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ABSTRACT

This report deals with some of the basic problems member countries of the Organization for Economic Cooperation and Development have to face as they approach the threshold of mass higher education. Part I deals with the issues in the planning of future overall structures of post-secondary education. Specifically, it discusses: (1) prospects of further growth; (2) economic constraints; (3) the end of elitist higher education in Western Europe; (4) deficiencies in the existing structures; (5) the relationship between secondary and post-secondary education; (6) different models of mass higher education; (7) differences in the curricula of the traditional and the mass higher education system; and (8) the relationships between higher education and society and education and employment. Part II of the report deals with the problems involved in short-cycle education outside the universities, specifically the different models of short-cycle higher education institutions (SCI) such as the junior colleges, polytechnical schools, etc. Also discussed are the objectives and motivations behind the development and reform of the SCI and the issues and dilemmas that have to be faced. (AF)

TOWARDS NEW STRUCTURES OF POST-SECONDARY EDUCATION

A Preliminary Statement of Issues

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT
PARIS - JUNE 1971

TOWARDS NEW STRUCTURES OF POST-SECONDARY EDUCATION

A PRELIMINARY STATEMENT OF ISSUES

ORGANISATION FOR ECONOMIC
CO-OPERATION AND DEVELOPMENT

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SHORT CYCLE HIGHER EDUCATION

PREFACE

The OECD Education Committee's programme of work provides for the preparation of a general report on the planning of future structures of post-secondary education, as a follow-up to the completed work on the growth, development and change which have taken place in higher education during the past two decades. Work in this area was given high priority in the Conclusions of the OECD Conference on Policies for Educational Growth (Paris, June 1970) and was also specifically requested of the Organisation by the Sixth (1969) Conference of European Ministers of Education.

The attached report, prepared by the Directorate for Scientific Affairs, represents a first attempt to portray some of the main issues and ideas which appear to the Secretariat, at the present stage, to embody the essence of the problems which most Member countries have to face as they approach the threshold of mass higher education. In preparing it, the Secretariat has leaned heavily on the results of its earlier work on the statistical survey of higher education and its analysis, as far as past trends are concerned, and on statements which various Member countries have submitted concerning their future policies for post-secondary structures. Supplementary material was also available in a series of case-studies on innovation in higher education together with a preliminary synthesis of their results.

It was felt by the Education Committee, when it considered the present text, that as a preliminary statement of issues, it could be usefully made available to a wider audience so as to stimulate discussion in the Member countries pending the completion of the full report. The views expressed in this report are those of the Secretariat and not necessarily those of the Education Committee or of the Member governments.

The report is in two parts: Part One deals with the issues in the planning of future overall structures of post-secondary education whereas Part Two goes into more detailed consideration of one specific aspect of this problem, that of short-cycle higher education.

SUMMARY OF THE REPORT

PART ONE : OVERALL STRUCTURES

1. In its first section (A) the report recapitulates some of the main conclusions arising from the work of the Secretariat on the development of higher education in Member countries during the period 1950-1967. These conclusions point towards a high probability of further expansion during the next decade. This is due partly to the existence of important growth potentials, and partly to a number of policy measures recently taken in most countries. The three most significant potentials derive from the following situations:

(a) enrolment ratios are still relatively low almost everywhere, particularly in the European Member countries;

(b) the trend towards the generalisation of secondary education, which has so far been the most powerful factor of growth of post-secondary education;

(c) present disparities in educational participation due to social and regional origin and to sex are still considerable, and policies towards wider and more equal participation will lead inevitably to an increase in global demand for higher education.

2. Formally adopted policies have already generated a process by which these three potentials will be translated into actual additional flows of students: admission to higher education of graduates from all types of secondary schools, creation of post-secondary establishments in places and regions "closer to potential consumers" and, above all, emphasis given everywhere to the principle of social demand and equality of opportunity.

3. Projections concerning future enrolments made in different Member countries confirm the high probability of growth in the course of the next ten to twenty years.

4. There is no a priori reason why economic constraints should lead to a substantial slow-down of this growth during the next ten years or so. Analysis of the US experience over the past thirty years shows that there has been no decline in the rate of return to higher education. Even if it should occur, it can be argued that it will not lead to a decline of the global demand, because a number of indicators arising both from the behaviour of the student body and from official policies point towards a shift from predominantly investment-oriented to a more consumption-oriented perception of higher education.

5. Partly as a result of past growth, and partly as a consequence of a number of socio-economic factors, present post-secondary education systems are confronted with a set of problems radically different in nature from those encountered in the past. The main thesis of the present report is then that most countries are in an intermediary and critical period, in between elitist and mass higher education, the former giving way under the pressure of numbers and of a series of new problems, the latter requiring structures and content which have not yet been developed and only partly defined.

6. Four types of deficiencies in the existing structures are briefly examined:

(a) the existing systems are not sufficiently diversified and thus in contradiction with the increased diversity of the student population and of the economic needs; the diversification which exists led, in most cases, to a hierarchisation of the system into "noble" and "less noble" parts, and thus to new rigidities;

(b) this rigidity acts as a brake on attempts to develop rational solutions to severe cost and financing problems;

(c) it also diminishes substantially the development of the necessary capacity for change;

(d) present systems are clearly not adapted to the emerging value structure of the new student generation, comprising goals such as "self-fulfilment", "quality of life" and "individual development".

7. In its second section (B) the report identifies five specific issues (as below) which are crucial to the development of mass higher education structures. The main feature of such structures is defined by the concept of unity and diversity of higher education, unity implying essentially easy flows (of students, teachers and financial resources) from one field and level of study to another, as well as from one institution to another and, in general, effective co-ordination of the various existing institutions, as well as a minimum of integrated planning; diversification meaning principally an increased variety of educational offerings (of patterns of study, of degrees and of ways in which to obtain them).

8. Relationship between secondary and post-secondary education. It is shown that mass higher education cannot become a reality without mass secondary education, and that the nature of the link between the two levels must change. It is suggested that in the future an even more comprehensive concept than post-secondary education should be used, that of post-compulsory education, the principle of unity and diversity being consequently applied to upper secondary, university and non-university higher education considered as a whole. Such a concept becomes even more important in the perspective of recurrent education. Curriculum and structural consequences in this perspective are clearly far-reaching and a co-ordinated approach on both levels is indispensable.

9. Institutional components of mass higher education. It is suggested that in this respect four models of post-secondary structures are emerging:

(a) integrated comprehensive university model, implying the creation of a new organisational unit which incorporates all the previously separated forms of post-secondary education - short-cycle and long-cycle, academically and vocationally oriented, part-time and full-time (e.g. German Gesamthochschule, Danish University Centre);

(b) binary model, which maintains, at least temporarily, two more or less separate sectors of post-secondary education: traditional

universities on the one side and other post-secondary institutions on the other. However, the non-university sector comprises practically the whole range of available forms of post-secondary education as mentioned under (a), and its status is improved, for example, by providing research possibilities for its teachers or possibilities for its students to acquire university level degrees (e.g. U.K.);

(c) combined model, in which also two sectors co-exist but their linkages are rather close; mobility of students and teachers between them are facilitated and encouraged;

(d) first-cycle multipurpose college model, creating an institution situated between the upper secondary and higher post-secondary levels and through which everyone intending to pursue his studies after secondary school has to pass, whether he wishes to enter practical life after two years or to continue at university.

10. Curriculum. Whereas traditional systems concentrated only on a relatively small number of well established and academically recognised disciplines, mass higher education has to provide a wide and continuously changing range of fields of study and degrees. Another, more important, difference relates to the structure of studies, i.e. to the usual sequences between general and specialised education, between theoretical and practical instruction, and also between formal education and work experience. Existing structures and prevailing pedagogy postulate only unilateral relationships and flows, from general to specialised, from abstract and theoretical to practical, from education to job.

It is suggested that new structures must provide possibilities also for different and reversed sequences, and thus offer alternative structures of studies.

11. Relations between higher education and society. It is suggested that the new functions assigned to higher education - such as continuing education, extension services, participation in regional development - must become an integral part of the

goal structure of higher education institutions, not only their marginal activities. This could, possibly, be realised by relating more closely these new functions to the traditional ones (teaching and research) and by considering students' and teachers' participation in the service to the community programmes as part of their normal learning, teaching and research process, for which also appropriate credit will be given. It is argued that this approach would also contribute to the equality of opportunity objective and to the role of post-secondary education as a positive contribution to social justice.

The extended functions of higher education and its closer link to society have also a bearing on the problem of autonomy versus control. It is suggested that an appropriate balance could be feasible in a mass higher education structure due to a number of trends and counter-trends, as well as to its diversified and pluralistic nature.

12. Relationships between education and employment. It is suggested that this relationship in mass higher education will be more diffuse than in traditional higher education, the same particular type and level of education leading to a larger number of types and levels of job, and vice versa. The main obstacle to this development seems often to be the value structure of both students and employers who might still view the emerging mass higher education system and its inevitably diffuse links to employment with a value structure inherited from elitist higher education.

This issue also poses the problem of the relationship between education and certification. Both are at present too closely linked, the latter imposing to a large extent extraneous requirements on the educational process and system. A certain dissociation seems necessary and the question must be raised whether education institutions should not begin to liberate themselves from the constraints traditionally imposed upon them by the certification process. The report also gives some consideration to these issues as they relate to the emerging concept of recurrent education, and finally poses certain fundamental questions on the relationships between a system of mass higher education and the provision of adequate support for research and the advancement of knowledge.

