outside of the traditional educational structure, such as adult education programmes, apprenticeship-training programmes, on-the-job training, etc.

(f) Estimate the total capital and current costs of the expansion and improvement in education implied by the results of (b)—(e).

(g) Establish a 'time-table' for achieving the required expansion and improvements over the fifteen-year period and prepare annual budgets showing total required educational expenditures in absolute figures and as percentages of gross national product (p. 10—11).

[2] Cf. R. G. Hollister, *Technical Evaluation of the Mediterranean Regional Project*, Paris, OECD, 1966

[3] *Manpower Forecasting in Educational Planning*, op. cit., p. 26—30.

[4] T. Belough, 'The economics of educational planning: sense and nonsense', in *Problems and Strategies of Educational Planning in Latin America*, Paris, Unesco, 1964.

[5] OECD, *Handbook of Statistical Needs*... op. cit., p. 29.

erations in filling the requirements of development of the society. As Parnes states, 'These qualitative aspects of the problem are extremely important, and it is difficult to see how intelligent educational planning can be executed without taking them into consideration... From the manpower viewpoint, it is particularly important to evaluate curricula in terms of their adequacy in preparing students for effective performance of their future functions.' [1]

And, in a related study, Parnes states one of the basic axioms of educational planning: 'Educational needs cannot be ascertained in quantitative terms alone. Irrespective of the objectives, it is meaningless to attempt to analyse their educational requirements solely in terms of the number of years of education they imply without considering both the content of the education and the methods by which and circumstances in which it is imparted. This is so for two reasons. In the first place, the real inputs, and consequently the financial costs, obviously depend upon such factors as classroom-pupil ratios, teacher-pupil ratios, level of teacher preparation, amount and quality of laboratory equipment, libraries, teaching aids, etc. But secondly and even more important, the desired "output" of the system is not merely a certain number of bodies who have spent various periods of time in schools, but numbers of persons with specified attitudes and levels and kinds of skills and knowledge. Whatever the goal for which the educational requirements are being assessed, it is almost certain that education can either promote *or* inhibit its attainment, depending on the character and the quality of the education.'[2]

The organization of access to higher education

Educational planning necessitates a definite educational policy. The first task is designed for the economists and planners: the more or less precise establishment of plans of economic and social development, and more particularly of the number of graduates required for the realization of the major plan. At this point it is the responsibility of the educationalist to analyse the prospective graduates in terms of these requirements of planned development, that is to say, to determine the appropriate and effective range of knowledge, social attitudes, value systems and aspirations to be possessed by those who will be carrying out a particular development programme. Given the assumption that such qualities have been established as necessary, that the appropriate curricula have been designed and that effective pedagogical methods of inculcating relevant motivations and co-operative attitudes have been found, and that some mechanism guaranteeing a statisfactory level of instruction has been built in, the task of the educational policy-maker in the organization of the access to higher education has only begun. There remains the most important undertaking, the foundation of the planning edifice which consists in the process of selection of the most suitable candidates for higher education. It is here, in the admissions process itself, that the criterion of quality is paramount.

In confronting this task, educational policy-makers and administrators are faced with questions not only of an organizational but also of an economic, sociological and psychological nature. The organizational problems exist in the framework of the school system, and are particularly relevant to this study in their connexion with the 'access route' to higher education. Not only must higher educational administrators secure the guarantee of a sufficiently high level of primary — and secondary — school instruction, but they must also find ways to control the process of selection taking place in these two cycles, in such a way as to produce a desirable group of candidates for institutions of higher education. Administrators do have at their disposal for such a task certain tools of an economic nature: welfare programmes for pupils of economically weaker strata designed to remove economic, social and geographical barriers from the paths of the more gifted. By preventing the premature isolation of talented pupils in various social environments or classes and in certain vocational categories, welfare administrators also perform a service of a more sociological nature in their effort to recruit the most able youth for higher education. These economic measures, combined with an effective network of primary — and secondary — level instruction, guidance and examination, ensure a functional, 'profitable' process of selection. [3]

In the implementation of their task, educationists and administrators have the following means at their disposal:

1. They may organize the entire school system, from elementary to higher education, in such a way

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[1] *Forecasting Educational Needs for Economic and Social Development*, op. cit., p. 69—70.

[2] *Manpower Forecasting in Educational Planning*, op. cit. p. 23—4.

[3] See introductory address by Dr. C. K. Zurayk, published in the *Report of the Fourth General Conference of the International Association of Universities*, Tokyo 1965), Paris, IAU, p. 114—18.)

as to provide an effective progressive preparation for study in institutions of higher education while at the same time eliminating the various barriers blocking the more gifted pupils.

2. They may organize an efficacious system of educational and vocational guidance.

3. They may devise methods and programmes for the identification, advancement and welfare of talented pupils at an early stage in the educational process.

4. They may restructure all terminal or decisive examinations in the school system, and particularly entrance examinations of a restrictive nature, in such a manner as to ensure the selection of those candidates who will prove to be good students and, more important, of high professional quality.

5. They may organize a system of scholarships, loans and welfare facilities in order to remove economic and geographic obstacles, and direct candidates to the desired fields of studies.

6. In the case of an integrally planned economy, they may devise an attractive salary system to encourage specialization in professions of particular importance to current development policies.

7. They may implement a system of higher level education for employed adults (evening and correspondence courses), in order to encourage the more gifted and strongly motivated individuals to complete or continue their studies.

8. They may organize a network of educational research institutions, to derive future policies and educational plans from the analysis of empirical data, rather than from theoretical and anticipated objectives.

In this context, it is imperative to mention that an adequate investment in buildings, equipment and in staff salaries is a necessary presupposition to all educational planning operations. Although the present discussion treats rather the 'human' aspect in the organization of entry into higher education, it is nevertheless evident that the desirable 'quality of educational output' is also a function of the amount of money spent on the school system.

The organization of the school system

As has been seen, the organization of the school system is of paramount importance in the process of access to higher education. It is necessary, therefore to devote some attention to the changes presently taking place in the school system and to the influence of these changes on the selective process itself.

The term *explosion scolaire* has been coined in France but is a common phenomenon in all European countries. The term denotes not only a radical increase in the numbers of pupils and students of all levels of the educational system, but also a corresponding increase in the numbers and types of schools. While the economic implications are fairly straightforward, the pedagogical consequences — and their relation to the qualitative aspect of access to higher education — are more complex and are of more direct relevance to this study.

It is common knowledge that, since the end of the Second World War, school systems in European countries have been in a process of 'permanent reform', resulting from new political situations, rapid economic growth, scientific and technological revolutions, etc. The manner in which this last phenomenon, the technological advancement throughout Europe, has affected the school system itself is described below under four headings.

The enlargement of vocational training at the secondary and higher educational levels. The figures given in the *Unesco Statistical Yearbook* for 1966 reveal a very rapid growth of enrolment in secondary-level vocational schools between 1950 and 1964. The particular figures for Europe are highly significant and attest to a general effort to increase the output of technically trained manpower in order to meet the needs of rapid technological progress (see Table 1 p. 98).

A 'technization' of all education. Reguzzoni discusses this aspect of current educational reform with reference to E.E.C. Member States:

'However, if we examine development patterns and the reasons given by the various reformers to justify their efforts, there is one guiding principle that emerges: school should provide citizens with a basic education such as will make qualification for a profession possible for everyone.

'This is precisely the new conception of the role of education introduced into educational system of modern society by technological progress'. [1]

A similar pattern may be observed in Eastern Europe, under the rubric 'polytechnization of education'. A more precise description is provided in the Unesco *World Survey of Education:* [2] 'The efforts now being made in the Soviet Union and other Eastern European countries to provide polytechnical education at all levels and to initiate all senior pupils

[1] M. Reguzzoni, *La réforme de l'enseignement dans la communauté économique européenne* Paris, Aubier-Montaigne, p. 381

[2] Volume III, p. 137—38.

Table 1

Changes in enrolment in vocational education at the second level around 1950, 1955, 1960 and 1965

Country	Pupils enrolled			
	1950	1955	1960	1965
Austria	110 471	189 070	210 409	213 791
Belgium	228 160	237 589	339 224	443 766[1]
Bulgaria [2]	50 207	53 432	91 891	174 910
Czechoslovakia	85 197	161 672	231 364	287 325
Denmark	111 734	120 850	145 305	159 336[1]
Finland	28 796	39 500	54 785	75 823
France [3]	242 000	291 652	550 379	743 225[1]
Germany (Fed. Rep.)	1 832 414[4]	2 481 637	1 865 815	2 088 789[5]
Greece	25 358[6]	36 197[7]	53 883	71 917[1]
Hungary [8]	33 462	39 021	47 269	89 689
Ireland	15 617	21 855	31 404	54 072[1]
Italy	518 200	743 063	460 285	764 540
Netherlands	282 124	346 824	487 890	554 647
Norway	46 246	48 106	50 376	65 029
Poland	319 935	364 659	495 696	1 283 404[9]
Romania	196 157	117 569[10]	183 966	250 800
Sweden	95 128	119 963	171 388	216 458[1]
Yugoslavia [11]	66 067	157 863	254 914	406 126

Source: *Unesco Statistical Yearbook for* 1966 table 2.8.

[1] 1964.
[2] Data refer to day, evening and correspondence courses.
[3] Public education only.
[4] Including data on higher engineering schools.
[5] Including West Berlin.
[6] 1951.
[7] 1954
[8] Including part-time education.
[9] Including basic vocational schools for workers (enrolment: 316,953 of which female: 75,499) as well as other evening and correspondence courses.
[10] Including evening and correspondence courses.
[11] Not including apprenticeship schools, schools of practical training and of fine arts.

into the actual process of production, form the most ambitious attempt that has ever been made on a national scale to integrate the verbal and manual elements in the personal development of all pupils and to relate closely the activities of everyday life'. Thus polytechnization, combined with a vocational and technical orientation of education, are designed to facilitate the flexible adaptation of graduates on all educational levels to the ever-changing requirements of technology and to the inevitable vocational reorientation resulting from economic transformations. [1]

The tendency to further specialization of vocational formation. Such a phenomenon results from the effort to adapt the educational system to the organizational and technological progress of industrialized economies; a corps of technicians is formed whose capacities are limited to fairly narrow fields of specialization. In recent years, however, the dangers of such 'overspecialization' have been recognized in European countries, leading to the view that modern technical and organizational developments in industry and in other branches of the economy require a broad vocational background, in order to provide a more rapid adjustment to a wider range of employment requirements. Concurrently, in all European coun-

[1] For further confirmation of this tendency, see the comparative study of ninety-one countries in the *International Yearbook of Education*, Vol. XXVII, 1965, and such concluding remarks as the following excerpt: 'That which characterizes the efforts of the ministries in the field of the structure and organization of education is, undoubtedly, the almost universal effort to adapt the various types of scholastic institute to the exigencies of the modern world and the present and future economic needs of the countries concerned' (p. XXXVI).

tries programmes are being devised which enlarge the selection of general educational subjects (particularly in the humanities and social sciences), within the curricula of vocational schools. In this way the growing specialization of the vocational school system [1] is 'neutralized' by the increased amount of generalized instruction, although the rate of increase of the former is greater than that of the latter in all types of secondary schools, both comprehensive and vocational. The consequences of this over-specialization, as well as of a compensating neutralization, will necessarily be felt on the higher educational level.

The rapidly growing mass of knowledge to be included in primary and secondary school curricula. Such an amount, 'received by a child of the 1960's, is several times larger than twenty years ago'. [2] This phenomenon, partially the result of the scientific revolution mentioned above, has led both to a tendency to longer education and to a growing 'intensification' of instruction, requiring new teaching methods, higher qualifications for staff teachers, new types of educational materials, etc. At present, however, the mass of material to be taught is exceeding the means to deal with it, a factor which threatens to widen the gap between secondary and higher education.

Such tendencies and reforms at the secondary-school level as have been discussed in connexion with vocational education are also important in that they broaden the base of recruitment of candidates for higher education and thereby precipitate the much-discussed process of 'democratization of education'. Cyril James has stated one of the axioms of this process: 'In view of the urgent need of the community for larger numbers of highly trained men and women, it is equally clear that no young man or woman who has the ability and character to benefit from study at the university should be deprived of that opportunity by reason of his family finances, his religion, his social class or the colour of his skin'. [3]

If the democratization of higher education is so defined as the removal of privileges of birth, economic position and place of habitation, the organization of that democratizing process must be aimed at the opening of all avenues leading from the secondary school. For many European countries have provided types of vocational secondary schooling which do not enable access to higher education. [4] In socialist countries, the opening of the passageways to higher education has been one of the first tasks of reform. The same urgency has been felt in Western Europe, as exemplified by the bill passed in 1964 in Belgium, which Reguzzoni paraphrases:

'It has been found advisable to introduce a distinction in the education system between 'certificate' *(certificat)* and 'diploma' *(diplôme)*. The secondary school-leaving certificate will be a sufficient qualification for admission to administrative posts in industry and business; the diploma, on the other hand, is meant to indicate aptitude for university studies.

'The "qualifying diploma" *(diplôme d'aptitude)* is conferred on candidates who pass the matriculation examination *(examen de maturité)* which may be taken by students in possession of the upper secondary school-leaving certificate from an establishment of secondary, teacher-training, technical or art education. This certificate can also be awarded by a special examining board. The qualifying diploma admits the holder to all faculties'. [5]

Reguzzoni also relates an important consequence of this reform in noting that pertinent comment of Mr. Henri Janne, Minister of Education at the time of enactment of the bill: '[This bill] does not establish equality of value between the different sections. It establishes equality between the best pupils of all sections.' [5]

Finally, the Belgian reform is also significant in its attempt to promote a greater democratization of the educational process, while still demanding a high level of preparation for university students. This combination is fairly difficult to attain, given the widening of the channels of access to higher educational institutions which accompanies any democratizing action and which may thereby endanger the efficacity of the qualitative selective process itself. It is also to be borne in mind, however, that one of the important positive by-products of democratization is the mobilization of the 'pool of ability' of all social classes and strata. [6]

As aware as educationalists are of the dangers of a quantitative 'deluge' at the expense of scholastic excellence, they have yet to find the proper methods to combat them. The remedial measure most often invoked is the improvement in the quality of teachers [7]. A second remedy is programmed instruction, both as a measure to raise the standard of instruction and to revolutionize the curricula. [8]

[1] Cf. *Guide des systèmes scolaires*, Strasbourg, Conseil de la Coopération culturelle du Conseil de l'Europe, 1965.