13. The report does not, at this stage, go into a comprehensive analysis of policy measures called for to facilitate solutions to the issues outlined above. However, by way of illustration, three types of such measures are briefly examined in an annex to Part One: (a) the establishment of a general credit point system; (b) location policies for new institutions of post-secondary education; (c) the establishment of appropriate planning mechanisms.

14. Under the last of these three areas, which is of central importance to all Member countries, the following general trends are identified:

(a) establishing boards at the national level with a planning role for post-secondary education as a whole rather than for its different sectors;

(b) providing these boards with a statutory basis and a representation of all relevant sectors of education and society;

(c) creation of sub-boards for specific aspects of post-secondary education subordinated to the central board;

(d) launching of wide investigations concerning post-secondary education and submission of their results to public debate;

(e) creation of a professional cadre of planners of post-secondary education.

PART TWO : SHORT-CYCLE HIGHER EDUCATION

15. This part of the report was originally presented as a separate paper to provide a conceptual framework for the analytical work within the Secretariat on the problemsof short-cycle higher education. As such it has also contributed to the arguments taken up in Part One of the present report and this explains any over-lappings that may appear between the two parts. Part Two of the report deals with the development of short-cycle higher education provided outside the universities. Thus, the discussion focusses mainly on the problems of short-cycle institutions rather than on those affecting short-cycle programmes. The basic characteristic of most of these institutions is their present extra or non-university status, and the consequent onus which is placed on them in striving

to establish their respectability without losing one of the main functions for which they were created, i.e. to offer education and degrees of a terminally or vocationally oriented nature.

16. First a broad classification of existing types of short-cycle institutions (SCI's) is provided. Three main models are identified:

(a) The multipurpose model, in which the SCI's have a close link to university education allowing a relatively easy transfer of some of their students; they provide a highly diversified curriculum, of both an academic and an occupational nature, and are geared in particular to meet local or regional needs (e.g. US and Western Canadian Junior Colleges, the CEGEP's in Quebec, and partly some of the new SCI's in Europe, such as Norwegian District Colleges and Yugoslav Više Škole).

(b) The specialised model, in which SCI's have very little connection with universities. They provide mostly terminal programmes, specialising in a rather small number of vocationally oriented fields; they are usually under central administration (e.g. most of the Continental European systems).

(c) The binary model, where SCI's are completely separate from the university sector. They are highly diversified and they offer practically all levels of study from sub-degree to post-graduate courses.

17. To a varying degree the three models have a common fundamental weakness: they reflect a situation which is characterised by a more or less sharp distinction between the "noble" and "less noble" parts of higher education.

18. Four main objectives and motivations behind the development and reforms of SCI's have been suggested:

(a) to respond to the increasing pressure of individual demand for higher education;

(b) to contribute towards greater equality of educational opportunities;

(c) to respond to growing needs for a wide and diversified range of qualified manpower;

(d) to generate or facilitate innovation in the post-secondary system as a whole by assuming a number of functions which traditional universities are often reluctant to accept.

19. The next section examines a certain number of issues and dilemmas which most SCI's have to face. They concern in particular:

(a) access and admission;
(b) the compatibility between transfer and terminal courses;
(c) the status of teachers and students;
(d) autonomy and governmental control;
(e) location policies, regional development and service to the community;
(f) cost and financing;
(g) the employment of SCI graduates.

20. This part of the report ends by discussing what is considered as the underlying problem of SCI's, namely their incorporation as "equal members" into the higher education family. Such incorporation is often extremely difficult to achieve because of the prevailing academic value scale which places pure research, development of knowledge for its own sake and theoretical and abstract disciplines at the highest level, while technical, vocational and generally all practically-oriented studies are placed at the lowest echelons.

Two basic strategies for the development of SCI's are considered: integration with the university sector or separate development, and the main risks and advantages of each of these solutions are identified and briefly discussed.

PART ONE : OVERALL STRUCTURES

A. PAST DEVELOPMENTS AND FUTURE GROWTH

I. Prospects of further growth

21. The conclusions which can be drawn from an analysis of the development of post-secondary education during the past fifteen to twenty years (1) indicate that, in spite of the massive and quasi-universal growth of the past, the potential for further expansion remains considerable, particularly in Europe. Past growth is illustrated by Tables 1 and 2; arguments concerning future growth can be summed up as follows:

(a) Higher education still serves and, with the exception of the USA (and possibly Canada), will continue to serve for at least another ten to twenty years a minority of the age group. Depending on how the enrolment ratios are calculated, the most advanced Western European countries do not have in 1970 more than 12% or 20% of their population of a given age in higher education (as against 35% or 45% in the USA); in most of them less than 10% of an age group is enrolled in a higher education institution, and less than 5% receives a university level degree (as against 20% in the USA). Thus, precisely, because present enrolment ratios are still relatively low, no decline in the growth rates, or even a stagnation of enrolments (due to the approach of some kind of assumed ceiling) can be expected. Moreover, the

(1) "Development of Higher Education, 1950-1967, Statistical Survey", OECD,1970.
"Development of Higher Education, 1950-1967, Analytical Report", ED(70)3.
"Development of Higher Education, Conclusions and Policy Implications", ED(70)7.

experience of the past twenty years shows that there is no correlation between the relative size of the system and its rate of growth: in countries with relatively high enrolment ratios, growth rates have not tended to diminish.

(b) An even greater potential source of new expansion lies in the development of secondary education, whose past growth represented the most powerful factor in the increase of higher education enrolments. At present, none of the European countries has more than 50% - and most have less than 30% or even 20% - of its youth finishing secondary school (1) and it is reasonable to expect that the observed advance of education, leading from universalisation of primary to the expansion and universalisation of secondary and thence to the growth and generalisation of higher education (2), should continue to make its impact felt in the future. This will be considerably reinforced by on-going reforms in the conditions of access to universities. Until recently, in most countries, those entering universities were almost exclusively graduates of general (academic) secondary education; the new measures - which so far have had only little quantitative impact - foresee admission from all branches of secondary education, and even from among those without complete secondary schooling.

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(1) See Table 6, p.33.

(2) This process may be considered as an "iron law" of educational growth .

TABLE 1

GROWTH OF ENROLMENTS IN POST-SECONDARY EDUCATION

Country	Enrolments (1955=100)			Enrolment ratios (1955=100)		
	1960/61	1965/66	1968/69	1960/61	1965/66	1968/69
Austria	201	255	259	150	213	277
Belgium	136	219	260*	148	204	254*
Denmark	148	238	300*	143	178	202
Finland	141	241	350*	129	185	255*
France	132	243	327*	145	208	232
Germany	167	210	240*	132	189	205*
Greece	136	278	362	147	342	405*
Ireland	139	174	270*	159	174	217
Iceland	104	147	181	...	...	...
Italy	128	191	247*	134	212	244
Luxembourg	141	214	260	...	...	...
Netherlands	149	216	260*	142	165	173
Norway	168*	380*	458*	161*	281*	303*
Portugal	134	196	246	147	212	335*
Spain	125	216	265*	146	231	273*
Sweden	147	285	455	137	200	268*
Switzerland	142	214	240	122	147	158*
Turkey	180	266	370*	177	246	338*
United Kingdom	141	212	271	138	170	214*
Yugoslavia	202	266	331	210	317	397*
Canada	176	327	464*	168	233	346*
Japan	117	178	245*	114	169	199*
United States	135	208	260	123	149	166

* Estimate

Sources: Development of Higher Education, 1950-1967, Statistical Survey and Analytical Report.

National Statistics (for 1968/69).

TABLE 2

APPROXIMATE ENROLMENT RATES FOR ALL HIGHER EDUCATION

Country	Age groups	1950/51	1955/56	1960/61	1965/66	1968/69
Austria (1)	19-24	...	3.0	4.5	6.4	8.3
Belgium	18-23	4.0*	5.4	8.0	11.0	13.7*
Denmark	19-25	5.0	5.4	7.7	9.6	10.9
Finland	19-24	4.2	5.5	7.1	10.2	14.0*
France	18-23	4.8*	6.0	8.7	12.5	13.9
Germany	20-25	3.8	4.4	5.8	8.3	9.0**
Greece	18-24	...	1.9	2.8	6.5	7.65*
Ireland	18-22	3.9*	4.6*	7.3	8.0*	10.0*
Iceland	...	...	...	...	...	...
Italy (2)	19-25	4.2	4.1	5.5	8.7	10.0
Luxembourg (3)	20-25	...	...	3.8	6.1	...
Netherlands	18-24	4.4	5.2	7.4	8.6	9.0
Norway	19-24	3.4*	3.1*	5.0*	8.7	9.4*
Portugal	18-24	1.4	1.7*	2.5	3.6	5.7**
Spain	18-24	...	2.6*	3.8	6.0	7.1*
Sweden	20-24	4.8	6.3	8.6	12.6	16.9**
Switzerland	20-25	4.5	4.5	5.5	6.6	7.1**
Turkey	18-23	1.0*	1.3*	2.3	3.2	4.4**
United Kingdom	18-22	5.2*	6.3*	8.7	10.7	13.5*
Yugoslavia	19-25	2.7	2.9	6.1	9.2	11.5**
Canada (4)	18-23	6.5*	8.1	13.6	18.9	28.0**
Japan	18-22	4.9	7.1	8.1	12.0	14.1
United States	18-23	16.8	21.1	25.9	31.4	35.0

(1) Austrian students only.

(2) 1951, 1956, 1961 and 1966.

(3) 1960 and 1966.

(4) 1951, 1956, 1961 and 1965.

* Estimate of enrolments.

** Estimate of age group.

Sources: Development of Higher Education, 1950-1967, Analytical Report.

National Statistics (for 1968/69).

(c) A third important growth potential derives from present inequalities of educational opportunity. These inequalities, which remain considerable, whether they relate to social class, regional or ethnic origin, or to sex, are increasingly being the subject of specific policy measures aiming at their attenuation. Some of these measures are already beginning to have significant effects. This is the case, for instance, of new higher education establishments created in areas or regions where so far the absence of such facilities represented an important constraint to satisfying potential local demand. Thus, affiliated universities in Sweden, District Colleges in Norway, the large Bochum University in Germany, hundreds of Community Junior Colleges in the USA, all aim at bringing higher education possibilities nearer to those for whom, in the past, geographical distance represented - psychologically or materially - a serious obstacle to attendance at a post-secondary institution. Experience shows that this new supply of facilities also creates new demand.

22. In other words, the growth potential implied in the three sources mentioned above is being activated by formally adopted policies which have already generated a process by which these reserves will be tapped. Among such policies, the emphasis given in practically all policy statements to the equality of opportunity objective, and the preference attributed, explicitly or implicitly, to social demand as a main criterion for the determination of higher education facilities to be provided are the two most likely to contribute to future growth. More recently, it has been argued that these two objectives are not necessarily compatible, and that following blindly the social demand criterion might indeed lead to

maintaining existing educational disparities. "Social demand is essentially a passive objective ... to base policies on the satisfaction of social demand can be seen as a failure to use the full potentialities of the educational system for the democratisation of society" (1). However, so far no official policy seems ready to abandon formally the principle that "all who seek (post-secondary education) should be able to find a fully acceptable opportunity at the academic level for which they are qualified" (2), or that "courses of higher education should be available for all those who are qualified by ability and attainment to pursue them and who wish to do so" (3), or an even larger concept postulating that adequate opportunities should be provided "for all youth who can benefit from post-secondary study" (4).

23. It should also be recalled that among the many factors which correlate with the rate of participation in higher education of different social sub-groups, the educational level of parents is by far the most significant. More fathers and mothers with university degrees (or with just secondary school diplomas) inevitably implies even more children demanding entry into higher education a generation later. The seventies (or, at the latest, the early eighties) will precisely mean one generation span from the beginning of the great expansion wave taking place in most countries in the course of the fifties.

24. A clear likelihood of continuing growth of higher education can also be substantiated by the projections formally adopted in most Member countries. Table 3 gives a few illustrations relating to these projections. In assessing the reliability of these projections, it should not be forgotten that up to 1970 almost all national projections represented underestimations.

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(1) W. Taylor: "Policy and Planning for Post-Secondary Education - A European Overview". (Seventh Conference of European Ministers of Education, Strasbourg 1970).

(2) Formulation of the Norwegian Royal Commission on Post-Secondary Education (Ottossen Committee).

(3) Committee on Higher Education (Robbins Committee), Report, London, Cmnd 2154, p. 8.

(4) "Planning of New Structures of Post-secondary Education, Country Statement, United States of America", OECD, DAS/EID/70.24/07.

TABLE 3

NATIONAL ENROLMENT FORECASTS FOR HIGHER EDUCATION
(in thousands)

	Year on which forecast is based	Actual enrolments	Forecasts				Expansion over ten-year period		Enrolment ratios			
		1965-66	1970-71	1975-76	1980-81	1985-86	1955 1965	1965 1975	1955-1956	1965-1966	1975-1976	1980
1. UNIVERSITY-TYPE HIGHER EDUCATION												
Germany	1966-67	295.2	365.1	525.7	...	...	96	78	2.8	5.0	9.2	...
Austria (1)	1967-68	39.5	43.6	49.8	...	...	155	26	3.0	6.4	7.4	...
Belgium	1967-68	45.8	57.7	77.9	99.4	...	99	70	3.4	6.4	16.5	...
Denmark	1968-69	34.2	53.2	69.3	...	...	155	102	3.3	6.4	13.3	...
France (2)	1964-65	413.7	...	820.0	...	...	147	198	4.1	8.8	16.2	...
Greece	1966-67	58.0	...	...	70.0	...	222	...	1.7	6.2	...	7.0
Italy (3)	1966-67	460.2	...	...	974.0	...	91	...	3.8	8.2	...	17.2
Norway	1968-69	19.4	30.0(6)	...	40.0	55.0	242	...	2.3	5.9	...	11.0
Netherlands	1967-68	64.4	95.0	(120.0 (110.0	(145.0 (130.0	...	117	69	2.7	4.5	7.3	8.5
United Kingdom (4)	1962-63 (a) 1969-70	(... 302.0	(362.0 460.0	(433.0 584.0	(558.0 796.0	697.0 ...	84	193	3.5	5.2	14.9	18.0
Sweden	1968-69	67.5	135.8	152.1	164.6	...	217	126	5.2	11.5	27.2	30.2
Turkey	1967-68	63.7	...	...	113.7	...	98	...	1.0	1.9	...	...
Canada	1968-69	205.9	355.0	560.0	750.0	...	238	166	6.8	16.2	...	...
United States (5)	1968-69	4685.0	5960.0	7431.0	...	...	98	59	18.7	26.6	31.5	...
2. TOTAL HIGHER EDUCATION												
Austria (1)	1967-68	39.5	...	55.2	...	...	155	140	3.0	6.4	9.6	...
Denmark	1968-69	49.2	70.9	90.7	(94.1(7) (102.1	(98.4 (116.4	150	84	5.4	9.6	17.4	19.1
Spain	1968-69	...	853.7	...	1867.0	...	...	...	2.6	6.0	...	...
France	1968-69	523.0	...	930.0	...	...	144	177	6.0	8.7	19.0	...
Finland	1967-68	40.4	...	...	...	75.0	140	...	5.5	10.2	...	...
Ireland	1967-68	18.3	25.8	...	42.6	...	74	...	4.6	8.0	...	15.4
Norway	1968-69	28.9	38.6(6)	...	65.0	90.0	285	...	3.1	8.7	...	17.5
Netherlands	1967-68	124.0	...	...	241.0	...	115	...	5.2	8.6	...	14.9
Turkey	1967-68	98.5	...	...	210.5	...	166	...	1.3	3.2	...	...
Yugoslavia	1965-66	184.9	205.8	282.0	...	...	87	90	2.9	9.8	...	...
Canada	1968-69	290.2	540.7	850.0	1130.0	...	227	193	8.1	18.9	...	...
United States (5)	1968-69	5921.0	8023.0	10222.0	...	...	99	88	21.1	31.4	43.3	...

(1) National students only.
(2) Universities plus IUT's.
(3) Including 'Fuori corsi" students.
(4)(a) Forecasts made by the Robbins Committee.
(5) Degree credit plus non-degree credit.
(6) 1969-1970.
(7) 1979-1980.

Source: Development of Higher Education, 1950-1967, Analytical Report.

II. Economic constraints?

25. Consideration is now given to some of the more important economic arguments which have been used to predict a slowing-down of the expansion of higher education.

26. These arguments mostly imply that the rate of return to higher education will almost inevitably decrease as a consequence of the growing number of graduates, and this might logically lead to a drop in individual demand for higher education (because the relative advantage - the salary differential - of a longer education will decline and thus made it less attractive) and even to a shift in the allocation of public resources towards, for example, physical capital or other services.

27. Two types of comment can be made on this view of the problem. In the first place, at least up to now, such a conclusion is not supported by the empirical evidence. Statistics exist on the development of the relative mean incomes between different education levels since 1939 for the first country to enter the stage of mass higher education, the USA. Table 4 below gives ratios of mean incomes for US males by schooling categories from 1939 to 1966.

TABLE 4

RATIOS OF MEAN INCOMES FOR US MALES BY SCHOOLING CATEGORIES, 1939-66

Selected year	High school graduates to elementary school graduates	College graduates to high school graduates
1939	1.40	1.57
1949	1.41	1.63
1958	1.48	1.65
1959	1.30	1.51
1963	1.49	1.45
1966	1.56	1.52

Source: Zvi GRILICHES: "Notes on the Role of Education in Production Function and Growth Accounting " - unpublished paper, University of Chicago, 1969.

These figures indicate that, for college graduates, relative wages have shown no downward tendency, and for high school graduates there is an apparent upward trend. The economic return for the period 1939-1966 of getting a high school education instead of stopping at elementary level, and a college education instead of a high school education, has not decreased. At the same time, the percentage of high school graduates as a proportion of the 17 year-olds increased from approximately 50% to 77%. The percentage of college graduates as a proportion of the 24 year-olds increased from about 8% to 23% in 1966.