[2] Lê Thanh Khôi, *How to Measure the Economic Productivity of Adult Education*, Paris, Unesco, 1961, p. 1.

[3] F. Cyril James, speech published in the *Report of the Fourth General Conference of the International Association of Universities*, op. cit. p. 64.

[4] See, for example, diagrams of some such schools in the publication of the Communauté Européenne du Charbon et de l'Acier, *La structure et l'organisation de l'enseignement général et technique dans les pays de la Communauté*, Luxembourg, April 1960. Also *Guide des systèmes scolaires*, op. cit.

[5] Reguzzoni, op. cit., p. 105.

[6] See also Chapter 2 above.

[7] See, for example, Bruce J. Biddle and William J. Elena (eds.), *Contemporary Research on Teacher Effectiveness*, New York, Holt, Rinehart and Winston, 1964.

[8] Cf. Wilbur Schramm, *Programmed Instruction — Today and Tomorrow*, New York, Fund for the Advancement of Education, 1962. Also W. Schramm (ed.), *The Research on Programmed Instruction*, Washington, D. C., U.S., Office of Education, 1964.

Although it is still too early to pronounce final judgement on the value of this second method, the possibilities of its usefullness in solving the quality-quantity dilema are many. Thirdly, specialists have expressed the hope that an elevation of the general cultural level of the European population, through the device of mass media, could effect a raising of the level of culture of pupils. To be sure, such a programme of mass media for cultural purposes might bring the general level to the point of that of the cultural élite of fifty years ago, thereby improving the intellectual atmosphere in the homes of pupils and bettering their preparation for study in schools. In general, it would seem that material progress in this direction might be made earlier in Eastern Europe than in Western Europe.

Educationalists have further advocated the method of 'streaming' or otherwise sifting the mass of pupils entering secondary schools from socially and culturally underprivileged strata as a means of better selection and preparation of able candidates for higher education. The results of such a 'streaming' process as practised in the United Kingdom have yet to be conclusively analysed. Along the same lines, pedagogical specialists with a background in social sciences have urged reform and extension of educational and vocational guidance. Because of the growing importance of this instrument and its direct relation to the issue of democratization of educational opportunity, the topic will be studied in greater detail. Finally, ways have been sought to improve the teaching curricula and course content, with a view to a more selective method of transmitting the growing body of knowledge. European secondary schools are undergoing constant changes and 'revisions' of curricula.

It would seem that several of the 'reform' programmes currently under way in European countries are intended to establish a functional continuity of education, to reduce the existing gap between secondary and higher education. Such programmes involve the organization of special preparatory courses for higher education, the use of special procedures of observation and selection, and the experimentation with 'intermediary' forms of teaching. Admittedly, the secondary school system has other functions apart from its preparation for higher education; but the disparity of these various functions could result in fragmentation, creating a dangerous difference in structure between institutions of higher education and those secondary schools from which such institutions receive both their candidates and the elements of a basic educational formation.

The role of educational and vocational guidance

The confusion and ambiguity surrounding such terms as 'educational' guidance', 'vocational guidance' and 'counselling', often used interchangeably, warrant some preliminary clarifications. To cite the International Bureau of Education: 'Educational guidance and vocational guidance are distinct from one another. Vocational guidance, the older, is dealt with by special services which are connected with employment offices rather than with schools. It does not follow, however, that these services are concerned only with adult and young people who are seeking employment. They help also adolescents who have still to complete their schooling and have difficulty in finding their path. On the other hand, educational guidance, a more recent concept, is organized so as to be given in various ways, namely, guidance or observation stages or classes, advice to pupils, differentiated syllabuses, preliminary vocational training.' [1]

The term 'counselling' often embraces both educational and vocational guidance, as in the following definition: 'The first purpose of counselling is of immediate concern to the individual because it involves his satisfactions, anxieties, pleasures and emotions. The second purpose of conselling is immediately relevant for the community and centres around the individual's achievement, productivity, influence on others and contribution to society. These two purposes are not independent of one another, but the first purpose sometimes is referred to by counsellors as their mental health purpose, the second purpose as their manpower purpose.' [2]

Without entering into a more detailed discussion of the technical and organizational aspects of guidance and counselling services [3], there is a general tendency to probe the individual and psychological characteristics of pupils in a distinctly educational context. An effort is made to permit full development of the pupil's 'educational interests and talents, vocational awareness, direction and carreer planning, personal-social insights and skills'. [4] In functional terms,

[1] *The Organization of Educational and Vocational Guidance, Thirty-sixth International Conference on Public Education, Geneva, 1963.* Published by the International Bureau of Education and Unesco, 1963, p. IX.

[2] Ralph F. Berdie et al. *Testing in Guidance and Counselling*, New York, Mc-Graw-Hill, 1963, p. VII.

[3] For further discussion, see Lester D. and Alice Crow, *Organization and Conduct of Guidance Services*, New York, David McKay, 1965.

[4] ibid, p. 11—12. This text also provides a study of various organizational patterns in guidance services, together with a discussion of relevant principles and objectives.

then, the role of educational guidance *(orientation scolaire)* is that of aiding the pupil — in co-operation with his parents — in finding a way through the school system which will best suit his interests and potential abilities, all in providing a satisfactory adjustment to school life and a maximum scholastic performance. This service may often be linked with vocational guidance or conselling, although this function is in many countries carried out outside the school system. Further, both forms of guidance may be implemented through testing and various other means of personality assessment, or more directly through teachers' reports. In the Soviet Union, educational guidance is sometimes harmonized with the activities of youth organizations. Vocational counselling in the U.S.S.R. on the other hand, is integrated specifically into the teaching process itself [1].

And yet, as suggested by the preliminary definition, it is clear that the basic functions of vocational guidance differ from those of educational counselling in requiring a concentration on such elements as the labour market, current and future development trends in the economy, etc. The type of information provided to pupils concerns requirements of specific vocations, necessary abilities, aptitudes and motivations and, of course, training demands and opportunities. It is in the light of these functions that economists tend to emphasize 'the role of vocational guidance and counselling in reconciling social demand with manpower criteria' in manpower forecasting [2]. This is not to say, however, that the services of educational guidance in the assessment of aptitudes, intelligence and personality of pupils neglects the important consideration of his chances for success in the vocational activity for which he is most qualified.

As an instrument of control over the admissions process and as a rational method of widening the access to higher education, guidance services may act in several ways:

1. By grouping pupils and students according to their abilities and interest in schools in which they will perform with the greatest success. Such a distribution would not only reduce the loss of time, effort and (often misdirected) ability on the part of students, but also would facilitate the tasks of teachers and increase their 'educational effectiveness'.

2. By directing students to those professions in which they may enjoy the greatest success. By 'professional success' is not meant rapid promotion, but rather the ability to solve those problems encountered in vocational situations, although the two may overlap. Such 'success' is of great importance from the point of view of manpower provision and social development. It is in this sense, then, that any exact prognosis of vocational abilities by means of aptitude tests or by other methods of personality assessment used by guidance services [3] can be instrumental in organizing the movement from secondary to higher education along predetermined lines of social and economic planning.

3. By 'rationalizing' access to higher education. To provide an extreme (and ideal) example, planning services would inform the appropriate ministries of the number of graduates needed in the next *n* years in certain sectors of the economy. The role of the guidance services would then be to screen candidates for the qualitative requirements of the professional posts which they will fill on completion of their educational training. Or, to take up a related aspect of this rationalizing function, educational guidance personnel should combat the illogical practice in many countries of candidates' choosing currently 'fashionable' subjects of specialization (archaeology, sociology, history of art, etc.) without the slightest notion of the studies or abilities involved in such a choice.

4. By establishing effective contact with parents of pupils and, when necessary, with local communities, in order to provide information, gain support, rationalize traditions in vocational selections, particularly in less developed regions.

But perhaps the essential question is whether guidance and counselling services are in fact able to provide effective instruments of predictability of a pupil's personal development. To be sure, the current series of testing devices may determine aptitudes, achievements, interests, values, personality traits. Moreover, the widespread use of these devices and the constant growth of the 'guidance testing movement' have been marked [3]. Given these facts it is clear that the predictive reliability of such tests is a factor of importance, and that the range of characteristics and qualities tested may not correspond significantly to the 'future behaviour' of the pupil, either in an educational or an occupational context. The majority of criticism of testing procedures in counselling services has centred around the very possibility of measuring mental traits, as well as the predictive validity of such measures. Cases have also been cited of serious errors on the part of inexperienced counselling personnel [4].

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[1] M. D. Winogradowe, *Wospitatelnaja rabota s podrostkami w szkole po wybozu professii*, Moskwa, Akademia Pedagogicieskich, Nauk R.S.F.S.R. 1961. See also E.A.B. Poyner, 'Testing and guidance in Britain', *College Board Review* (New York), Winter, 1964—65, No. 55 p. 20—25; Jacques Dubosson, *Le problème de l'orientation scolaire*, Neuchâtel, Delachaux et Niestlé, S.A. 1957; Thorsten Husen (ed.) *Differentiation and Guidance*, Stockholm. Almqvist & Wicksell, 1959.

[2] *Manpower Forecasting in Educational Planning*, op. cit., p. 11.

[3] *The Fifth Mental Measurements Yearbook*, Buros, 1959, lists 957 tests and 6,468 references to the construction, use and limitations of particular tests. See also R. F. Berdie, op. cit., p. 70.

[4] Cf. Jacques Dubosson, op. cit., p. 24—8.

On the other hand, examples are readily available of successful testing experiences and of predictions of significant vocational value, particularly in the case of pilots or other highly specialized professions. Very often, the responsible educational administrator places the results of such guidance testing alongside other reports and evaluations in charting the future educational and vocational course of pupils.

One of the principal functions of guidance and counselling services is the early identification of talented youth. In contemporary societies, this function has been given particular importance: 'Countries may not be able to sustain economic growth unless all the reserves of talent in the population are actively sought and attracted into needed educational channels... Thus the importance of identifying and fully developing the talents of young people, which is important in its own right, quite apart from economic needs, is reinforced by the imperatives of economic development'. [1]

The task of identification lies more in the domain of psychologists and pedagogical specialists than in that of educational policy-makers, as can be measured by a brief historical sketch. Serious research in the measurement of abilities began with the work of F. Galton (1822—1911) on the hereditary transmission of genius. There soon followed the formulation of theories of psychological intelligence and of methods of measurement, resulting in the identification of young people with a high I.Q. By 1915 — and particularly catalyzed by the tactical demands of the First World War, — more sophisticated devices for the measurement of talent were being developed. In a parallel movement, propelled by the pioneering work of J. Petzoldt in 1905, *Sonderschulen für Hervorragend Befähigte*, educationalists were trying to organize special schools for talented pupils. In 1917, Moede, Piorkowski and Wolff published in *Die Berliner Begabtenschulen* an interesting project for the organization of such schools and of methods of teaching particularly gifted pupils. Nevertheless, it was only after the Second World War that the importance of talent in economic growth and of its early recognition was seen. [2]

Yet here again the notion of identification of ability by certain forms of psychological measurement leads to the problem of predictive reliability, as is the case with testing in educational and vocational guidance. Some educationalists feel that the task of such identification should properly be left with teachers, whose extensive observation will provide the surest assessment of their pupils' abilities. Another method is used in the U.S.S.R. and some other socialist countries, whereby 'olympiads' are organized — particularly in mathematics, physics and other sciences — to detect outstanding talent. Other countries are prone to rely on more direct testing procedures. [3]

Following upon the efforts of early identification undertaken by psychologists and teachers, therefore, the role of educational policy-makers and administrators involves the education, development, care and eventual employment of the natural talent of a society. [4] For some time, it was maintained that the available pool of ability in every society is determined by biological factors and that the number of talented individuals remains constant, consequently, to increase the number of students accepted into institutions of higher education would be tantamount to an increase in lower quality and would, from an economic point of view, be wasteful. This thesis has since been challenged notably in the Robbins Report: 'There is no risk that within the next twenty years the growth in the proportion of young people with qualifications and aptitudes suitable for entry to higher education will be restrained by a shortage of potential ability. The numbers who are capable of benefiting from higher education are a function not only of heredity but also of a host of other influences varying with standards of educational provision, family incomes and attitudes and the education received by previous generations. [5]

A great deal of research has been undertaken to determine the precise factors influencing the development of talent. As Wolfe writes: 'If we wish to have a larger fraction of potential ability become fully developed ability, we can do so by manipulating the social forces that play upon a child as he is growing up. There are three types of factors that can be manipulated: the national policy and the social climate under which the child is reared; the strength of individual motivation for education; and the nature of the educational system. [6]

These are, of course, a very wieldy and complicated set of factors, and it is difficult to find the

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[1] A. H. Halsey (ed.), *Ability and Educational Opportunity*, Paris, OECD, 1962, p. 51—2.

[2] See, for example, Dael Wolfle, *America's Resources of Specialized Talent*, New York, Harper and Bros., 1954; D. McClellant et. al., *Talent and Society*, New York, Van Nostrand, 1959.

[3] Cf. *The Search for Talent*, New York, College Entrance Examination Board, 1960.

[4] Relevant research on this topic, especially on the educational aspect has been carried out by Bruce Sherter (ed.), *Working with Superior Students*, Chicago, Science Research Associates, 1960; James J. Gallagher, *Research Trends and Needs in Educating the Gifted*, Washington, D.C., U.S. Dept. of. Health, Education and Welfare, 1964; Gertrude H. Hildreth, *Introduction to the Gifted*, New York. McGraw-Hill, 1966; Hans Biäsch and Jacques Vontobel, *Beiträge zu Talentforschung*, Bern, 1964.