28. The most plausible explanations why the economic return to higher education did not diminish with this large increase in graduates in the United States over this period are probably the following:

(i) the most rapidly expanding industries are the most skill-intensive;

(ii) the changing composition of production has increased the demand for education because:

(a) there is a corresponding increase in the productivity of skilled labour relative to unskilled labour as the quality and quantity of physical capital increased;

(b) there is a positive relation between increments in labour productivity and the skill level;

(iii) recent theory has stressed that one important dimension of education is the ability to innovate. The productivity of education would then be positively related to the rate of change in technological progress and to the size of the technological gap, i.e. the difference between the technology of best-practice industries and average-practice industries. If then the rate of utilisation of technology is increasing and the technological gap growing, the relative return to education will grow;

(iv) the quality of education itself may have increased, in the sense that the amount of learning per unit of resource input has risen.

These considerations are a fortiori relevant for the future when the emphasis on technological progress will undoubtedly be stressed even more than in the period 1939-1966. In fact, constant ratios between relative wages imply a widening of the wage-differences, which means that it is more profitable for the individual to invest in college education today than in the 1930's.

29. Whatever the economic argument based on higher personal incomes, there is no doubt that the present booming demand for higher education corresponds to, and reflects, a particular value structure of society and that the individual expectations of higher earnings are an integral part but not the whole of it. Indeed, there is some evidence that the social demand for higher education is impervious to the effect of decline in relative incomes. It can, for example, hardly be envisaged that students in a country like France would enter in such large numbers courses in sociology or psychology mainly because they expect large incomes as graduates in these fields, for which job opportunities are widely known to be limited. Similarly, the most pronounced general trend in the distribution of students by field of study is a rapid increase in the proportion of those enrolled in the various disciplines grouped under the humanities (1) for which, as a rule, neither earning nor social status prospects are particularly high or favourable.

30. Similar evidence appears to exist in some Eastern European countries, where salary differentials between graduates and non-graduates are very small, sometimes nil or even negative. Thus a skilled worker in Czechoslovakia has earned for many years substantially more than a medical doctor, a technician often more than an engineer. Yet social demand for entry into universities is increasing and fairly severe access limitations exist in order to slow down this demand.

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(1) See Analytical Report, op.cit. pp. 149-150.

31. Finally, it must be noted that in the whole student unrest movement there are undoubtedly strong elements pointing towards a latent (and sometimes manifest) shift from predominantly investment-oriented to a more consumption-oriented perception of higher education. This trend can easily be discerned also in official country policy statements. Hardly any of them omits, in connection with the goals of future higher education, to refer to concepts such as "quality of life", "individual development", "critical mind", etc. Whether in the more or less distant future it will be considered normal to pay an unskilled worker a higher salary than a university graduate, because of the unpleasantness of the work of the former and the "quality of life" aspects in the latter, is a matter of conjecture, but the trend may be in that direction.

32. A further economic constraint often envisaged concerns the financing of higher education. It is argued that the growth of expenditure on post-secondary education as witnessed in most countries during the past decade cannot continue for ever, that the increasing percentage which this expenditure represents in the public budget must sooner or later reach a ceiling, particularly in view of other social and political priorities - health, transport, environment, etc. - which society and governments have to face. This, it is stressed, is especially true because unit costs in higher education will inevitably rise (due mainly to the salary component in educational expenditure) more rapidly than GNP. Thus a constant proportion of expenditure on higher education in the public budget (which presumably will grow faster than the GNP) will, sooner or later, be eaten up by rising unit costs, leaving nothing for further expansion of enrolments.

33. It is obvious that in the last analysis there must be a ceiling, but the real question is whether this is now being approached. Even the high income elasticity of the demand for higher education, and the fact that most countries - indeed all of Western Europe - have still rather low enrolment ratios implies a very wide margin for further growth. Table 5 indicates what some major countries have actually spent and may spend in the future on higher education.

TABLE 5

PRESENT AND PROJECTED TOTAL EXPENDITURE ON POST-SECONDARY EDUCATION

(% of GNP)

Germany (1)	1968	1.02	1975	1.60
Finland (1)	1970	0.85	1974	0.93
Norway (1)	1969	0.75	1985	1.60
United Kingdom (2)	1970	1.20	1981	1.80
Japan (1)	1966	1.10	1975	1.50
United States (3)	1967	2.00	1976	3.00
Canada (4)	1968	1.62	1975	3.25

Sources:
(1) Country Statements submitted to the Secretariat - DAS/EID/70.24
(2) Educational Planning Paper N° 2, H.M.S.O.
(3) Office of Education: Projection of Educational Statistics 1977-1978, Washington 1968.
(4) Federal support of universities and colleges of Canada - Association of Universities and Colleges of Canada, 1970.

34. No economic or technical considerations of any kind can be formulated indicating that a further increase of the above percentages - say, in the USA from 3% to 4% or in Norway from 1.6% to 2.6% - could not be envisaged. This is obviously, as has been repeatedly stated, a question of political priorities, but in this respect the earlier argument concerning the income elasticity of demand for higher education should be remembered (1).

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(1) The possibility of extending financial resources put at the disposal of higher education in no way diminishes the importance and urgency of measures towards better productivity and an improved utilisation of resources in higher education.

III. The End of Elitist Higher Education

35. It can safely be assumed that in practically all countries the quantitative growth of the last two decades, combined with a number of other factors, has led to a situation in which most of the transformations under way, most of the problems and tensions concerning the functioning of post-secondary education, are in some sense connected with the breakdown of the old equilibrium and of the linear pattern of "more of the same" development. In other words, the nature of most of the problems to be solved today seems radically different from those encountered in the past stages of development. Thus, even if there is still a long way to real mass higher education, a turning point has been reached almost everywhere implying the end of elitist higher education. This is not to say that individual institutions of an elitist character will not remain as part of the system, but the system as a whole cannot be sustained on this basis.

36. The new problems which brought about this situation and which, by the same token, constitute a prefiguration of those to be faced in a system of mass higher education present themselves as follows:

(i) society expects higher education to fulfil a much larger and varied number of functions than those assigned to it in the past; its value and goal structure is, therefore, expected to be different from the value and goal structure of the traditional higher education systems;

(ii) the demand for higher education has led not only to massive expansion of enrolments, but also to a change in the clientele of higher education, i.e. to a considerably increased variety and greater heterogeneity of aptitudes, abilities, motivations and expectations of students with regard to their future education, professional careers and life in general;

(iii) the role of higher education as a key factor of production in terms of economic theory becomes progressively more important than the role of capital, in the same way as in the 19th century the latter replaced land;

(iv) higher education, by the sheer mass of the resources it requires in budgetary and personnel terms, is assuming a political weight incommensurate with its traditional role.

37. The extent to which these four conditions or problem categories already prevail varies, of course, from case to case, but they are present in practically all OECD Member countries, irrespective of the relative levels of expansion of their higher education systems. This seems to point to the end of the elitist stage of higher education as having been reached even where the process of accelerated growth started relatively late and where it is not yet very advanced in terms of the proportion of the age group actually enrolled in higher education.

38. It is suggested, therefore, as the main thesis for the present report, that most countries are at an intermediary and critical stage, between elitist and mass higher education, the former having to be abandoned under the pressure of numbers and of a series of socio-economic factors, the latter requiring structures, content and organisational arrangements which have not yet been developed and only partly identified. The major challenge to policy-planning is to ensure that this transition takes place smoothly.

IV. Deficiencies in Existing Structures

39. In fact, in most countries, and especially in Europe, the structures of elitist higher education still persist and it is their inadaptation to the new situation and problems which is at the root of the crises and tensions which almost all higher education systems are undergoing. Viewed as a whole, these systems, particularly in Europe, seem to present the following shortcomings.

(a) The existing systems are not sufficiently diversified, which means that they offer only a small number of possibilities of access (usually through a single specific type of secondary school), only one or a very limited number of patterns of study (with respect to duration, types of attendance, kinds of degrees awarded) and a relatively small and rather rigidly fixed number of fields of study. This homogeneity is obviously in contradiction with the wide range

of abilities, interests and motivations of the extended student population, as well as with the considerably increased diversity of skills and qualifications required by modern economies.

In practice, all systems have, of course, been forced to develop a certain degree of differentiation, although of a rather rigid nature, under the impact of the industrial revolution and of subsequent economic and social developments. New institutions providing post-secondary education in new fields, with different access conditions and/or of different duration than in universities were set up everywhere, either by up-grading former secondary level schools or through new creations. But almost everywhere this differentiation led to a split in the system into two more or less self-contained parts - the "noble" and the "less noble" sectors of higher education - and to new inefficiencies and rigidities with regard both to the objective of equality of opportunity and to requirements of economic and scientific progress. (For an analysis of this dichotomy and of its consequences, see Part Two of the present report.)

(b) Almost all higher education systems are facing great financial difficulties. It may, as already suggested, be that these are more of a political than a technical nature and that the proportions of GNP and the public budget allocated to education (and, within it, to higher education) can still be considerably increased, as they have been in the past, provided that society (through its legislative and executive machinery) decides to do so. The fact remains, however, that the two trends witnessed almost everywhere during the last 15 to 20 years - rising enrolments and rising unit costs - leading in Europe to an average annual increase of expenditure on higher education of some 10 to 15 per cent, cannot continue indefinitely and that better utilisation of available resources is now urgently required. However, the disarticulation of the present systems as developed by historical circumstance, usually as an uncoordinated response to formal and informal pressures of all kinds, makes it very difficult to ensure a more efficient management of resources. Common use of equipment, full utilisation of buildings, sharing of teachers, three- or four-term (12-month) academic years and similar measures can provide savings, but they would have to be undertaken on a

much larger scale if they are to have any real impact at all; they would, in particular, have to be applied between institutions of different types and levels where pooling and co-ordination are, up to now, almost non-existent in spite of their complementary functions and, often, their geographic proximity.