[5] London, HMSO, 1965, chapter VI, p. 54. See also Douglas M. McIntosh, *Educational Guidance and the Pool of Ability*, University of London Press, 1959; Ralph Smith and Robert Eddison, *Talent for Tomorrow*, London, Bow Group pamphlet, 1963.

[6] In Halsey, op. cit., p. 53.

specific role of educationalists and educational administrators in this 'manipulation'. One widespread method of developing talent for educational purposes, however, is the original proposal of Petzoldt sixty years ago: special schools for the talented. Psychologists have long maintained that talented children in schools adapt themselves to the lower level of their fellow pupils, thereby impeding the development of their special abilities. Further, less able pupils demand more attention from their teachers and thereby siphon off the instruction necessary for the more gifted. These factors have led to the creation of experimental schools for talented youth, as, for example, in the U.S.S.R. Yet this attempt has been challenged by many educationalists on the ground that such schools and their methods of teaching have undesirable consequences. Some experts feel that the best results in talent development has been obtained in classes in which gifted pupils, although given some special instruction, work together with those less gifted.

But the central question of educational effectiveness from the point of view of student's later professional success is still unanswered, and must await the results of more conclusive research work. One such study, carried out in Poland and tracing the professional careers of outstanding students, revealed that about 50 per cent did not achieve vocational or professional success [1].

The explanation of these results is that in professional milieux and in other 'public' and 'private' sectors of the economy both the criteria of evaluation and the requirements for successful work are very different from those of scholastic life. Here again, the conclusion is to be drawn that socio-economic development requires successful graduates rather than successful students. Despite the vast amount of literature dealing with the education of gifted students, insufficient attention is being paid to the question of employing and rationally using the skills of gifted graduates. Some sociological studies have shown that the wastage of talent often begins after graduation, and particularly in cases where the organization of the economy is not well adjusted to the types of training given in institutions of higher education. For example, work in a highly bureaucratized organization often provides little occasion for the display of talent or initiative. Such would not be the case, however, in teaching and research institutions, where the interrelationship between higher education and professional life is closer and the possibilities are greater for the intelligent use of talented graduates. One may only conclude that all three perspectives of dealing with talented youth — identification, education and employment — must be given an equal amount of attention if the organized access to higher education is to have a significant influence on economic and social development.

Entrance examinations and the organization of access to higher education

Entrance examinations are an essential means of selection in all countries practising limitation of admission. In other countries this practice is considered unconstitutional, as are entrance examinations themselves. The major selective implements of these latter countries are final examinations in secondary schools, given under governmental control and granting the 'right' (in the case of successful performance) to matriculation at institutions of higher education. Both forms of examination may appear to give university structures the possibility of getting the best possible students from a far more numerous group of candidates. But here again, the quality of university students is not a conclusive indication of the quality of those needed for the development of the society. Further, the process of entrance examinations is itself beset with difficulties.

First, the entrance examination to higher education is a selection from among a pre-selected group. It often occurs that after completing elementary school the most able, ambitious and self-confident pupils enter vocational schools offering possibilities of rapid social and economic advancement. The special importance being given currently to secondary vocational education attests to this phenomenon. So that secondary schools of general education, considered as 'nurseries' of the élite, may well receive the poorer 'human material'; and it is these schools which supply the greatest number of candidates to higher education. Therefore, the university entrance examination is a deceptive form of 'selection', since a crucial selective process has already been effected in the period between the elementary and secondary schools. [2] Many officials of institutions of higher education are unaware of the superficiality of the 'selective' value of an examination process which they prize so highly.

Another important point in the entrance examination is its prognostic value for later academic

[1] Zdzislaw Grzelak, *The Relationship between Studies and Professional Work of Graduates of Institutions of Higher Education*, Warsaw, 1965 (in Polish).

[2] The situation may differ in school systems in which entry to secondary education is achieved without selective examinations. In this case, the key point in the admissions process comes between the secondary and higher education levels (Bowles, *Access to Higher Education*, vol. I, p. 90 *et seq.*)

achievement, a problem involving factors of a psychological and sociological nature. [1] For such examinations, although they may appraise the intellectual capacities of candidates and their assimilation of secondary school instruction, are unable to provide an assessment of these other factors which are often more important as future indexes of ability and performance. In response to this problem, psychologists have devised 'prediction scales' in order to better forecast academic achievements of candidates; this method has been used with success in the United States. [2] Other American research studies have shown, however, that there is almost 'as much consistency between high school and college grades as there is among grades within a single institution'. [3]

Higher education entrance examinations are also rendered problematic by the criteria of evaluation used by examining bodies. In this respect, a particular research study in Poland is worthy of mention. An attempt was made to determine the 'ideal candidate' from the point of view of the examiners, with the discovery that the expectations of the examining bodies exceeded the requirements fixed in the programmes of secondary schools. More important for this particular paper, these 'expectations' did not take into account the requirements for future success in professional work. It was also found that examiners tended to ascribe greater importance to their own subject in making final evaluations, regardless of the importance of that subject as an index of the candidates' abilities. The more significant factors of evaluation — range and versatility of knowledge, reasoning capacity, imagination, etc. — were often subordinated to demands for a certain encyclopaedic proficiency.

One may conclude that the prognostic value of entrance examinations in higher education, both in indicating future success in studies and in professional life, is questionable. The problem is all the more acute in the light of current European planning practices: since educational planning is integrated into the general economic plan and the enrolment figures for higher education are chosen in relation to manpower needs in different branches of the economy, the entrance examination becomes in many cases the virtual arbiter of the suitability of given students for specific employment requirements. It would almost seem as if institutions of higher education were trusting to the natural or spontaneous corrections of social and economic life to close the qualification gap. Entrance examinations, as an implement of educational policy in the organization of the qualitative access to higher education, could perhaps themselves do with some careful examination.

Social aid for students as a factor in access to higher education

Makers of educational policy, in meeting social and economic requirements, have at their disposal such means as a system of scholarships, loans and welfare facilities. The effectiveness of such a system in removing economic and social barriers and in fostering the democratization process is indirectly indicated by the growing percentage of students who profit from the services provided. [4] Its effectiveness is further advanced by current practices of increasing the intensity of academic work, in such a manner that aid is often discontinued to students whose performance is poor and increased for those with particularly high examination results. This latter practice can be termed an instrument of policy for the development of talented students, with a view to the provision of highly qualified graduates for social and economic progress.

Scholarship aid to students may further be used as a means of orientation towards specific fields of study which tend to be of importance in planning programmes. For example, in socialist countries, relatively high-paying scholarships are awarded to outstanding students who agree to remain in higher education after graduation as researchers and teachers. The scholarship system is also utilized in Eastern European countries to attract students into those faculties or departments considered of high priority in the development of the economy. In this way, generous stipends are made available in such fields as technology, physics, chemistry, etc. Finally, the scholarship system may be instrumental in development policies by providing grants to postgraduates for training in important fields of research.

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[1] Cf. David E. Levin, *The Prediction of Academic Performance: A Theoretical Analysis and Review of Research*, New York, Russel Sage Foundation, 1965.

[2] Benjamin Bloom and Frank Peters, *The Use of Academic Prediction Scales for Counselling and Selecting College Entrants*, Glencoe, N.Y., The Free Press, 1961.

[3] ibid., p. 109. See also article of John Summerskill, 'Dropouts from college', in Nevitt Sanford (ed.), *The American College*, New York, John Wiley, 1962. Also *Universities Quarterly*, June 1967.

[4] Cf. Unesco, *World Survey of Education*, Vol. IV, *Higher Education*, p. 82 (in some countries this figure reaches 80 per cent). See also: *L'aide sociale aux étudiants dans le monde*, Paris, AIISUP, 1965.

This is not to say that the system is without its handicaps, primary among which is the selection process itself, more or less effective and equitable depending on the particular criteria. Also, in the case of 'high priority' and 'low priority' faculties and the corresponding amount of scholarship aid, it might well occur that 'low scholarship' departments receive those students who are vitally interested in the subject matter, whereas the 'high scholarship' departments may get students who are not only less serious, but also less gifted for successful studies.

Clearly, therefore, welfare programmes for students may serve as economic instruments of educational policy in planning access to higher education for future socio-economic requirements. Such programmes may influence the economic motivations of candidates in their career plans and harmonize the needs of social development with individual aspirations of social prestige and high incomes. If such a policy is to be successful, however, it must be co-ordinated with the structure of the national economy and with social realities outside institutions of higher education.

It is evident that no matter how elaborately implemented may be the scholarship programme of a particular country, factors of economic motivation and career plans will be a more powerful influence on candidates who tend to view higher education as a 'personal investment'. In this connexion, repeated mention had been made of the influence of certain social mechanisms on the admissions process — mechanisms which cannot be controlled by institutions of higher education or by those authorities directly responsible for educational policy. A list of these factors would include the professional structure, economic stratification, certain salary differentiations and possibilities for social and professional advancement. In their strong influence on the orientation of candidates for university study, the functioning of such mechanisms is most apparent in societies in which the economy is centrally planned and directed.

The inhibitive action of these social and economic mechanisms on development is quickly registered in the educational system. In certain countries, serious wastage occurs when some faculties receive less able students because the more qualified have chosen to specialize in fields demanding higher requirements and promising better salaries and greater social prestige. Such is the case in teacher-training institutions: the low wages paid to teachers in many countries will inevitably be the cause of poor training, low ability and little interest or ambition on the part of those entering the teaching profession. Another form of wastage is the separation between field of specialization and eventual employment. Students who seek places in one profession after being trained in a different field are influenced by the desire to escape from the poorly paid professions for which they have been trained and to enter higher salaried fields. Since many of these under-paid professions are crucial to social and economic development, this type of mobility involves the loss not only of qualified personnel, but also of those candidates who have proven to be very enterprising. Similar wastage is incurred through the machinations of students who enter any department which is easily accessible and then, after varying periods of time, manage to transfer to a more financially or socially promising field of specialization.

It would seem, then, that despite the effectiveness of a scholarship system which can manipulate the admissions process, despite the presence of a well-organized school system and a functional network of vocational guidance and educational orientation, the calculations of young people can seriously impede the success of the most careful planning and policy-making. This phenomenon is simply another variation on the same theme which has permeated the remarks and relevant research of this study: if educational policy intends to be economically oriented and to deal effectively with the various social and economic forces at play in the educational process, it must revamp its methods and readjust its policy so as to be guided by the realities of socio-economic life

Economic and social aspects of access of adults to higher education

The term 'adult education' has undergone several changes in meaning during the nineteenth and twentieth centuries. Perhaps the latest conception was devised at the World Conference on Adult Education (Montreal, 1960), during which it was asserted that adult education was no longer to be viewed 'as a "continuation" after formal school but as a part of a "continuous" educational process'.[1] Such a process may take various forms: lectures for employed adults; organization of folk high schools, along the lines of Grundtvig's original programmes in Denmark; activities of educa-

[1] A.S.M. Hely, *New Trends in Adult Education*, Paris, Unesco, 1962, p. 56.

tional societies; correspondence courses, etc. Several types of schools for adults provide instruction of a sort commonly referred to as 'popularization' or 'vulgarization'[1] through study circles,[2] self-teaching courses or other institutions offering a fundamental or secondary education for adults on a similar basis as the conventional secondary schools.

In many European countries the system of adult education is divided into two categories: evening schools and correspondence courses. Both may be organized on the secondary and higher education level; both may be provided in special sections of institutions of higher education. Correspondence courses may be linked with a programme of consultations and oral instruction, as for example in Eastern European countries, in which supplementary refresher courses and consultation hours are arranged according to a schedule of special 'study leaves' from employment obligations.[3]

Enrolment in these adult education programmes is steadily growing. The highest national figures are achieved in the U.S.S.R., where there were an estimated 3,861,000 students in 1965/66 in all institutions of higher education, of which 569,000 were enrolled in evening sections and 1,708,000 in correspondence courses.[4] Graduates of these evening and correspondence courses are awarded the same diplomas as full-time students. Although the enrolment numbers are not so high in other socialist countries, the adult school system is nevertheless regarded as an important source of highly qualified manpower for the national economy.

The enrolment in secondary-level education for gainfully employed youths and adults comprised 2,116,000 pupils in U.S.S.R. in 1965/66.[5] Although data are unavailable as to the proportion of these pupils attending institutions of higher education, it is generally accepted that such an educational system constitutes a powerful instrument of 'democratization' on behalf of those persons whose possibilities of access to higher education would otherwise have been impeded by social or economic barriers.

The facilities of continuing adult education have also provided possibilities of enlarging the 'ability resources' of secondary school graduates, as well as of the pool of available talent. The system is also considered a 'corrective instrument' on the customary process of admission, in that it brings to the level of higher education a group of candidates who are strongly motivated, seriously interested and well-oriented. Adults are seen to be more certain of their interests and aspirations, more appreciative of the value of instruction on the higher education level and less inclined to select programmes ill-adapted to their abilities. Stress is also placed on the capacity of employed adults to make direct and often simultaneous professional use of the knowledge or skills acquired in their studies. Finally, higher education for adults is believed to be less expensive, due to lower maintenance costs. In general, these programmes of secondary and higher education for adults are less developed in Western Europe than in socialist countries,[6] although they are important functions in both systems of a general educational policy designed to meet unexpected requirements deriving from technological change and economic growth.

Having enumerated the advantage of a large-scale implementation of educational facilities for employed adults, one may examine some of the doubts expressed as to the effectiveness of such a system. First, the educational value of correspondence teaching itself has been questioned. It has been observed that those students deprived of a meaningful contact with the intellectual and academic milieux will tend to suffer from a lack of professional direction and the resulting simplification of teaching methods and, more important, will neither achieve the same level of intellectual development nor assimilate the same scope of knowledge as their full-time counterparts. Many educationalists feel that a system of education is incomplete when no provision is made for laboratory work, seminar discussions, participation in student organizations and cultural activities, etc. Further, it has been established that the effective 'returns' of adult study programmes, as measured by the ratio of graduates, are proportionally lower than those attained through the customary process of higher education and its 'production' of degree graduates. Finally, the costs of providing evening and correspondence courses are often much higher than generally realized. As an illustration of indirect expenses, employers in socialist countries are obliged to grant leaves — often extensive — and to pay the travel costs of students enrolled in correspondence courses,[7] for purposes of consultation, and preparation of examinations. Moreover, the costs of the production, publication and distribution of specially designed textbooks, etc., are rather high.