Recent research tends to show that even if all these conditions were fulfilled, resulting savings, though real, would be of a limited nature only and would not prevent the continuing rise of unit costs (1). Substantial economies of resources can therefore be achieved only through more profound structural reforms, such as the shortening of the length of studies, an interpenetration of formal education and work experience, a greater effectiveness of short-cycle higher education, etc. But, again, these measures cannot be implemented in a disarticulated and rigid system still dominated by the value structure of elitist higher education.

(c) The lack of flexibility, which characterises existing systems, deprives them also of the necessary capacity for change.

Innovations have been introduced during the last years in all systems through the creation of new universities and through reforms of specific aspects of higher education, such as teaching methods, the degree structure or the decision-making procedures within institutions. Almost nowhere, however, have these partial innovations affected the system as a whole; at best, they remained isolated efforts; in many cases they were negated or distorted by the traditional system. There can be no doubt that the existing structures which limit mobility of finance and mobility of students and teachers, also limit receptivity to innovation and inhibit its diffusion. The "noble" institutions have an almost natural tendency to ignore or neglect innovations introduced by or through the "less noble" establishments, while the latter, even when innovative at the outset, tend ultimately to imitate the prestigeful (in most cases, traditional) institutions, and thus to discard their initial innovative character.

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(1) See above, p.25.

(d) Finally, present systems have proved inadequate in their capacity to respond to the quest of new generations for "self-fulfilment", for "quality of life", for "individual development".

These objectives, though still vague, might in the last analysis be the crucial ones, as student unrest of the sixties has clearly shown. No doubt, much more is at stake than institutional structures and inter-institutional linkages: pedagogical relations, the problem of relevance of studies, the whole concept of the learning situation, the relation of the individual in his development process to society, etc. But it can hardly be assumed that any of these fundamental issues can find more than an experimental solution without profound modifications of the overall institutional framework. Pilot colleges and schemes can provide an answer for the benefit of small groups of students, and they can serve as models; the diffusion process being what it is, however, pilot projects cannot solve the general social phenomenon of changing attitudes and expectations of the young. Blind alleys, degrees without corresponding job opportunities, teaching not related to aptitudes and interests, choices made prematurely and irreversibly, dropping out virtually equivalent to complete loss of time and effort (and self-respect) - all these contribute to the causes that lie behind student dissatisfaction; and they can all be traced, in one way or another, to the existing structures of higher education reflecting a framework unadapted to the pursuit and generalisation of values such as those which the new student generation advocates.

40. The deficiencies outlined above apply, in varying degrees, to all Member countries. Even in the United States, where expansion has reached by far the highest level and where quantitatively mass higher education is already a reality, the need for important structural reforms is strongly felt. Indeed, it may come as a surprise that higher education in a country with 40% enrolment ratios often faces similar problems and difficulties as countries

with 10% ratios. Clearly, growth, indispensable and unavoidable as it may be, is only one of the aspects and conditions of mass higher education (1).

B. TOWARDS MASS HIGHER EDUCATION : CENTRAL ISSUES

41. The main desiderata for a system of mass higher education can be summed up under the twin notion of unity and diversity:- unity implying essentially easy flows (of students, teachers and financial resources) from one field and level of study to another as well as between individual institutions and, in general, effective co-ordination of the various existing institutions, as well as a minimum of integrated planning; diversification meaning principally an increased variety of educational offerings (of patterns of study, of degrees and of ways in which to obtain them). This would, in fact, make for a pluralistic and multi-purpose structure while maintaining the necessary complementarity and close organic links between its various components.

42. The practical implications of this general principle will now be examined by considering five specific issues, the solution of which seems to be of strategic importance in the transformation process from elitist to mass higher education:

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(1) It remains nevertheless true that in many ways the USA (and a few other countries) have a system which facilitates the advent of mass higher education structures. In fact, elements of such structures have probably existed in the USA since the end of the 19th century: diversification of curriculum, service function of universities (Land Grant Colleges), mobility of students. It could possibly be argued that these elements contributed to the relatively high enrolment ratios already reached in the USA many years ago (in 1965 no European country had ratios which America had reached in 1950). The question can thus be posed whether the present difficulties encountered by US higher education are a corollary of a new stage - a passage from mass to universal higher education - or whether these difficulties simply result from only an imperfect or partial assimilation of mass higher education requirements and of a persistence of some of the components of elitist structures.

(a) links between secondary and higher education
(b) alternative "institutional maps"
(c) alternative "maps of learning"
(d) post-secondary education and society
(e) post-secondary education and employment.

43. This list is, of course, not exhaustive; it does, however, reflect some of the main areas on which Member countries are at present concentrating their attention in their efforts to reform the overall structures of post-secondary education. A few of the policy measures which are expected to help in the implementation of these reforms are briefly examined in an annex to the present report.

I. Secondary and Post-Secondary Education (Towards a concept of post secondary education).

44. As indicated earlier, mass higher education is a concomitant of generalised secondary education, and the figures show that countries with the highest enrolment ratios at the post-secondary level are generally those with the highest ratios at the secondary level.

TABLE 6

NUMBERS OF SECONDARY SCHOOL-LEAVING CERTIFICATES AS A PERCENTAGE OF THE POPULATION OF THE CORRESPONDING AGE-GROUP (COLUMN I) AND ENROLMENT RATIOS IN HIGHER EDUCATION (COLUMN II) (1965 or 1966)

	I	II
Austria	11.7	7.5
Belgium	29.6	14.9
Spain	6.6	8.7
France	17.4	17.4
Italy	18.0	11.3
Netherlands	18.8	13.6
United Kingdom	18.7	11.9
Sweden	18.5	13.1
Switzerland	4.3	7.7
Yugoslavia	21.0	13.1
Canada	71.6	23.7
United States	75.7	40.8
Japan	50.5	12.0
USSR	58.4	31.0
- of which full-time		12.7

Source: Development of Higher Education, 1950-67, Analytical Report, ED(70)3, pp. 109 & 67.

45. In the case of three countries - USA, Canada and Japan - it is clearly possible to speak of mass (and soon probably of universal) secondary education, because about 75% (1) of the respective age groups are enrolled in secondary schools. (Outside the OECD area this is true also of the USSR, where almost 60% of the respective age group terminates secondary education.) The gap between these countries and Europe is considerable and for two of them it is reflected by a similar (although slightly smaller) gap in enrolment ratios at the higher education level (again the same is true of the USSR). Curiously enough, this is not true of Japan, which is, with respect to post-secondary education, at the level of several European countries.

46. In the light of this evidence, the question could be posed as to whether European countries should not concentrate their efforts on the establishment of an appropriate framework for mass secondary education before envisaging support for further massive expansion of higher education. Such action would seem logical, and could also contribute to more general objectives. It is clear that disparities in educational participation at the post-secondary level reflect (in Europe) to a large extent disparities in secondary schools which operate as the effective mechanism where social selection for entry into higher education takes place. Thus, any measures taken at this latter level can have only a marginal effect, and a real process of equalisation will not come about before a substantial enlargement of the secondary sector takes place. However, the great dilemma of most European countries is that they are, in practice, confronted by a situation in which they have to pursue simultaneously policies towards mass education at both the secondary and post-secondary levels.

47. Development of mass secondary education in Europe implies, however, much more than raising the numbers of students to present US, Canadian or Japanese levels (2); it implies a radical change

(1) Japan reached this ratio in the late sixties.

(2) Whichis by itself a formidable task when considering that in 1965 no European country had achieved half of the secondary school graduation ratio which the USA had in 1955 (55% of 18 year-olds).

in the traditional relationships between the two levels. By and large, it can be said that in Europe, historically and functionally, general secondary education was developed in order to serve pre-existing universities, whereas in Canada and the USA (as well as in the USSR), the higher education system is an organic continuation of the previously developed secondary school system. This explains why transfer coefficients in Europe between academic secondary and university education are very high (this education served almost exclusively for entry into university) and relatively low in the USA. Japan, which has secondary enrolment ratios equivalent to those of North America and higher education ratios close to the European ones (and thus a very low transition coefficient - less than 30% as against 50% in the USA and up to 90% in Europe when considering all types of secondary and all types of higher education), deviates obviously from the two standard patterns. Most probably this results from the graft of two heterogeneous models - the European with regard to universities and the American with respect to secondary education - and from the fact that the elitist university model has not yet yielded completely to the pressure of mass secondary education (1).

48. The on-going reforms in Europe, facilitating admission to universities for graduates from all types of secondary school, represent clearly a step towards mass secondary education in which universities have to cater not only for those for whom they have themselves generated an appropriate form of schooling (often since the age of ten) but for everybody with some twelve years of school attendance.

49. Curriculum and structural consequences of this trend are far-reaching both for secondary and higher education, especially when it leads to comprehensive secondary education, as seems to be implied, for example, in the proposed German and Swedish reforms.