[1] In some countries, these are the only forms of adult education. See, for instance, Herbert Green, *Greece, Urban Adult Education*, Paris, Unesco, 1965, p. 7: 'Under the conditions, adult education might be better placed under "cultural activities" than under the school system.'

[2] Cf. ,for example, S.A. Stahre, *Adult Education in Sweden*, Swedish Institute for Cultural Relations with Foreign Countries, 1965, p. 32—9.

[3] Cf., Börje Holmberg, *Correspondence Education*, Hezmods-Nki, 1967, p. 65. Also *Education of Adults in the U.S.S.R.*, Moskwa, 1960, p. 75—8; E. Magyari, 'Adult education in Hungary' in the *Indian Journal of Adult Education*, Vol. XXV, No. 10, October 1964, p. 4.

[4] Narodnoje hozjajstwo w SSSR, 1965, Moskwa, 1966, p. 688.

[5] Narodnoje hozjajstwo w SSSR, 1965, op. cit., p. 679.

[6] Cf. 'Correspondence education', *Education Abstracts*, Vol. XIII, No. 2, 1961, which gives a description of various national systems and the different functions of each.

[7] Cf. *Education of Adults in the U.S.S.R.*, op. cit., p. 76—7, giving a full description of the various 'study leave' programmes.

Research as an instrument of educational policy

As emphasized in this study, the effectiveness of educational planning and policy-making depends greatly on an understanding of the social and economic processes at work on a local and national level, as well as of individual characteristics and other psychological mechanisms relevant to an educational context. For the principal task of policy-makers is precisely the organization of access to higher education through the manipulation of social, economic and psychological factors. Such a manipulation is, in fact, seriously undertaken and implemented by all possible legal measures, so that all efforts to 'condition' the attitudes of candidates and their families are based on implicit or explicit theories of social and economic behaviour. Of course, it is crucial that these theories be founded less on common knowledge, current ideologies, social prejudices and intuition than on empirically verified information dealing with social life. It follows that any coherent and functional educational policy must be the product both of adequate statistical documentation and of research material of an economic, sociological and psychological nature.

Yet, despite its obvious importance, a paradoxical phenomenon can be observed in universities with regard to research work. Established to serve as institutions furthering the creation and development of scientific methods, universities are often reluctant to apply scientific methodology in analysing their own functioning. Nevertheless, one must admit that the development and expansion of educational research, both within and without the university, have been impressive, [1] and its importance cannot be underestimated. As the foundation of educational policy-making, this research reveals the empirical results and the actual situation of educational structures and their effectiveness. The research findings permit a further elaboration of the various social, economic, and educational consequences of bills, laws and regulations. For lawyers, the enactment of a bill is the final step in school reform; for a sociologically-minded administrator, enactment represents only the first measure, all the more so in view of unforeseen problems in its implementation.

Considering only that research work which is relevant to the scope of this study — that is to say, concerned with the organization of access to higher education — the following tentative 'inventory' may by drawn up of projects carried out in European countries: [2]

1. Sociological research into the social factors determining the choices of students in the subject of study, faculty and profession.
2. Psychological studies of motivation and interests in such choices as described above.
3. Research into methods of personality assessment as an index of scholastic success, with connected studies of counselling practices and the prognostic effectiveness of entrance examinations.
4. Research into the correlation between academic and professional success, and between various stages of academic success (elementary, secondary, higher education).
5. Studies of the social and educational consequences of current scholarship programmes, loan devices, welfare facilities.
6. Research into the influence of economic factors on the selection of professions and vocations.

Such a programme could well be enlarged. But it is significant in its present form as a major effort to provide that rational organization of the access to higher education so necessary for economic and social development in Europe and so urgent in the light of the increasing dimension of obstacles and dissatisfaction.

Conclusions

Higher education must provide trained manpower to service both the positive and negative consequences of technological progress.

Institutions of higher education, and more particularly universities, should extend themselves beyond the teaching function in its narrow sense to a role which specifically deals with contemporary scientific and technological civilization.

Institutions of higher education can make an effective contribution to technological progress by widening the scope of research, by enlarging teaching facilities, and by extending the curricula in line with technological development.

The ideal conception of the function of the university postulates *inter alia* an effective causal rela-

[1] Relevant information on the organization and scope of such research can be found in *The Organization of Educational Research, Twenty-ninth session of the International Conference on Public Education (Geneva, 1966)*, published by Unesco and the International Bureau of Education, p. 288. Research is rapidly expanding in Europe.

[2] This report uses as an index of current work the experiences of the Centre of Research on Higher Education in Poland.

tionship between the capacities gained by students during their university training and their influence as graduates on the economic, political, social and cultural development of society.

The level of research carried out in institutions of higher education is an important indication of the level of all research work in a given country.

The indispensable role of highly qualified manpower in social and economic development has been proved conclusively enough to warrant the secure or perhaps superior ranking given to higher education in its use of national resources and capital.

Higher education trains experts rather than leaders — an indispensable condition of social development.

Graduates of higher education should have such a foundation of knowledge in the humanities and social sciences as will enable the understanding of basic human needs and the fundamental mechanics of group life.

Any policy regarding access to higher education must be firmly based on the necessary guarantee that the young students entering institutions of higher education possess the necessary combination of qualities, or rather capabilities, which will render them the best possible candidates for the fulfilment of the type of long-range objectives which have been designed for a particular society.

From the viewpoint of socio-economic development, the most important task of the educational system is to provide not only the required number of graduates for all sectors of economic and social activity, but also to provide graduates possessing the required knowledge, technical skills, motivation and understanding of social realities.

The necessary requirements of social development are not assured by good *students* but rather by good *graduates* — the measure of quality of higher education is to be judged by the quality of its graduates.

The necessary considerations of quality, that is to say the level of excellence of the graduates entering upon professional activities, are far more crucial than quantitative considerations in filling the requirements of the development of society.

Administrators of higher education not only must secure the guarantee of a sufficiently high level of primary and secondary school instruction, but must also find ways to control the process of selection taking place in these two cycles, in such a way as to produce a desirable group of candidates for institutions of higher education.

Modern technical and organizational developments in industry and in other branches of the economy require a broad vocational background in order to provide a more rapid adjustment to a wider range of employment requirements.

The mass of material to be taught at present in secondary education is exceeding the means to deal with it, a factor which threatens to widen the gap between secondary and higher education.

An important by-product of the democratization of education is the mobilization of the 'pool of ability' of all social classes and strata.

The basic functions of vocational guidance differ from those of educational counselling in requiring a concentration on such elements as the labour market, current and future development trends in the economy, etc.

Any exact prognosis of vocational abilities by means of aptitude tests or by other methods of personality assessment used by guidance services can be instrumental in organizing the movement from secondary to higher education along predetermined lines of social and economic planning.

Guidance services should screen candidates for the qualitative requirements of the professional posts which students will fill on completion of their educational training.

One of the principal functions of guidance and counselling services is the early identification of talented youth.

Following upon the efforts of early identification undertaken by psychologists and teachers, the role of educational policy-makers and administrators involves the education, development, care and eventual employment of the natural talent of a society.

In professional milieux and in other 'public' and 'private' sectors of the economy, both the criteria of evaluation and the requirements for successful work are very different from those of scholastic life.

Identification, education and employment of talented youth must be given an equal amount of attention if the organized access to higher education is to significantly influence economic and social development.

The most able, ambitious and self-confident pupils, after completing elementary education, often enter vocational schools offering possibilities of rapid social and economic advancement, rather than continue on to higher education.

The university entrance examination is a deceptive form of selection, since a crucial selective process has already been effected in the period between elementary and secondary education.

Entrance examinations, although they may appraise the intellectual capacities of candidates and their assimilation of secondary school instruction, are unable to provide an assessment of certain psychological and sociological factors which are often more important as future indexes of ability and performance.

The prognostic value of entrance examinations in higher education, both in indicating future success in studies and in professional life, is questionable. Entrance examinations, as an implement of educational policy in the organization of the qualitative

access to higher education, should undergo some careful review.

Welfare programmes of students may serve as economic instruments of educational policy in planning access to higher education for future socio-economic requirements. If such a policy is to be successful, it must be co-ordinated with the structure of the national economy and with social realities outside institutions of higher education.

No matter how elaborately implemented may be the scholarship programme of a particular country, factors of economic motivation and career plans will exert a more powerful influence on those candidates who tend to view higher education as a 'personal' investment.

Serious wastage in the educational system often occurs when some faculties receive less able students, the more qualified having chosen to specialize in fields demanding higher requirements and promising better salaries and greater social prestige. Wastage is also caused by the separation between the field of specialization and eventual employment.

Despite the effectiveness of a scholarship system which can manipulate the admissions process, despite the presence of a well-organized school system and a functional network of vocational guidance and educational orientation, the calculations of young people can seriously impede the success of the most careful planning and policy-making.

If educational policy intends to be economically oriented and to deal effectively with the various social and economic forces at play in the educational process, it must revamp its methods and readjust its policy so as to be guided by the realities of socio-economic life.

Adult education programmes can well constitute a powerful instrument of 'democratization' on behalf of those persons whose possibilities of access to higher education would otherwise have been impeded by social or economic barriers.

Facilities for continuing adult education have also provided possibilities of enlarging the 'ability resources' of secondary school graduates, as well as of the pool of available talent. Adult education is also considered a 'corrective instrument' on the customary process of admission in that it brings to the level of higher education a group of candidates who are strongly motivated, seriously interested and well-oriented.

The effectiveness of educational planning and policy-making depends greatly on an understanding of the social and economic processes at work on a local and national level, as well as of individual characteristics and other psychological mecanisms relevant to an educational context.

Any coherent and functional educational policy must be the product both of adequate statistical documentation and research material of an economic, sociological and psychological nature.

Universities, established partly to serve as institutions furthering the creation and development of scientific methods, are often reluctant to apply scientific methodology in analysing their own functioning.

Co-operation among European countries could well be profitable in regard to exchanges of information on: a) economic, sociological, psychological and pedagogical research relating to access to higher education; b) ways and means of selecting candidates for higher education with particular attention to guidance and counselling; c) methods used to increase the predictive value of entrance examinations and other testing devices; d) methods of identification, encouragement, development and utilization of talented youth; e) facilities for and methods of higher education for employed adults.

Part II

Report of the conference

The conference was inaugurated on the morning of 20 November at a solemn ceremony at the Hofburg, in the presence of His Excellency Mr. Franz Jonas, President of the Federal Republic of Austria, who addressed the conference. His Excellency Mr. Piffl-Percevic, Minister of Education of Austria, and Mr, René Maheu, Director-General of Unesco, also spoke on the occasion.

Inaugural meeting

Address by Mr. René Maheu, Director - General of Unesco

Mr. President,
Mr. Chancellor,
Ministers, Excellencies,
Ladies and Gentlemen,

It is a great honour to me to open this Conference of Ministers of Education of European Member States on Access to Higher Education. Unesco attaches great importance to this conference and the preparations for it have been made with the utmost care by the participating countries and the Secretariat.

This is the first time that a conference at ministerial level has been organized on this continent for the Member States of Unesco and we could not have wished for a more appropriate setting for such a meeting than this city of Vienna, a city so steeped in history, a city in which there is so much heartwarming evidence of its renewal. Through its privileged position in the heart of Europe as well as the richness of its cultural heritage, this illustrious capital offers splendid facilities for international co-operation, which are still further increased by the excellent working conditions and the atmosphere of courtesy, understanding and good will prevailing here.

I am sure I am expressing the feelings of all of you in paying due tribute to the generous hospitality of the Government of the Federal Republic of Austria and in conveying this tribute to His Excellency Mr. Franz Jonas, President of the Republic, and his Excellency Mr. Josef Klaus, Federal Chancellor, who have been kind enough to enhance the brilliance of this inaugural meeting by their presence. May I also express Unesco's gratitude to Mr. Piffl-Percevic, Austrian Minister of Education, who has done so much to ensure the success of this great European meeting.

In this Hofburg, where in 1365 Duke Rudolf signed the deed founding the University of Vienna, there are assembled some 140 delegates from twenty-eight European Member States — of which twenty-four are represented by their Minister of Education in person — as well as observers from eight non-European countries and the Holy See; representatives of several organizations of the United Nations system: the United Nations itself, the Food and Agriculture Organization, the World Health Organization, the World Meteorological Organization, the International Atomic Energy Agency; observers of seven intergovernmental organizations: the Ibero-American Bureau of Education, the Commission of the European Economic Community, the Council of Europe, the Nordic Council, the League of Arab States, the Organization for Economic Co-operation and Development, the European Organization for Nuclear Research; and some twenty-four observers from international non-governmental organizations with consultative status. To each and all of these I extend Unesco's cordial greetings.

The fact that Europe, which has never before been assembled on such a scale and at such a level on any subject, should have responded so warmly to Unesco's appeal is in itself highly significant and a reason for great satisfaction. This fact provides the most striking indictment of the accuracy of a cliché only too common in certain European circles, to the effect that Europe is only to a slight extent directly and properly concerned in the action of Unesco.

Such an impression will assuredly seem surprising to those who know the Organization and are aware of the importance of the European elements in its structure, since European countries represent over a quarter of the number of Member States, contribute half the budget of Unesco, and provide 50 per cent of its officials and 60 per cent of its field personnel.

No doubt the reason for this paradoxical view is to be sought in the fact that Unesco's operational activities, which are the most spectacular aspect

of the Organization's work and which at present absorb the greater part of its available resources, are mainly carried out in the developing countries outside Europe. Some people are inclined to infer, rather hastily, that Europe's role consists merely in providing Unesco with the financial resources, personnel and ideas it needs in its work for the promotion of development and that Unesco has little to offer Europa in return.