At the present moment it is difficult to predict whether such reforms will ultimately lead to an American high school type of solution, but there can be little doubt that a mass higher education system must fit its teaching methods and content (and the indispensable institutional framework) to a much wider range of qualifications than in the past, and that, on the contrary, all types of secondary

(1) No doubt the "examination hell" phenomenon reflects, partly at least, the tension arising from the juxtaposition of these contradictions at the two educational levels.

education will have to take account of the fact that a substantial proportion of their students will go on to post-secondary studies. The problem becomes even more important when one considers the concept of recurrent education, which should allow for and facilitate alternation of periods of education and periods of work immediately after the termination of secondary or of compulsory education. This will inevitably require that all secondary schools offer an appropriate combination of practical and academic training and that higher education institutions are ready to receive students both with and without any job experience.

50. These considerations lead inevitably to the emergence of a new, more comprehensive concept of post-compulsory education, covering upper secondary education, non-university and university-type higher education and an age range (in most of Europe) from 16 to 24 years, and beyond. It must be expected that eventually, i.e. when the compulsory length of formal schooling will be virtually extended to 11-12 years, this term will become practically identical to post-secondary as understood in the present report. That is why, in the meantime, policies for planning new structures of post-secondary education cannot be meaningfully articulated unless they encompass the total post-compulsory education sector. In other words, the principle of unity and diversity advocated for all education after 18 years of age should also include what today is still considered as upper secondary education, as a means of avoiding the discontinuities, social bias selection and the vocational/cultural dichotomy which are built into the existing structures.

II. Noble and Less Noble Higher Education (Alternative institutional maps)

51. The principle of unity and diversity of higher education postulates an integrated system in which institutional hierarchies disappear or, at least, are greatly attenuated. The German Gesamthochschule idea or the Danish University Centre concept tend clearly towards such a system. They both aim at establishing comprehensive organisational units which should include all the previously separated forms of post-secondary education - short-cycle and long-cycle, academically and vocationally oriented, part-time and full-time, etc. Thus, diversification is expected to take

place within a single institutional type, a new integrated or comprehensive university, which would become polyvalent not only with regard to the range of disciplines offered, but also in respect to the forms and levels of teaching and study.

52. In part, this represents an effort to eliminate the conflict between "noble" (university) and "less noble" (non-university) components of higher education, which is, in itself, a conflict of two value structures (1). The former, focussed on abstract and so-called disinterested study and on disciplines preparing for a small number of traditional professions (e.g. law, medicine) is considered more prestigeful than the latter, which emphasises teaching of knowledge and skills usable directly in a wide range of both new and old professions. This dichotomy, absurd as it may sound in the present stage of development of European societies, is however deeply rooted in institutional structures and in social attitudes. It is therefore by no means certain that in a newly created comprehensive organisational unit these conflicts would automatically disappear. Moreover, the establishment of such an institutional framework will require in the first place profound changes in the attitudes of universities, which will have not only to accept as equal members of their family the formerly "less noble" institutions, but, more difficult, they will have to adapt their own rules and functions in order to achieve the required integration with those of the non-university establishments. In view of the well-known resistance of universities to change, and of their zeal in guarding their autonomy, very often in the name of "academic freedom", it is not surprising that some governments might implicitly prefer to put their major effort into the planning of the expansion and reform of the non-university

(1) Clearly, prestige and quality differences will always exist among individual institutions and in this sense more and less noble universities or colleges; what is important is that these differences do not apply to whole categories of institutions, e.g. university versus non-university sector.

sector. This means maintaining, for the time being, two sectors of higher education, with the intention of making the "less noble" sector "more noble", partly by increasing its weight, and partly by providing it with the necessary attributes of nobility (higher status and research possibilities for teachers, possibilities for students to acquire university level degrees, etc.). This was, for example, already the strategy applied to engineering education in the second half of the 19th century.

53. Obviously, neither of the two alternatives, comprehensive university versus the coexistence of two types of institution, can be said to be inherently better than the other (1). Optimum solutions will depend on the respective national context and traditions as well as on the capacities and willingness of the universities to assume an internal diversification.

54. In any case, the majority of countries are confronted with the issue of either reforming radically their existing university sector by providing within it the new mass higher education facilities required by the teaching of new disciplines which so far have not received academic recognition, provision of non-traditional patterns of study, new and multiple access roads and a differentiated degree structure, or concentrating these facilities in a parallel sector whose linkages with the former will be progressively strengthened. A clear example of this latter case is the UK binary system, where, however, the linkages between the two sectors remain for the moment very weak, but where the non-university sector comprises all the levels of study, from sub-degree to doctorate. In practice, mixed solutions with more or less emphasis given to one or the other of the two solutions will also be frequent.

55. Yet another model seems to be emerging in the Canadian Province of Quebec, as well as in a few, not yet implemented, proposals or pilot projects (Bielefeld): the creation of a new type of multi-purpose institution (college) situated between the

(1) Arguments supporting each of the two solutions have probably been best developed and confronted in the debate concerning the British binary system.

upper secondary and higher post-secondary levels and through which everybody intending to pursue his studies after secondary (and eventually even after compulsory) education, will have to pass, whether he wishes to enter into practical life after he reaches, say, 20 years of age or to continue at university. Trends towards such a solution are also appearing in the USA, where Junior Colleges are today receiving more than 35% of new entrants into post-secondary education (as against 20% in 1950) and where more and more universities are discarding or considerably diminishing teaching at the freshman and sophomore level (1).

56. Thus, in fact, four models of mass higher education structures seem to be emerging:

(a) integrated comprehensive university model, e.g. German Gesamthochschule and Danish University Centre projects;

(b) binary model (UK and, partly, Ontario in Canada);

(c) combined development model (e.g. Norway, emphasising the development of a new network of district colleges and a partial reform of universities with close linkages between the two; France with its radical reform of universities and the creation and development of IUT's; Yugoslavia, Belgium, and to some extent the USA);

(d) first cycle multi-purpose college model (e.g. CEGEP in Quebec, potentially or partly USA).

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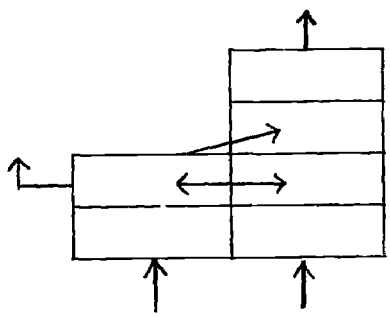
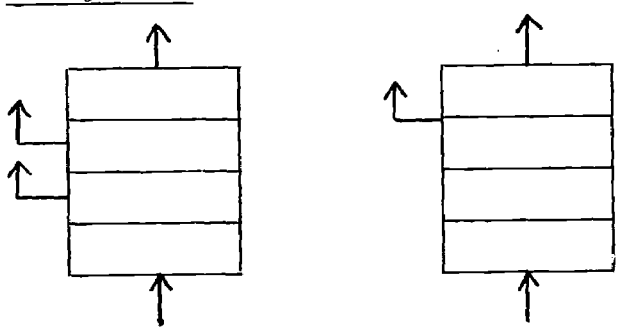
(1) Although some counter-trends in this respect can also be identified, e.g. universities trying to emphasise more than in the recent past undergraduate education.

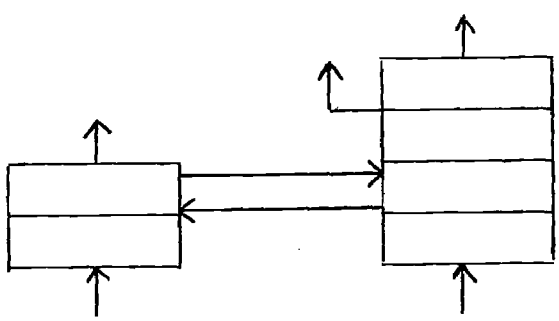
(a) Integrated comprehensive university model



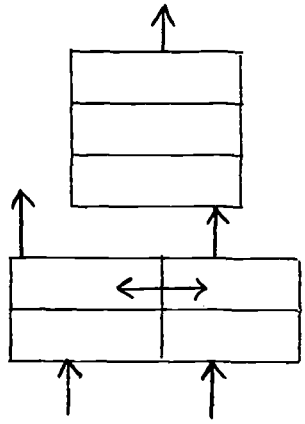
(b) Binary model



(c) Combined development model



(d) Intermediary multi-purpose college model



All four models have an important common element, without which the road to mass higher education cannot be envisaged: they develop and offer considerably enlarged facilities for post-secondary study in terms of more widespread geographic location, of access conditions in relation to educational backgrounds, of patterns, forms, length and fields of study, and in terms of possibilities for transfer of students from one level and type of study to another.

III. Maps of Learning

57. At first sight the main difference between the curriculum offerings of traditional and mass higher education systems is simply in the range of disciplines and courses provided: only established and academically well-known fields in the first case and a wide, continuously developing and changing variety in the second. The hundreds of types of degrees (from philosophy to care-taking) delivered by American (and in a way also by Soviet) higher education, and the small number of fields in which degrees are awarded by most of the European universities, is a good illustration of this contrast.

58. New disciplines were, of course, continuously introduced into even the most elitist higher education systems, either into universities or through newly established institutions. But the pace of such innovation has always been very slow; thus, for

example, degrees in sociology and economics were introduced in French universities in the late fifties and early sixties - some hundred years after the death of Comte and more than 40 years after the death of Durkheim. And even when new fields of study received university recognition, they had to remain for a long time "parents pauvres" of the academic family. Less than 20 years ago the University of Bonn had one chair of sociology and 24 chairs of oriental languages.

59. At least formally, the contradictions between such a situation and scientific and technological progress, the rapidly changing structure of knowledge and the trend towards individualised education are now recognised almost everywhere, and real efforts have been made during recent years in most European countries to provide courses and training in new disciplines as well as in multi- and interdisciplinary fields of study (1). The only issue is whether these new fields and disciplines can best and most rapidly be introduced in old universities or in other institutions of higher education, or in both, and on what scale this differentiation should take place (2), which leads back to considerations in the preceding section of this paper.

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(1) "Seminar on Pluridisciplinarity and Interdisciplinarity in Universities" organised by OECD's Centre for Educational Research and Innovation, Nice, 7-12 September 1970.

(2) In this respect certain counter-trends can be observed both in the USA and in the USSR, resulting in a certain limitation of the number of degrees or specialities offered by the two systems. This might be partly due to the fact that the past trend sometimes went too far, and partly - and this is more important - to the conviction that economic and technological conditions of modern society require as much (if not more) polyvalence as specialisation. Thus, for example, a recent report of the Carnegie Commission on Higher Education ("Less Time, More Options", January 1971) suggests that "the 1,600 current degrees be reduced to 160 at the most", and adds: "We believe that the process of reduction would decrease the now increasing emphasis on narrow certification and would lead to a better preparation for work and life." However, the report also suggests that the 160 degrees should all be delivered at four different levels which would represent in fact 640 types of degrees - and this obviously remains a considerably larger range of educational possibilities than anything available now in Europe.

60. More fundamental and conceptually unresolved seems at the moment the whole problem of the structure of studies, that is the most appropriate sequences and relationships between general and specialised education, between theoretical and practical instruction, and also between formal education and work experience.

61. It may well be that this is the most crucial issue with regard to the future of higher education, on which all the others in a sense depend, because its solution will, in the final instance, determine the flows of students to and from higher education and their mobility between different educational institutions and between education and work.

62. Traditional pedagogy (still largely reflected in existing structures) postulated only unilateral relationships and flows, from general to specialised, from abstract and theoretical to practical, from education to job. Reversed relationships are being tried out in many places, but so far they either have not succeeded (e.g. curriculum inversion in Yugoslavia) or they are undertaken on a small scale as pilot experiments (e.g. in Sweden), which can hardly provide evidence that such reversals could be successfully generalised.

63. At this stage, and pending results of further research and experience, only one rather general conclusion can be safely formulated: the traditional structures of studies (from general to specialised, from theoretical to practical, etc.) are not necessarily noxious or inefficient in themselves; what is highly detrimental is their exclusivity or overbearing preponderance. Similarly, it must be assumed that no system could function appropriately if all students were subject to a "reversed structure" (from special to general, from practical to theoretical. etc.) (1).

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(1) The failure of some Yugoslav and Soviet reforms is, possibly, good evidence in this respect.

64. Consequently, the answer seems to lie in a system offering alternative structures of studies, some students following the traditional path from general to specialised, etc., many others taking the opposite direction. Such a system, which is, of course, indispensable in the perspective of recurrent education, corresponds to one of the main recommendations formulated in the recent, already quoted, report of the Carnegie Commission:

> "That service and other employment opportunities be created for students between high school and college and at stop-out points in college through national, state and municipal youth programmes, through short-term jobs with private and public employers, and through apprenticeship programmes in the student's field of interest; and that students be actively encouraged to participate.
>
> We believe not only that all colleges should encourage prospective and continuing students to obtain service and work experience, but also that some colleges may wish to require it before admission or at some point during matriculation and could, in fact, in appropriate instances, grant credit for it toward completion of degree requirements."

65. In practical terms, this recommendation raises a great number of pedagogical and organisational problems which have not yet been sufficiently explored. It can certainly be envisaged, however, that such a system of alternative structures of studies could be integrated into any of the four models of institutional maps described in the previous section.

IV. Higher Education and Society

66. The whole new range of functions which higher education has to face in contemporary society, beyond those traditionally assigned to it (teaching and research), can be defined in terms of the central role which knowledge now occupies in the total development of society and the closer links, and direct participation, in the economic, social and cultural development of the surrounding community which this implies for higher

education. In the words of Clark Kerr: "Knowledge has certainly never in history been so central to the conduct of an entire society. What the railroads did for the second half of the last century and the automobile for the first half of this century may be done for the second half of this century by the knowledge industry: that is, to serve as the focal point for national growth. And the university is at the centre of the knowledge process." (1)

67. A whole range of specific tasks derives from this new central position of the higher education sector: adult and continuing education in its various forms (economically and culturally oriented), extension services of all kinds, participation in the local, regional and national planning process, etc. Many of these tasks have already been carried out by universities in the past. Adult education programmes in many English universities and agricultural extension schemes of American Land Grant Colleges are just two well-known examples. To a great extent, however, especially outside the USA and the UK, these activities have so far been only marginal to the life of universities, whereas in a mass system they have to become as central as the teaching and research process itself. Willy-nilly this is happening already. The University of Columbia's involvement (and almost its explosion) in a problem connected with urban development or the interrelationship between the student unrest at the University of Nanterre and the surrounding slums are among many indications of an irreversible trend. The main overall problem is whether the system will simply undergo this trend passively or whether the full implications of what is happening are grasped and the system responds purposefully to the challenge of the responsibilities and opportunities offered.

68. The articulation of this new involvement of higher education in other than purely educational and scientific matters of society, poses two broad issues:

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(1) Clark Kerr: "The Uses of the University", Cambridge, Mass. 1964, p. 88.

(a) what are the most appropriate mechanisms and arrangements - organisational, personnel and those concerning the decision-making process in higher education institutions - to cope with the new tasks?

(b) how should these tasks be linked to the traditional and indispensable functions of higher education?

69. No institutional model could probably be established with regard to the first point. Undoubtedly participation of university representatives in outside bodies and of representatives of the latter in university boards and councils will facilitate contacts, but experience has shown that such formalised contacts do not guarantee a real partnership. Much more important is the development of attitudes among the members of higher education institutions - teachers, administrators and students alike - so that their personal value structures are enlarged to consider service to the community as an objective of their institution on an equal footing with the goals of pure teaching and research. Some division of labour can, of course, be envisaged, and it might also be helpful to foresee, in job descriptions, specific responsibilities for some of the new functions. These could also become an integral part of the training of future teachers and administrators. Measures of this kind should gradually contribute to an erosion of existing ivory tower attitudes among the "academic community" in the interests of a new vision of enlarged functions of mass higher education, without which no fundamental change can really come about.

70. The solution to the problem may lie in bringing about greater interpenetration between teaching and research on the one hand and extension services, participation in local, regional and national development and planning, as well as in adult (or continuing) education on the other. Tasks related to the latter functions should, to a certain extent at least, become subjects of the former.

71 In many places this is already happening, although often only on a small scale. Students taking part in social work schemes (in the USA), research projects oriented towards specific local needs and

even whole institutions set up in relation to problems and the socio-economic context of the surrounding community and region (e.g. University of Tromsö in the far north of Norway) are just a few general illustrations.

72. It is quite possible that this approach constitutes, potentially, also the best response to two more or less related preoccupations as formulated both by many students and numerous teachers and pedagogues: teaching by doing and the quest for relevance. It is suggested that these preoccupations become one of the central threads of mass higher education which thus appears not only as preparation for life; it is life (1). Or, in the terms of the Carnegie Commission's report: "Society would gain if work and study were mixed throughout a lifetime, thus reducing the sense of sharply compartmentalised roles of isolated students v. workers and of youth v. isolated age. The sense of isolation would be reduced if more students were also workers and if more workers could also be students; if the ages mixed on the job and in the classroom in a more normally structured type of community; if all members of the community valued both study and work and had a better chance to understand the flow of life from youth to age. Society would be more integrated across the lines that now separate students and workers, youth and age."

73. It may well be that it is in some such perspective that the objective of equality of opportunity and the contribution of post-secondary education to social justice can be fully realised. It is indeed now quite clear that this objective was not achieved by the traditional systems even when they were massively enlarged. Post-secondary education has played but a limited role as an avenue of upward social mobility. Most often, on the contrary, it helped the upper or middle classes to consolidate their positions, and its distributive function was rather restricted. It has, in fact, been argued that the social dimensions of educational financing have been such that the poor have been supporting educational facilities for the well-to-do who are the people best equipped to

(1) Johan Galtung: Social Structure, Education Structure and Lifelong Education. The case of Japan, ED(70)2, Annex II.

benefit from such facilities. The question must be posed whether a reversal of this situation is not conditioned by the establishment of a new type of relationship between higher education and society, implying both an interpenetration of work and study, and an involvement of higher education in a much wider range of societal functions than hitherto.

74. Underlying, of course, is the notorious problem of autonomy versus control. If higher education institutions will get so closely involved in local and regional problems, will this not lead to their dependence on political and narrow economic pressures, and consequently to a decline of their standards? The danger is real and has already been discussed from various angles. It arises not only with respect to the involvement of higher education with the surrounding community, but in general as a consequence of the sheer mass of resources which the State has to provide.