But apart from the fact that operational activities are far from being the whole of Unesco's work, which first manifests itself in intellectual co-operation and then culminates in moral action, the pragmatic conception to which I have just referred arises in my opinion from a profoundly mistaken idea of Unescop's mission — a spiritual mission which is, essentially, to bring Member States, all Member States, to an appreciation of universal values, so that they can rise above the distinction between those who give and those who receive, by participating in a common enterprise involving the whole of mankind. Viewed from this angle, there is no region or country, however rich or powerful materially or intellectually, which cannot derive benefit from the co-operation of all. Not only, and not even mainly, because the whole is greater than any of its parts, but because the construction of a universal community represents for each a radical advance and an absolute gain which, as it can be achieved only by the efforts of all, is properly and directly of concern to one and all.

However, although Unesco has a world-wide calling, it nevertheless respects the specific character of national and regional realities. And twenty years of experience have taught it that its activities, while directed towards a single goal, gain by being differentiated in relation to the aspirations and needs common to countries with the same geographical or cultural conditions. Hence, the practice of holding regional conferences of Ministers of Education has become established in Africa, Asia, Latin America and the Arab States, and these have provided the framework for broad consultations and the machinery for making a concerted effort towards development.

In Europe, while the aim may be appreciably different, such meetings are not unnecessary. Far from it; nowhere else in the world, I think, is it more profitable and indeed more necessary for those responsible for education at the highest level to meet, so that together they may study problems that concern all the people of this continent, which, despite its variety of customs, languages and socio-political systems, is extraordinarily homogeneous as regards both cultural traditions and technical progress; this continent, with its deep divisions but its still deeper ties of solidarity and even brotherhood, this continent in which, because it was the scene of the outbreak and the ravages of the two great conflicts that have steeped the world in blood in this century, we must above all restore understanding and co-operation — in the first instance among those to whom we have entrusted the supremely important task of training the minds of the younger generation.

The reason why your conference is to deal with access to higher education is that all European countries regard it as a problem of prime importance, the various aspects of which are being given ever-increasing attention by governments.

This problem is especially acute today because, in the first place, the number of students at the higher educational level is rapidly increasing, owing to the growing trend, throughout all the countries of Europe, towards making secondary education available to all. Enrolments at the higher educational level have almost doubled in the last ten years, and this increase, which has been still more rapid in some cases, has not yet fully reflected the consequences of the post-war population explosion. Moreover, the demand for education continues to increase in those European countries which, by virtue of their level of economic development, may be said to have a high national income. Every citizen draws the natural conclusions from the right to education, and demands an ever higher level of knowledge for himself and his children. In this way, the social and intellectual basis on which places in higher education are filled is becoming wider, and its socio-psychological structure is becoming vastly different from what it was even in the recent past. The democratization of higher education, therefore, is a governmental problem as well as an ethical imperative.

On the other hand — and this is the second aspect of the problem — access to higher education must be seen in relation to the value of education as a factor in development and in the light of the new tasks that will have to be undertaken by higher education owing to the increasing variety of needs and, consequently, of specialized knowledge. While not abandoning disinterested research, which is their traditional function, and while assuming increased responsibility for the training of a consequently increasing number of teachers — which, in the past, was often done at pre-university level — universities and higher educational establishments have to devote increasing attention to the training of the highly qualified specialists who are needed to meet the demands of development and the resultant changes in socio-economic structures.

There can be no doubt that, in the years to come, universities will have to open their doors more widely to the men and women already engaged in economic production, and who, whatever their previous education, have reached an intellectual level at which they are capable of taking a higher educational course. Universities will have to develop — and diversify

as needs require — structures specifically planned for adults who are anxious to complete their studies as part of that life-long, permanent education the need for which is today universally recognized. If they are to do this, higher educational institutions will have to offer part-time and correspondence courses so that they can cater for more students in terms of time and space.

Lastly, in the leisured society which is coming into being as a result of technical progress and social improvements, it is at the higher educational level that we must train qualified leaders and organize the extramural activities that are becoming necessary as leisure is used increasingly for educational and cultural purposes.

To realize that higher education has to discharge such responsibilities is to pose the problem of how to make the best use of human resources in a given society and, consequently, the problem of how to make education accessible to all who have the necessary ability and who wish to play an active part, as far as they can, in the life of the community. However, while European societies appear to be prepared, with a view to meeting the economic, social and cultural needs involved in their development, to make higher education accessible to the greatest possible number of students, it must be admitted that it is proving extremely difficult for them to cope with this influx with the educational resources at their disposal.

Those responsible — and, fortunately, not only those responsible — thus have to ask themselves a number of questions. For example, who has access to higher education? How, and at what stage, is the selection whereby some are accepted and others eliminated to be carried out? What solutions are to be adopted in order to ensure equality of opportunity for all, and satisfy both the aspirations of the individual and the needs of the community, and do this within the limits of the financial resources available and taking account of the economic factor which, though it should of course be understood in a broad sense, cannot be gainsaid or neglected?

Without going into the heart of the matter, I might point out here that it is practically impossible to consider separately selection procedures and the manner in which students are to be directed towards the various branches of higher education and the various types of higher education institutions, which correspond to different levels and by no means enjoy the same prestige.

Further, since the selection which leads to higher education starts at the end of the primary school, it is inevitably conditioned by the structure, content and standard of the educational system as a whole, especially at the secondary level. The question is then whether, apart from the problem of the direct financing of the university substructure, the proportion of indirect financing in the shape of scholarships, loans and allowances of various kinds, by which higher education can benefit, should not be increased and extended to secondary education too. Finally, it is also in this context that the possibility should be considered of substituting, on an objective basis, guidance and reorientation during the course of studies for the processes of negative selection, i.e., examinations, which, in the opinion of some people, should fulfil only a residual and marginal role.

It is not for me, ladies and gentlemen, to say anything more of the problems which are at the very centre of your preoccupations and thoughts. Therefore may I express the hope, now that you are about to compare your experiences, that you will find the documents which the Secretariat has prepared for you useful as a basis for your work; they contain statistical and descriptive data on thirty European Member States, together with comparative tables accompanied by analyses.

In this connexion, I should like to thank publicly for their collaboration in the intellectual preparation of the conference the members of the Ad Hoc Advisory Committee that met at Unesco at my invitation under the chairmanship of Mr. Jean Livescu, Romanian Vice-Minister of Education, and the distinguished authors of the two comparative studies that are before you, Professor Henri Janne, former Belgian Minister of Education and former Vice-Chancellor of the Free University of Brussels, and Professor Jan Szczepanski, former Vice-Chancellor of the University of Lodz and President of the International Sociological Association.

Now it is for your conference to formulate, on the basis of the data placed at its disposal and in the light of the broad exchange of views on which you are about to embark, conclusions concerning the conditions that at present determine access to higher education in the European Member States, to define the problems which arise in this field and perhaps to express certain wishes concerning studies that might be carried out and measures that might be taken, at either the national or the international level.

If a consensus on a number of points emerges from your discussions, you may perhaps adopt recommendations that you could address either to your own countries or to Unesco, with regard both to its programmes in Europe and its activities on a world scale. It seems to me that your work, due to its topical interest and the authority that proceeds from the discussions of the representatives of a group of States such as yours, is likely to have an impact far beyond the boundaries of the continent of Europe.

All this is a measure of the importance of your conference, for the success of which I express to you, on behalf of the Organization, my heartfelt good wishes.

Address by H. E. Mr. Theodor Piffl-Percevic, Minister of Education of the Republic of Austria

Mr. President, Mr. Director-General of Unesco, Excellencies, Ministers and Colleagues from so many European countries, Ladies and Gentlemen,

As the Austrian Minister of Education and host to this Unesco conference, it is a special honour for me to welcome you here in Austria. The Director-General of Unesco has just spoken to us in most eloquent terms about the purpose and nature of this conference and its relationship with Unesco's aims. I am glad that Austria has contributed to the holding of this conference as the initiator and host country, and I hope that it will further contribute to its success.

For their meeting, the European Ministers of Education representing their respective governments have chosen the subject of access to higher education.

I am convinced that this subject presents the key to the whole educational policy of our countries and that it touches on a great many important problems that we, as Ministers of Education, have to deal with daily. In our modern industrial and education-minded society, it is one of the most important tasks of the State constantly to improve and expand the educational system. Educational opportunities must be extended; everyone who desires and is suitable for education must be given the education appropriate to his gifts, interests and personal inclination. Information about educational and professional opportunities, must be improved in every section of the population. These aims, however, have to be reconciled with the needs of society and with economic and scientific necessities.

Since it must be the aim of a modern plan for education to offer the best educational opportunities for every type of qualification and aptitude, the principle of guidance instead of 'negative selection' is already operative in Austria.

The reports, which have been summarized and utilized in the working papers for this conference, present an impressive picture of the extraordinary efforts and advances made over the last few years in the field of education by the European countries represented here. We note the incredibly large sums of money that have been spent, we recognize the exertions made by each of our countries to keep up with the advances in educational theory, we follow the attempts being made everywhere to introduce new methods and up-to-date ways of teaching, everywhere we observe the democratization of education — and yet, an honest examination of the present circumstances, a glance into the future, makes us realize at once that the problems ahead are going to be even more difficult to solve than anything we have tackled hitherto.

The phrase *explosion scolaire*, coined by Louis Cros in France, is used to describe the complete revolution in education that has been taking place in the industrialized countries since the end of the last world war. The causes of this revolution are the new need felt by people for education and the consequent surprisingly rapid increase in school enrolment. Further factors of change are the new syllabuses and teaching methods which have had to be introduced owing to the rapid advances made in science and technology.

It is impossible not to see that in the world today knowledge of and research in mathematics and the natural sciences are of tremendous importance and that the consequent need for a higher standard of education is being experienced more and more in daily life. We should neither overlook the surprising advances being made here nor deny the need to take appropriate action. All the same, we must not let ourselves be tempted to concentrate exclusively on this. Even in the educational system of our modern society the human being remains the centre and ultimate purpose of education.

There can be no doubt that these phenomenal changes in education present us with a problem. As Ministers of Education, it is our duty to reveal to our respective nations this new situation that has arisen, to explain it to them and to spur them on to adapt themselves to this dynamic development of present-day society.

We are realizing more and more that in recent years there has been a real revolution in education, which has introduced into human society the process of life-long, permanent education. At the same time, we are realizing more and more that without properly based scientific research it will be difficult to make much further progress in the practice and theory of education. Such research, the need for which will become apparent to us once again in the next few days as we study our conference documents, must cover the whole field of education and bring in all the regional, economic, social, sociological and cultural factors involved.

It would assuredly be desirable for this conference to result in an increasingly lively exchange of ideas and experience between our countries in the field of comprehensive educational research and to lead to a strengthening of international co-operation. Accurate statistical surveys and basic research most above all cover the topics chosen for the work of our Vienna Conference, namely improvement and extension of access to higher education, more equitable opportunities for higher education, and the removal of existing barriers to education.

As I have already mentioned, it will be our task to bring enlightenment to our countries and to make sure that such new means of benefiting by further education as are made available by our educational authorities are actually used. Measures of support which the State can give include providing the necessary financial and material resources, increasing social mobility by more intensive information and guidance and by eliminating adverse regional façtors arising from remoteness from intellectual centres, from living in a small community or simply from economic weakness.

An important task in stimulating awareness of the need for education devolves especially on teachers, on those engaged in out-of-school activities and on the special guidance services. The so-called mass media also have a role to play.

The consultations and discussions during our conference will, I hope, reveal new aspects and provide new ideas for the solution of our common problems. Of course it will not be possible to devise a uniform model which can be followed blindly by everyone. We cannot disregard or deviate from our own historical development, nor can we overlook the fact that even now there is great diversity of social and cultural conditions in our countries.

The task before this Unesco Regional Conference in Vienna is a joint one. It expresses our common concern and responsibility for the education of youth, but also our anxiety to ensure that this education meets the justified demand and claims made on it by the economy, society and science.

It is a joy for me, Mr. Director-General and fellow Ministers, to be able to work here with you. I know that you have come to Vienna with good will and with the resolve to derive from this exchange of views the maximum profit for your own work. And so I look forward with the greatest optimism to the proceedings and results of this conference.

Address by H. E. Mr. Franz Jonas, President of the Republic of Austria

With the foundation on Unesco directly after the end of the Second World War, a world-wide organization engaged in international co-operation in the fields of education, science and culture was created for the first time in history. The fact that the subject of the first conference of the Ministers of Education of all European Member States of Unesco is 'Access to higher education' is both satisfactory and typical of the situation prevailing in industrialized Europe. All countries of this continent are faced with the same problem: the growing demand for highly qualified technical personnel. While it was possible in the past to acquire a universal knowledge, the tendency nowadays is towards a comprehensive mastery of a limited field. In view of the ever-broadening range of scientific knowledge, the all-round scholar is replaced by the specialist, who has to rely on the expert knowledge of other specialists.

Selection of those young people who will be able to go on to higher education begins in the primary school. It would be desirable for the ability, industry and the personal inclinations of the pupils to form the criteria for this selection. In fact, the decisive factors in access to higher education are often social origin, financial means or place of residence. This barrier of educational privilege has been frequently overcome, as no country can afford to neglect real ability if it wishes to hold its own in competition with other nations.

With the law on the promotion of education, under which State grants are available to students, the Austrian Republic has created the necessary conditions for allowing access to academic courses to the gifted sons and daughters of operatives, office employees and farmers. This marked an important advance towards the democratization of education, but the goal of meeting the evergrowing need for university graduates is still far from being achieved.

Energetic support for scientific research, the extension and co-ordination of educational guidance and vocational guidance, the promotion of adult education, modern aids to master ever more comprehensive curricula — these are important measures which must be taken in order to arouse and develop the intellectual powers of the people.

In the last few years the efforts to achieve more intensive European co-operation have been steadily gaining ground. We must all rejoice that these efforts are to be especially effective in the fields of education and school organization. The European peoples have inexhaustible reserves of intelligence, which need only be mobilized and released. The European Ministers of Education have a mighty task before them, which carries great responsibility but which will also ensure progress.

Work of the conference

The conference was attended by delegates from twenty-eight European Member States. Observers from eight non-European Member States were present, as well as observers from the Holy See. The United Nations, the Food and Agriculture Organization, the World Health Organization, the World Meteorological Organization and the International Atomic Energy Agency sent representatives. Observers were also present from seven intergovernmental organizations and twenty-four international non-governmental organizations. Altogether 222 delegates, observers, and representatives attended the conference. Of the twenty-eight delegations from European Member States of Unesco, twenty-four were headed by Ministers of Education.

At the proposal of H. E. Mr. Ştefan Bălan, the Minister of Education of Romania, H. E. Mr. Piffl-Percevic was elected President of the Conference by acclamation. On the proposal of H. E. Mr. Frans Grootjans, Minister of Education of Belgium, H. E. Mr. Pál Ilku (Hungary), H. E. Professor Luigi Gui (Italy), H. E. Dr. G. H. Veringa (Netherlands) and H. E. Mr. Olof Palme (Sweden) were elected vice-presidents of the conference and H. E. Professor Jean Livescu, Vice-Minister of Education of Romania, as rapporteur-general. These elected officers constituted the Steering Committee of the Conference.

The conference unanimously adopted the agenda and the Rules of Procedure.

The delegations of Bulgaria, the Byelorussian S. S. R., Czechoslovakia, Hungary, Poland, Romania, the Ukrainian S.S.R. and the U.S.S.R. regretted, however, that the German Democratic Republic had not been invited to the conference and that the documentation prepared by the Secretariat contained no information on access to higher education in that country. The delegation of the Federal Republic of Germany, on the other hand, maintained that the Executive Board's decision in the matter was perfectly justified.

The delegation of the United Kingdom, for its part, regretted that an invitation had not been sent to Portugal, a Member State of the Organization. The delegation of the U.S.S.R. recalled the resolutions of the General Conference of Unesco and of the General Assembly of the United Nations, which governed the Executive Board's decision.

Lastly, the delegations of Czechoslovakia, Romania and the U.S.S.R. expressed their regret that a number of international non-governmental organizations had not been included in the list of invitations.

At the recommendation of the Steering Committee, the conference set up a Drafting Committee composed of Mr. Kalervo Siikala (Finland), Mr. Yves Brunsvick (France), H. E. Mrs. Shirley Williams (United Kingdom), Mr. Eugène Egger (Switzerland), Professor A. I. Bogomolov (U.S.S.R.) and *ex-officio* H. E. Professor Jean Livescu, rapporteur-general, who was elected president.

The conference dealt with its agenda in plenary meetings only.

The following delegations took part in the debates:

Item 6.1. • Access to higher education from the point of view of the social, economic and cultural origins of students:

France, Yugoslavia, Czechoslovakia, Netherlands, United Kingdom, Italy, Poland, Belgium, U.S.S.R., Spain, Federal Republic of Germany, Hungary, Romania, Austria, Finland, Switzerland, Ukrainian S.S.R., Sweden, Bulgaria, Byelorussian S.S.R., Iceland, Turkey.

Item 6.2. • Access to higher education in relation to the present and foreseeable requirements of the development of the community:

Denmark, Poland, Hungary, Yugoslavia, Austria, Norway, Romania, Sweden, Finland, Ireland, Belgium, Spain, France, U.S.S.R., Netherlands, Czechoslovakia, Federal Republic of Germany, United Kingdom, Holy See.

The representatives of the following non-governmental organizations also spoke: World Federation of Trade Unions, International Association of University Professors and Lecturers, International Federation of University Women, International Union for the Scientific Study of Population, International Student Conference.

Under item 7 of this agenda, the conference discussed and adopted recommendations addressed to Unesco's European Member States and to the Organization itself which had been prepared by the Drafting Committee on the basis of draft recommendations submitted by the delegations of Poland, Spain, Romania, U.S.S.R., United Kingdom, Ireland, Sweden, Yugoslavia, Federal Republic of Germany, Belgium, Luxembourg, Netherlands, Switzerland, Hungary, France, Czechoslovakia, Bulgaria and Austria.

The report of the rapporteur-general, containing general considerations and conclusions arising out of the debate on items 6.1 and 6.2 of the agenda, was adopted by the conference under item 8 of the agenda before the closing meeting. The recommendations were drafted by the Drafting Committee, chaired by the rapporteur-general.

General considerations and recommendations

1. The Conference has re-emphasized the importance of education, and especially of higher education, in regard to economic, social, and cultural development in all parts of the world. Higher education is the most effective means of utilizing human resources and potential to the fullest degree.

2. The hope was expressed that adequate resources would be employed to ensure the exchange and comparison of experience among European countries. The discussions brought out the importance of concerted action under the auspices of Unesco, with particular reference to the standardization of data on education and to the organization of systematic documentation.

Further co-operation among European countries should facilitate comparative studies and co-ordinated research, dealing in particular with the modernization of teaching methods at all levels through the use of new educational methods and techniques.

3. The conference noted that the intake of students at secondary and higher level has increased considerably in all European countries in recent years, that this trend is likely to continue, and that it has created auxiliary problems, which all European countries are endeavouring to solve through some form of educational planning. This may take either the form of forecasts designed purely for guidance or that of fixing student and pupil quotas within a general development plan.

It was agreed that some specific mechanism for the planning of access to education, especially at the higher level, was necessary in the educational system. There were differences of opinion with respect to the practical operation of planning mechanisms to this effect.

There was also agreement as to the importance of studying the methodology of educational planning. To this end, Unesco and other international organizations should undertake research projects, which would both test and reinforce the effectiveness of planning methods.

4. All European countries are called on to do their utmost in meeting the increased demand for higher education. Many countries reported themselves as obliged to impose either some form of quantitative control or a stricter system of selection during study programmes. All European countries are continuing their efforts to increase possibilities of admission in order to meet the social demand through such measures as the creation of new universities, the diversification of higher studies and the improvement of student/teacher ratios.

5. The conference stressed the importance of the principle of continued guidance and counselling as constituting a means of co-ordinating the free choice of studies and professional careers (acknowledged everywhere as an individual freedom) with social requirements. Such educational guidance should set out: (a) to provide pupils and parents, by appropriate means, with information on scholastic opportunities and on the nature and prospects of the various occupations; (b) to observe and record the progress of pupils or students; (c) to detect and stimulate specific aptitudes and vocations, by such means as tests, more individualized instruction and by para- and out-of-school activities connected to the academic programme.

Such a system of guidance was viewed as a crucial element in preventing wastage of human and material resources in higher education by reducing the disturbing number of failures or drop-outs. In this connexion, the conference noted that, although useful research had been carried out, there was as yet no adequate basis for international comparisons of incidences of wastage and failure at different levels of education.

It was the general consensus that an exchange of experience or a compilation of existing systems of counselling and guidance in European countries,

together with a comparison of the methods used would be productive.

6. To meet with social requirements and the demands of technological development, higher education is being continually and effectively diversified in all European countries. This leads to the substitution of eliminatory and negative selections by counselling and guidance.

7. There was general agreement as to the continuing need to so improve curricula as to allow for a greater utilization of the results of educational research and the introduction for new methods. New materials of learning and instruction were also considered as crucial in facilitating a 'keeping abreast' of social and technological developments.

8. In the view of European countries, higher education can be expanded and developed only by eradicating at every level of education all factors of inequality relating to race, sex, language, religion, political convictions, national or social origin, economic position or birth, especially among workers and peasants.

The documents placed before the conference and the related discussions have emphasized that while effective action, in the form of free admission, scholarship and other financial assistance, and the creation of good living and working conditions (halls of residence, restaurants, transport, health services, and the provision of textbooks) are of great importance, the structure and content of education at every level still remain paramount factors in terms of access and academic success.

In this context, it was felt that the educational system should effectively counterbalance factors of social, cultural and economic inequality, particularly those incurred by a premature choice of courses leading away from higher education and professional careers. These measures should go hand in hand with more individualized teaching, in order to place guidance at the very mainspring of academic progress.

9. The opinion was shared that education is destined to become a permanent process applicable to employed adults as well. The possibility of following or resuming studies without the sacrifice of professional activity was viewed as a powerful factor in democratization, social mobility, adaptation to social requirements and for correcting socio-cultural inequalities experienced in youth.

It was further emphasized that continuing education is also a factor of major importance in economic and social development. The utilization of evening and correspondence courses, intensive short-term programmes of technical training and of instruction via radio, television and programmed instruction, is likely to contribute significantly to increased productivity by increasing the supply and diversity of highly qualified manpower.

10. In discussing the relationship between specialized training and subsequent employment, it was agreed that an unanticipated change in occupational direction on the part of a substantial number of students would have important repercussions on long-range educational plans.

11. As a means of increasing the exchange of European students, Member States stressed the importance of a system of equivalence of secondary school-leaving certificates and of mutual recognition of university degrees.

Further, study abroad was viewed as an effective means of overcoming inequalities and of significantly promoting agreement and mutual understanding between peoples.

12. Finally, the conference unanimously recognized the need for both European Member States and Unesco to seek effective ways and means of encouraging European co-operation with respect to education and especially higher education. In carrying out this task, the conference considered as desirable the adoption of the following recommendations, in the hope of encouraging co-operation and educational progress in Europe, thereby contributing to the cause of international understanding and peace.

GENERAL RECOMMENDATION [1]

The conference

1. *Recommends* that European Member States of Unesco and the Organization itself:

(a) consider appropriate ways and means of promoting activities designed to foster European co-operation in the field of education, and particularly higher education, taking into account the work already carried out by various national and international governmental and non-governmental organizations and expert meetings;

(b) develop the network of existing information services to enable a systematic and wider exchange of experiences relating to higher education;

[1] This General Recommendation is based on proposals contained in draft recommendations 1, 3, 4, 5, 6, 7, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 27, 28 and 29, submitted by the delegations of Poland, Spain, Romania, U.S.S.R., Ireland Yugoslavia, Federal Republic of Germany, Belgium, Luxembourg, Netherlands, United Kingdom, Switzerland, Hungary, France, Czechoslovakia, Bulgaria and Austria.

(c) stimulate educational research in connexion with problems concerning access to and future planning of higher education;

2. *Recommends*, moreover, to Unesco:

(a) to carry out, in close co-operation with European Member States, and taking into account the relevant work of international organizations, further methodological studies and to formulate recommendations concerning the provision of internationally comparable data and the standardization of educational statistics, terminology and definitions on topics relating to access to higher education;

(b) to explore the possibility of making provision in the Organization's future programme for a further Conference on Ministers of Education of European Member States.

RECOMMENDATION A[1]

The conference

1. *Recommends* European Member States of Unesco:

(a) to undertake further research into the educational process at the second level in relation to access to higher education, with particular reference to promoting active co-operation on the part of parents;

(b) to consider, in the light of national requirements and circumstances, and according to the procedures of specific national legislation, the elaboration of an educational system providing for continuous counselling and guidance and for the postponement of differentiation and narrow specialization as long as possible;

2. *Invites* Unesco to undertake a comparative study of systems of differentiation at the secondary level with a view to ascertaining their relative effectiveness in solving problems of access to higher education.

RECOMMENDATION B[2]

The conference

Recommends that Unesco continue its studies and work in the sphere of the comparability and equivalence of matriculation certificates and higher education diplomas and degrees, for the purpose of preparing and adopting, in the near future, an international instrument on the equivalence of secondary school certificates and university diplomas and degrees, taking into account the existing intergovernmental conventions.

RECOMMENDATION C[3]

The conference

1. *Invites* the European Member States of Unesco to become parties, if not already such, to the Convention against Discrimination in Education, which guarantees equality of educational opportunity for all without distinction of race, colour, sex, language, religion, political or any other opinion, national or social origin, economic position or birth;

2. *Recommends* that European Member States of Unesco, in order to widen access to higher education, examine the existing system of student welfare in consultation with student organizations, with a specific view to such measures as would abolish economic obstacles to education at both the secondary and higher levels;

3. *Recommends* that Unesco:

(a) undertake a comparative study of existing systems of admission in educational structures to higher educational establishments;

(b) pursue detailed studies on such special topics relating to access to education as the socio-economic origin of students, linguistic minorities, and enrolment and wastage rates.

RECOMMENDATION D[4]

The conference,

1. *Recognizing* the desirability for teachers to be trained in student guidance, and also that the provision of guidance and counselling at all stages of education be integrated with the application of new teaching methods and techniques and in particular individualized instruction;

2. *Recommends* Unesco to organize in 1969 or 1970 a European conference devoted to the problem of the modernization of higher education, with particular reference to the subject of guidance and counselling.

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[1] This recommendation is based on proposals contained in draft recommendations 1,10, 16 and 28 submitted by the delegations of Poland, United Kingdom, Sweden and Austria.

[2] This recommendation is based on proposals contained in draft recommendations 1, 7, 20 and 22 submitted by the delegations of Poland, U.S.S.R., Hungary and Czechoslovakia.

[3] This recommendation is based on proposals contained in draft recommendations 3, 7, 8, 9, 13, 14, 16 and 20 submitted by the delegations of Spain, U.S.S.R., United Kingdom, Sweden, Hungary and Poland.

[4] This recommendation is based on proposals contained in draft recommendations 2, 3, 6, 10 and 12, submitted by the delegations of Poland, Spain, Romania and the United Kingdom.

RECOMANDATION E[1]

The conference

Recommends European Member States of Unesco:

(a) to maintain statistics of access to the various forms of higher education which classify separately those students following full-time courses and those following part-time or correspondence courses;

(b) to find effective methods to provide those who have not followed the regular path to higher education with real possibilities for admission, by means of a policy based more on aptitude and factual knowledge than of formal requirements;

(c) to ensure the development of general and vocational education of adults who have not been able to benefit by the formal scholastic system and to permit thereby their access to higher education and a greater opportunity for social advancement; and, to this end, to organize courses for adults on higher education level, equipped with adequate educational facilities and making full use of modern methods of instruction.

RECOMANDATION F[2]

The conference

Invites Unesco to continue its work with regard to educational planning in co-operation with other competent international organizations, with particular reference to the following:

(a) the compilation and dissemination of information on the elaboration and implementation of educational plans in the European Member States;

(b) the study of the relationship between the educational specialization of students and their subsequent professional employment;

(c) the carrying out of detailed studies concerning the training of skilled manpower at institutions of higher education in relation to economic and social development, with special reference to such analytical studies as might improve the qualitative forecasting of educational needs;

(d) further research into the relationship between educational investment and the gross national product, with reference to the economic aspects of developing higher education;

(e) the establishment of more detailed criteria for comparative studies of the distribution of the student population, with particular reference to wastage at all levels of education;

(f) examination of the current and projected effects of economic, scientific and social change on educational systems, in order to determine appropriate measures to improve long-term forecasting techniques used in the planning of higher education.

RECOMENDATION G[3]

The conference,

1. *Considering* that European Member States of Unesco can make a major contribution, especially through their institutions of higher education, to assistance to the developing countries, with a view to advancing the development of their educational and cultural institutions,

2. *Invites* European Member States to encourage their institutions of higher education to lay greater emphasis on studies concerning aid for development, and to adapt their existing facilities more effectively to the training of experts capable of assisting the developing countries;

3. *Considering* that it might prove advantageous for the States concerned to exchange the results of the activities undertaken to this end,

4. *Is of the opinion* that it would be useful for Unesco, on the basis of these exchanges of information, to explore the possibility of organizing, in the near future, a consultation bearing on the training of European experts and specialist personnel for service in the developing countries.

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[1] This recommendation is based on proposals in draft recommendations 2, 6, 8, and 16 submitted by the delegations of Poland, Romania, United Kingdom and Sweden.

[2] This recommendation is based on the proposals contained in draft recommendations 1, 5, 6, 8, 9, 15, 18, 20, 21, 26, 28 and 29 submitted by the delegations of Poland, Romania, United Kingdom, Ireland, Yugoslavia, Hungary, France, Netherlands, Austria and Spain.

[3] This recommendation is submitted by the delegations of the Netherlands and Yugoslavia, based on draft recommendations 17 (Yugoslavia) and 23 (Netherlands).

Closing meeting

The conference was formally closed in the afternoon of Saturday, 25 November. The delegations of Hungary, Italy, Netherlands, Romania and Sweden proposed a vote of thanks to the Government of Austria. Similarly, the delegations of Austria, Hungary, Italy, Netherlands, Romania and Sweden proposed a vote of thanks to the Director-General of Unesco. Both were adopted by acclamation.

Mr. René Maheu, Director-General of Unesco, and Mr. Piffl-Percevic, Minister of Education of Austria and President of the Conference, addressed the meeting.

Vote of thanks

The conference,

Expressing, on the conclusion of its work, its appreciation of the warm welcome which it has received in Vienna;

Noting that the meeting of European Ministers of Education has taken place in circumstances of the greatest hospitality and cordiality;

Thanks the Austrian Government for having facilitated its task so successfully;

Expresses its gratitude for the generosity extended;

Requests the President of the Conference to be so kind as to convey its gratitude and cordial greetings to the President of the Republic.

Address by Mr. René Maheu, Director-General of Unesco

Mr. President,
Your Excellencies,
Ladies and Gentlemen,

Now that your work is drawing to a close, it is only fitting that I should express my satisfaction at both the excellent results you have achieved and the atmosphere of cordiality and mutual understanding which has prevailed throughout your debates and which has certainly been due in large measure, as I have already said on several occasions, to the generous and courteous hospitality extended to us by our Austrian hosts.

That this first Conference of Ministers of Education of the European Member States of Unesco should have proved — as everyone agrees — so successful is due first and foremost, I believe, to the fact that it has been a working conference, characterized by the serious-minded, critical approach and impartiality of the participants. However, just as the study of technical questions has been greatly facilitated by painstaking preparatory work in which Member States and the Secretariat collaborated for nearly two years, the recommendations addressed to Member States and to Unesco respectively can become a reality only through long-term methodical action which should be carried out at two levels.

As regards Member States, it is not for me to prejudge what each of you may have derived from this meeting and the action you may wish or be able to take as a result, but it is my belief that the exchanges of views and comparisons of experience which have taken place here can but have a stimulating effect and will no doubt prompt you to review procedures for admission to higher education in your respective countries, each deriving benefit from what is being done elsewhere in Europe, both in the countries which are physically and spiritually closest and in those which may at first sight appear the furthest removed and most dissimilar. For your conference has shown that whatever differences may exist in the matter of principles between the various educational systems in Europe, these difference are infinitely smaller when it comes to techniques, methods and practices, than one would imagine on looking at the problems from the angle of differing ideologies.

The great significance of the general considerations — in my opinion, extremely well-worded — which you have just adopted is that they form a body of ideas which you have deemed sufficiently acceptable to your respective countries, albeit in varying degrees, to be unanimously approved. This goes to show — and it is a very remarkable fact — that there is an intellectual frame of reference common to the European countries, at least as regards access to higher education, which is the keystone of any educational system. It means that you do not live in mutually exclusive intellectual worlds and that, as a result of the discussions you have held, your governments are, on the contrary, in a position to make rewarding comparisons, and in the light of these to draw conclusions which may possibly lead some of them to take over certain concepts from others, each of course acting on its own sovereign authority and in accordance with its own particular needs and circumstances.

As far as Unesco is concerned — that is to say your Organization, which is happy and proud to have brought you together here — the general considerations provide a rich harvest of comments, observations and ideas which, even though they may not all be included in the final report, have been carefully noted by my colleagues and myself and will certainly not only help to extend our knowledge but will also serve as a constant source of intellectual inspiration.

With regard to the recommendations, in which you have advocated various practical measures, I can at this stage only make impromptu comments, since I have not had time to consider them in perspective and I cannot of course commit the Organization, for that I have no power to do. Generally speaking, it seems to me that your conference would like to see Unesco's efforts to organize and facilitate intra-European co-operation in higher education pursued along three lines which I should now like

to indicate briefly, bearing in mind the directives I shall be giving my colleagues next week when we begin preparing the Draft Programme and Budget for 1969—70.

Firstly, you have rightly emphasized the need for improving the comparability of international data through the standardization of educational statistics, terminology and definitions. This is indeed a basic task which is fully within the competence of an international organization and which the Secretariat, itself lacking adequate facilities, will strive to carry out with the help of experts and taking into account the work already done in this respect by other national and international governmental and non-governmental organizations.

Secondly, you have said that you wish Unesco to conduct studies on several subjects, and here again the task will not be undertaken by the Secretariat alone but will be carried out with the participation of Member States, acting at Unesco's request. These studies, organized on parallel lines, will deal on the one hand with planning — aimed at defining the needs of society — and, on the other, with the guidance of students in accordance with their abilities and their personal aspirations. In view of the budgetary limitations of Unesco's programme, I cannot of course guarantee that I shall be able to meet all your requests, or at least not immediately, and it will probably be necessary to spread these studies over a period of time, according to their degree of urgency. However, whether they are undertaken within the next two-year period or later, they should be conducted concurrently so as to maintain the balance to which several delegations have referred. For certain delegates may have feared, when the conference began, that there might be a pointless conflict between two schools of thought, one insisting on the value of planning, the other stressing the inalienable rights of the individual and therefore considering that planning as such should be only a technique, allowing of the integration of all individual options.

Personally, I have listened with unflagging interest to the dialogue in which these two arguments emerged again and again in various forms, like contrapuntal themes in music, sometimes in contrast, sometimes in harmony. And it is remarkable that your discussions, far from confirming those early fears, have on the contrary shown that, in Europe at any rate — and this is probably true of other regions also — planning and guidance are complementary concepts; they are interdependent and there is no need to make a theoretical choice between them. It is in fact a question of harmonization; the ways and means of achieving it may vary from one country to another for reasons that are not all of an educational order but amount to imperatives from which education itself cannot escape. However different the approaches adopted, the necessity for this harmonization emerges clearly from your debates, as witness the paragraph of the general considerations in which you affirm alike the requirements of planning and the freedom of the individual. And it is precisely in order to assist your efforts to maintain a proper balance between the needs of society and the aspirations of the individual, and to help you to elucidate certain problems concerning the methods and techniques of planning and guidance that Unesco feels bound to co-operate with you in carrying out the two types of parallel studies which you have recommended it to undertake. I would merely say, in this connexion, that planning has been given so much prominence in Unesco's current programme that the studies to be conducted in the coming years ought probably to be focused on guidance.

Finally, the third line of action which your conference would like to see Unesco pursue is the preparation and convening of a further Conference of Ministers of Education of the Organization's European Member States for the purpose of continuing, probably in connexion with some other topic, the intra-European co-operation which has been instituted here for the first time, at ministerial level, in the domain of higher education.

Although I personally naturally welcome this recommendation, I should like to make it clear at once that the proposed conference cannot, for various reasons, be held for several years. This is because, in addition to the need to space out the conferences of Ministers of Education which Unesco organizes periodically in various parts of the world, I do not think it would be in the interests of the ministers themselves to meet too often, owing to their heavy duties. Moreover, a certain perspective is required in order to understand the evolution of the problems; and, as you can judge for yourselves from your present meeting, the value of a conference depends, to a very large extent, on the intellectual work done beforehand and on such practical follow-up action as may be taken. Lastly, there are other sectors demanding our attention and the next ministerial conference convened by Unesco in Europe will probably be a conference of Ministers of Science.

As for the theme of the second Conference of Ministers of Education of European Member States, it is impossible to decide this without waiting to see how things go and remembering that other matters may take precedence over those which at present seem to us to be the most important and urgent. However, if I were called upon to propose a subject today, I should choose that of wastage at all educational levels — primary, technical, secondary and higher. For the conference would thus have an opportunity to assess the effectiveness of the techniques and methods of planning and guidance which you have just been discussing. It is a fact that every time a boy or girl drops out, it proves that the educational

system has failed to direct the student towards the sector in which he or she could have been useful, and has thus not met a social need, or else has not enabled a human being to develop his or her abilities to the full. No one, however underprivileged, ought to be doomed to intellectual and moral sterility; it is therefore an imperative duty for educators to give everyone a chance to develop fully, even if such development should come a little late or be somewhat limited in comparison with the efforts made.

Europe, thanks to its prosperity, its technical progress and its great cultural and scientific heritage, is on the way to solving its quantitative problems in education, a process sometimes described in a somewhat over-simplified manner as the 'democratization of education'. True, all is not yet perfect in this respect but, if one compares Europe with other regions of the world, this is certainly not the most disturbing problem. On the other hand, and precisely because there has been such a tremendous quantitative expansion, priority should now be given to the quality of educational systems. Hence the importance, for you who are responsible for education in Europe, of meeting to carry out a joint study, with the seriousmindedness and critical objectivity which you have just demonstrated, of the question of wastage, a sure indicator of the deficiencies of educational systems.

But now the time has come to conclude and, before we go our separate ways, I should like to try to bring out the general and (why not say it ?) political significance of your conference, which seems to me more important still than the merits, however great, of your technical conclusions and recommendations.

Although one should certainly exercise caution and moderation in speaking of this aspect of your meeting, yet I think I may say that the whole world has felt that this conference is an outstanding event, not only because of the interest of the topic chosen and the weight which your opinions carry, but also and above all, because for the first time in this divided continent, you have testified to Europe's solidarity.

To the world at large, Europe is known principally for its struggles and factions. It is the scene of *La Thébaïde ou les frères ennemis*, a breeding ground for rivalries and competing appetites, ceaselessly recurrent, which have not only devastated this continent but have reached beyond the seas, dividing and cutting up countries and peoples and setting them against one another over the entire surface of the globe — a continent where, twice in the course of this century, wars steeping the entire world in blood have broken out and raged.

It is consequently of exceptional and vital significance that, on the occasion of a conference convened in the heart of this continent you should have been able, within the universal context of Unesco, to make yourselves remarked by your similarities far more than by your differences. The co-operation you have initiated here in education — a privileged and fundamental sector for the moulding of minds and consequently for mutual understanding between peoples — implies, as I said a moment ago, recognition of the existence of a common intellectual frame of reference and requires that it be strengthened. As you well know, this is the basic prerequisite for all technical, economic and political construction in Europe. Co-operation is more catching than hatred and perhaps it is not too bold to hope that the example which you have just set will encourage similar attempts in other fields.

Do not fear — particularly now that Europe is emerging from the phase of colonial domination — to emphasize your solidarity. For, allow me to say once again, the world is afraid, not of the unity of this turbulent continent, but of its discords. What it expects of Europe is the reconciliation of the warring brothers. It has suffered so sorely over the centuries from your hatreds, battles and divisions, that the best contribution, the best hope, you can offer it is the evidence and demonstration of your rediscovered spiritual brotherhood.

Closing speech by H. E. Mr. Theodor Piffl Percevic, Minister of Education of the Republic of Austria

Mr. Director-General of Unesco,
Fellow Ministers,
Ladies and Gentlemen,

Today sees the close of a conference which has several times during the proceedings been described as 'historic'. We are entitled to interpret this as a recognition of the work we have done and of its success; but we must also beware of the danger which such recognition of the conference's historical nature brings with it.

That our conference can undoubtedly already claim to be an historic event is due firstly to the fact that it is the first Conference of the Ministers of Education of the European Member States of Unesco. Secondly, it is due to the subject of the conference, which has produced an extraordinarily wide range of information and discussion and, through consideration of national educational systems and plans for their further development, has raised basic questions of education. Thirdly, the results of our debates, in which the common aim has taken precedence over national viewpoints and requirements, show that the special value attached to this conference has been justified.

However, events are also called 'historic' because they are unique; it is most undesirable that our Vienna Conference should in future be known as 'historic' in this sense, that is, be thought of merely as a single meeting of European Ministers of Education. For the point is not so much to arrange for a given series of ministerial conferences, but above all to ensure that this conference and the results and spirit of this conference make themselves felt in our daily work. Here lies the real test of the success of the work we have done during the last few days.

In his speech at the opening of the conference, Mr. Maheu declared his conviction that the effects of our discussions would be felt far beyond the frontiers of Europe. I am sure that these effects will be so felt because, in the profound reshuffling common to all educational systems today, enlightening contributions resulting from factual discussions which respect individual characteristics and autonomous rights are of the greatest value. Such contributions can be made available to many countries, once they have been further worked out on the basis of the conference's results, perhaps by groups of experts or in meetings on more specific subjects.

For a Minister of Education, concern for the future of his country means first and foremost concern for shaping the future for youth. The future of young people, who will form the society of tomorrow, cannot, in certain vital areas, be predesigned or preplanned; in many cases, they who are now growing up — the members of tomorrow's society — will have to decide it for themselves. Hence the importance of preparing and equipping our youngsters for taking decisions with a clear and critical understanding of the requirements in each case and with a sense of responsibility towards society. I believe that it is possible on this pedagogical basis to achieve harmony between the interests of the individual on the one hand and of society on the other.

A new conception of the tasks of education and of the scholastic function in modern society does not mean that the young man who is a student and thus a learner is spared all effort. There can be no question of relieving a student of the effort of work, but far rather of making the work rational and justified and thus at the same time promoting a sense of responsibility towards the community.

To achieve this, far more trouble must be taken about the educability of young people. Educability means not merely that a child's capacities should be more exactly and fairly assessed than hitherto; it is far more a case, with many children, of having first to awaken those capacities. In doing this and arousing the children's interest, the school must undertake totally new tasks which go far beyond those hitherto recognized as the tasks of education.

The principle of continuous orientation and guidance for pupils in the matter of educational opportunities and the growing demands of the professional and working world forms the core of Recommendation A of our conference. I consider this principle

extremely important and capable of leading to a flexible structure of our school system. It is, however, a prerequisite that the teachers should properly understand this new function of the school and should be thoroughly prepared to carry it out. This will call for special interest on the part of the Ministers of Education.

The principal theme of our conference, 'Access to higher education', led our discussions and also our recommendations more emphatically than was perhaps originally expected into the field of immediate pre-university study — secondary education, high schools and their senior classes. The remarks of the Rapporteur-General have once again opened our eyes to the scope of the problem. We are reminded that stagnation, whether in the matter of principles or in that of organization — be the approach what it will — endangers the attainment of the goal towards which we are all striving. And what is this goal? It is to enable, by means of an egalitarian and fair educational system, the maximum number of young people to benefit by higher education in accordance with their capabilities and the interest which they have been trained to take in their studies, and thereby to prepare them for their future careers.

Ladies and gentlemen, it is quite impossible at this time to take exact stock of our work here. But it is quite certain that this great conference has developed into a working partnership in the true spirit of Unesco. This achievement is due primarily to you, my fellow ministers, and I thank you, as President of the Conference, as the representative of the host country, Austria, and also as your colleague. The main weight of the discussions fell upon you, ministers and heads of delegations; and it was your readiness to play your part and to collaborate with all due comprehension that ensured the success of this conference. I thank you, and I know that the vice-presidents of the conference, who supported me so nobly in the arduous task of leading the discussions, wish to join me in this expression of gratitude to you and to the delegations you lead.

How is one to find fresh words, Mr. Director-General, to thank you for the work you have done with the backing of one of the most significant of the United Nations agencies? On behalf of all who have taken part, as well as on my own, I thank you for your unremitting concern for this conference. I thank you for the precise directives you gave for our work and for your friendly counsel in dealing with the difficulties we encountered.

I should like to express my thanks to the observers who came from distant continents to attend this European regional conference, or else took part in the conference as representatives of other international organizations and followed the debates with great interest and with active sympathy.

A conference of this size is a living, throbbing, highly complex organism. If it is to remain functional in all its parts and as a whole, such an organism must be at once clear-cut and flexible. For the achievement of this organization, which is most impressive when least evident, we have to thank the secretariat and the whole staff of the conference. I thank the ladies and gentlemen in the interpreters' booths and the translators' offices, whose performance was brilliant and made no small contribution to our understanding, and I thank also the technicians, the secretaries, the assistants in the conference hall, and all who have striven so effectively in these past days — and many of them even earlier — to make the conference a success. My thanks go to the representatives of the press and information services, the radio and television, all of whom have reported so tellingly on the conference that it attracted general public interest.

Permit me finally, ladies and gentlemen, to offer my heartfelt thanks, last but not least, to my Austrian colleagues.

Austria is a land of meetings and Vienna, as the capital, is the centre of such meetings. I trust that our meeting, exchanges of experience and discussions in this Austrian atmosphere have been of use and value to you and your countries and that work for youth in our lands will be enriched thereby.

And now, all that remains for me to say is that I hope your stay in Vienna may end on a happy and enjoyable note and I wish you a pleasant journey home.

The First Regional Conference of Ministers of Education of European Member States of Unesco is hereby closed.

Appendixes

Agenda

1. Inauguration of the conference.
2. Election of the president.
3. Adoption of the rules of procedure.
4. Adoption of the agenda.
5. Election of the vice-presidents and of the rapporteur of the conference.
6. General trends relating to access to higher education in Europe:
   - 6.1. Access to higher education from the point of view of the social, economic and cultural origins of students.
   - 6.2. Access to higher education in relation to the present and foreseeable requirements of the development of the community.
7. Impact of these trends on the admission process.
8. Adoption of the report and conclusions of the conference.

List of documents

Unesco/Mineurop/1	Provisional agenda.
Unesco/Mineurop/2	Provisional rules of procedure.
Unesco/Mineurop/3	Factual background document on access to higher education in Europe.
Unesco/Mineurop/3b	Comparative statistical data on access to higher education in Europe.
Unesco/Mineurop/4	Access to higher education from the point of view of the social, economic and cultural origins of students.
Unesco/Mineurop/5	Access to higher education in relation to the present and foreseeable requirements of the development of the community.
Unesco/Mineurop/6	Draft final report.
Unesco/Mineurop/Inf. 1	General information.
Unesco/Mineurop/Inf. 2 rev.	List of documents.
Unesco/Mineurop/Inf. 3 rev. 1	List of delegations, representatives and observers.
Unesco/Mineurop/Inf. 4	Secretariat of the conference.
Unesco/Mineurop/Inf. 5	Programme of the conference.
Unesco/Mineurop/Inf. 6	Seating arrangements for the inaugural ceremony.
Unesco/Mineurop/Inf. 7	Composition of the Steering Committee.
Unesco/Mineurop/Inf. 8	Draft recommendations submitted to the conference by its Drafting Committee.

List of participants[1]

EUROPEAN MEMBER STATES INVITED TO PARTICIPATE IN THE CONFERENCE (DELEGATES)

FEDERAL REPUBLIC OF GERMANY

S. Exc. M. *Claus-Ioachim von Heydebreck*, président de la Conférence permanente des ministres de l'éducation des Länder, Ministre de l'éducation du Land de Schleswig-Holstein.
Dr *Luitpold Werz*, Ministerialdirektor, chef du Département culturel du Ministère des affaires étrangères.
M. *Karl Ulrich Hagelberg*, directeur des affaires culturelles au Ministère fédéral de l'intérieur.
M. le professeur Dr *Georg Eckert*, président de la Commission nationale pour l'Unesco.
Dr *Hans Reimers*, directeur du Sénat.
M. le professeur Dr *Hermann Krings*, recteur adjoint de l'Université de Saarbrücken, représentant de la Conférence permanente des recteurs.
Dr *Werner Kalisch*, Ministerialrat, Ministère de l'éducation du Land de Niedersachsen.
Dr *Hanns Hieronymus*, Regierungsdirektor, Ministère fédéral de l'intérieur.
Dr *Hermann Granzow*, secrétariat de la Conférence permanente des ministres de l'éducation des Länder.
Dr *Christoph Oehler*, secrétariat de la Conférence permanente des ministres de l'éducation des Länder.
Dr *Franz Zeit*, secrétaire général de la Commission nationale pour l'Unesco.

AUSTRIA

S. Exc. M. *Thedor Piffl-Percevic*, Ministre de l'instruction publique.
S. Exc. M. *Franz Karasek*, envoyé extraordinaire et Ministre plénipotentiaire, directeur général des Services des relations culturelles avec l'étranger du Ministère de l'instruction publique.
S. Exc. M. *Johannes Coreth*, envoyé extraordinaire et Ministre plénipotentiaire du Ministère fédéral des affaires étrangères.
M. *Walter Brunner*, directeur général du Service de l'enseignement supérieur.
M. *Ludwig Wohlgemuth*, directeur général du Service de l'enseignement secondaire général.
M. *Georg Golser*, directeur général du Service de l'enseignement secondaire technique et professionnel.
M. *Karl Haerti*, directeur général des Beaux-arts et de l'enseignement artistique supérieur.
M. *Anton Grosel*, directeur du Service des relations multilatérales avec l'étranger.
M. le professeur *Richard Kerschagl*, professeur à l'École supérieure des sciences commerciales de Vienne, président de la Commission autrichienne de l'Unesco.

BELGIUM

S. Exc. M. *Frans Grootjans*, Ministre de l'éducation nationale et de la culture.
M. *Henri Levarlet*, sécretaire général du Ministère de l'éducation nationale et de la culture.
M. *Jean Baugniet*, recteur honoraire et professeur à l'Université libre de Bruxelles, président de la Commission nationale belge de l'Unesco, président d'honneur de l'Association internationale des universités.
M. *Armand Hacquaert*, professeur a l'Université de l'État à Gand, vice-président de la Commission nationale belge de l'Unesco, secrétaire général de l'Association internationale des professeurs et maîtres de conférences des universités.
M. le baron *Conrad van der Bruggen*, professeur a l'Université catholique de Louvain, vice-président du Conseil supérieur de l'enseignement technique.
M. *Roger de Meyer*, directeur général de l'Enseignement supérieur et des sciences, conseiller au Cabinet du Ministre de l'éducation nationale.
M. *Alain Stenmans*, chargé de recherches, chef de service au Conseil national de la politique scientifique.
M. *René Noerens*, secrétaire de cabinet du Ministre de l'éducation nationale.
M. *Robert Pierlet*, conseiller-chef de service au Ministère de l'éducation nationale et de la culture, secrétaire de la Commission nationale belge de l'Unesco.

[1] Names and titles in this list are reproduced as submitted to the Secretariat by the governments and organizations concerned, and are presented in the French alphabetical order of countries.

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H. E. Mr. *M. V. Doroshevich*, Minister of Higher and Special Technical Education.
Mr. *V. M. Krivoshein*, Ministry of Higher and Special Technical Education.

BULGARIA

S. Exc. M. *Gantcho Ganev*, Ministre de l'instruction publique.
M. le professeur *Ivan Nenov*, Premier vice-ministre de l'instruction publique.
M. le professeur Dr *Rumen Yanakiev*, chef du Département de l'organisation scientifique du travail et du traitement de l'information.

CYPRUS

H.E. Mr. *Constantinos Spyridakis*, Minister of Education.
Mr. *Phrixos Vrachas*, director of the Department of Secondary and Higher Education.

DENMARK

H. E. Mr. *K. B. Andersen*, Minister of Education.
Mr. *Bjørn Brynskov*, chief of department, Ministry of Education.
Mr. *Sigurd Højby*, director in the Ministry of Education.
Mr. *Jørgen Ebbe Hansen*, secretary in the Ministry of Education.
Miss *Birgit Nielsen*, secretary of the Danish National Commission for Unesco.

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M. *José Ramon Perez Alvarez-Ossorio*, directeur général de la promotion et de la coopération scientifique, Ministère de l'éducation nationale et de la science.
M. *Juan Manuel Martinez-Moreno*, Sous-secrétaire d'État à l'enseignement supérieur et à la recherche.

FINLAND

Mr. *Kalervo Siikala*, director, Department of International Affairs, Ministry of Education.
Dr. *Martti Takala*, director of Higher Education and Research, Ministry of Education.
Professor *Viljo Kuuskoski*, professor at the Hensinki Institute of Technology.
Mr. *Kalevi Sorsa*, deputy director, Department of International Affairs, Ministry of Education; secretary-general of the Finnish National Commission for Unesco.
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M. le professeur *François Chamoux*, professeur à la Sorbonne; conseiller technique à la Direction des enseignants supérieurs.
M. *Yves Brunsvick*, secrétaire général de la Commission française pour l'éducation, la science et la culture.
M. *Bernard Dorin*, conseiller technique au cabinet du Ministre de l'éducation nationale.
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Mlle *Arlette* de la *Loyere*, conseiller de presse au Ministère de l'éducation nationale.
M. *Pierre Garrigue*, conseiller culturel de l'Ambassade de France en Autriche.

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M. le professeur *Spyridon Marinatos*, membre de l'Académie.
S. Exc. M. *Angelos Vlachos*, Ministre plénipotentiaire, directeur des affaires culturelles au Ministère des affaires étrangères.
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IRELAND

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Mr. *Tor Holtan-Hartwig*, counsellor, Ministry of Church and Education.
Mr. *Per Gisvold*, secretary-general, Norwegian National Commission for Unesco.
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H. E. Mr. *S. de Gorter*, Minister Plenipotentiary and permanent delegate to Unesco.
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M. le professeur *Ion Ursu*, vice-recteur de l'Université de Cluj.
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UNITED KINGDOM

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Sir *Robert Aitken*, vice-chancellor, Birmingham University.
Mr. *R. J. Guppy*, Assistant Under-Secretary of State, Department of Education and Science.
Mr. *L. C. J. Martin*, head of the Unesco Branch, Ministry of Overseas Development; permanent delegate of Great Britain and Northern Ireland to Unesco.
Mr. *R. Redfern*, director of statistics, Department of Education and Science.
Mr. *I. M. Wilson*, assistant secretary, Scottish Education Department.
Mr. *J. M. Benn*, permanent secretary, Ministry of Education for Northern Ireland.
Miss *K. Stewart*, private secretary to the Minister of State.

SWEDEN

H. E. Mr. *Olof Palme*, Minister of Education and Cultural Affairs.
Mr. *Lennart Sandgren*, Under-Secretary of State, Ministry of Education and Cultural Affairs.
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Mr. *Ulf Norström*, first secretary, Swedish Embassy, Vienna.

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M. le Dr *Štefan Chochol*, Vice-ministre de l'Instruction publique en Slovaquie.
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M. *Josef Suva*, ingénieur, expert chargé des questions de l'éducation supérieure.
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Dr *Vladimír Čech*, conseiller de la délégation.
M. *Ján Erben*, conseiller de la délégation.
M. le Dr *Miroslav Bažány*, conseiller de la délégation.

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