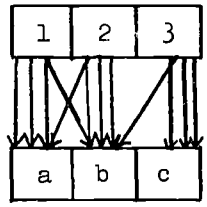
75. As often stressed, the answer lies certainly in a balance which has to be found between the legitimate claim of public opinion for more accountability and the no less justified preoccupations of higher education institutions for real autonomy. A number of trends and countertrends which are already in operation could facilitate the achievement of such a balance in a mass higher education system. On the one hand, the up-grading of secondary to post-secondary institutions or of non-university to university level establishments leads almost automatically to the awarding of a larger degree of autonomy; on the other hand the continuously increasing need for resources inevitably forces higher education institutions into co-ordination schemes and, whether they like it or not, to a positive response to central or regional planning measures and accountability. It can also be expected that mass higher education, because of its inherent diversification, will be pluralistic, which means that control by external bodies, even if it is increasing, will be vested in a larger number of loci of power, which reduces the danger of its becoming total or authoriarian.

76. The desired balance between autonomy and control in mass higher education will remain a shifting concept resulting from conflict and tensions, and the major practical requirement seems to be to establish appropriate mechanisms by which these unavoidable conflicts and tensions can be brought into an equilibrium, albeit a very temporary and perpetually changing one.

V. Education and Employment

77. The relationships between education and employment in mass higher education will be much more diffuse than was formerly the case. In the elitist system, as a rule, each level and type of education corresponded rather closely to specific types of job and profession, while in mass higher education a particular degree will imply flows into a substantially greater variety of occupations. This can be illustrated by the following diagram:

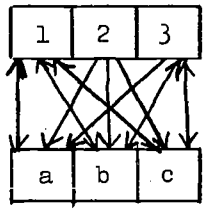
A. Elitist higher education



Education

Employment

B. Mass higher education



Education

Employment

78. To a certain extent the B situation already emerges in the most advanced systems, in particular in the USA, where "college educated" people will be found in large numbers of occupations, from top managers to secretary-typists and skilled workers. Partly, of course, this results from the sheer quantitative development of the supply of degree holders, but partly it also represents a shift in the perception of goals of higher education, whose extra-employment objectives become more important than before. Obviously, in such a situation the fear of "over-production of graduates" becomes totally pointless. In fact, this notion has always been rather dubious. As pointed out elsewhere (1), the United States,

(1) Development of Higher Education, 1950-1967, Conclusions and Policy Implications, ED(70)7, p. 10.

with a GNP per capita which is about twice that of the more advanced European countries, absorbs every year four to five times as many graduates; Japan, with a GNP per capita about half that of the most advanced European countries, provides employment to almost three times as many graduates.

79. The main problem, especially in Europe, is that such a perception of the relationship between higher education and employment is far from being generally accepted, both on the employers' and on the students' side. The resistance to employ "overqualified" personnel may be more widespread than the refusal to give jobs to those without the normally required degree. On the other hand, most of the students, and often even the very radical ones, consider it as a fundamental weakness of the system if it cannot guarantee to them specific types and levels of jobs corresponding to their particular field and level of study. Thus both groups - and often also planners and policy makers - approach emerging mass higher education and its diffuse links with employment with a value structure derived from elitist higher education. There is urgent need to consider measures by which this situation can be remedied, if the inevitable development towards a diffuse relationship between education and employment is not to be accompanied by protracted alienation and frustration of individuals, with all its social and economic consequences.

80. One very specific problem which arises in this connection is the relationship between education and certification. For many professional organisations, post-secondary education serves as the first and most important screening device for entry into the professions. This is accepted implicitly or explicitly by the majority of students who indeed enter higher education in order to obtain this certification. Thus, certification became in almost all systems one of the main functions of post-secondary institutions. All that has been said about the new nature of the education / employment link - and many other considerations - cast a serious doubt on the desirability of this situation. "Certification is probably one of the greatest causes of rigidity and inequality in education" (1).

(1) Post-Secondary Education in Ontario: A Statement of Issues 1970.

81. Certification is, of course, necessary in modern societies in order both to protect the consumer and to guarantee standards, but in the emerging mass higher education system it is important to face a number of questions which, again following the Canadian document, might be summed up as follows: "Should educational requirements for entry to professions be as stringent as they are at present? Should we not strive towards greater occupational mobility by encouraging - or at least facilitating - lateral movements of students, rather than forcing them to 're-do' years of pre- and professional education that have often very little to do with the practice of the profession proper? Indeed, should educational institutions be divorced from the whole certification process?"

82. The employment and certification issues in higher education outlined above acquire a new significance in the context of the emerging concept of recurrent education (1) which implies a system facilitating the alternation of periods of education and periods of work throughout the lifetime of the individual. Such a system, at least in theory, would help to solve some of the crucial dilemmas for which so far no satisfactory answers have been found, e.g. the quest for compatibility between general (academic) and specialised (professional or vocational) education, appropriate linkages between secondary and post-secondary education, a more rational articulation between short and long-cycle higher education, and new patterns of relationship between education and the labour market, with all that this implies for a more equitable distribution of opportunities for individual development. However, it must be borne in mind that recurrent education is a concept requiring far-reaching and radical transformations both in the whole of post-compulsory education and in other sectors of society, and that its implementation is a very long-term objective. Reforms of post-secondary structures cannot be postponed until this objective is reached. The essential, practical problem, therefore, is to identify and apply measures which represent a potential step towards recurrent education and to avoid reforms which block the way towards such a development.

(1) Equal educational opportunity, a statement of theproblem with reference to recurrent education (OECD/CERI, 1971)

83. The analysis of the five specific issues outlined above points to the overall conclusion that the profound structural reforms which are called for by the transition from elitist to mass higher education must reach well beyond mere organisational changes; they will involve a number of basic transformations in society's perception of higher education, in its relationships to the individual and to the global social system and, thus, in its content and functions.

84. Underlying these issues is the vital question of how to reconcile the unavoidable development towards mass higher education with the requirements for advancing knowledge, strengthening of fundamental research and, in general, of maintaining the highest possible scientific, intellectual and cultural standards which has been the traditional role par excellence of the universities.

85. An important aspect of this general question is the organisation of post-graduate education in the future post-secondary systems. A report on this subject has recently been issued by the OECD Secretariat (1). Its conclusions point also to some of the main practical problems which have to be taken into account when analysing the place of post-graduate education in the context of the overall system of post-secondary education:

(a) Should post-graduate education and research activities be located only in one type and in a limited number of institutions (universities), leaving to all the others the mere teaching and training functions? This might facilitate diversification and the establishment of a rational division of labour among the various institutions and also help to solve some of the financial difficulties. But such a system can also easily lead to an undesirable institutional hierarchy and to the strengthening of the "noble"/"less noble" dichotomy. Moreover, it can be argued that some research activities (though not necessarily post-graduate education) must be present at many levels of the post-secondary system as an important element

(1) Post-Graduate Education: Problems and Policies. /ED(71)10/

in the effectiveness of the educational (as opposed to scientific) process.

(b) What arrangements can and should be made in order to provide every post-secondary teacher with relevant possibilities for research which might represent a necessary condition both for his professional and social status and for a continuous enrichment of his teaching?

(c) Should post-graduate education be differentiated according to its main functions: fundamental research, training of researchers, training for certain high-level professions, preparation for a university career?

(d) Should post-graduate education be financed in the same way as the rest of the system, or are certain sources of funds more appropriate for this sector than for the others (e.g. contracts with industry)? Can student loans proportionate to the expected future return from the particular type of post-graduate education be more easily implemented than differentiated loans to undergraduate students?

(e) Steps towards recurrent education and, in general, a closer link between work and education are possibly easier to apply in post-graduate than in undergraduate education. Which measures in this respect offer the greatest possibilities?

86. There is no evidence that mass higher education leads necessarily to a decline of academic standards or that post-graduate education must, to a certain extent, be sacrificed in a mass system. All available information points, in fact, in the opposite direction: during the rapid expansion period of the fifties and sixties, post-graduate enrolments grew almost everywhere even more rapidly than overall enrolments, and the universities remained as vital to the process of knowledge extension as they probably ever were in the past. The main problem, therefore, is not so much one of incompatibility between mass education and the advancement of knowledge, but of bringing about the organisational and other changes required by the enlarged size of the system and the new problems

which it has to face in responding to its multiple functions. Nevertheless, it is self-evident that the growing competition for resources will call for choices as between the financing of growth and the maintenance of an adequate volume of research in the universities. It is therefore vital that the precise options open to Member countries be carefully analysed, and this will be the aim of the continuing work of the Organisation in this field.

ANNEX TO PART ONE

SELECT AREAS FOR POLICY MEASURES

87. The solution of the issues outlined above would call for imaginative, often radical, and highly innovative policy measures. An identification and analysis of such measures will be presented in the final version of this report following the completion of the special surveys and studies now under way. At this stage, reference will be limited to three areas which seem to offer special interest and in which particularly important policy tools may be devised.

I. Problems of a general credit point system

88. Such a system and its desirability are now widely discussed but a systematic and comprehensive analysis of the various operational aspects which it involves is still lacking. Basically, credit points correspond to small "learning units" or "modules" transferable between fields and levels of study and between the various types of institutions. Many features of such a system have already been introduced in the United States but their implementation in Europe is a rather new phenomenon and mostly limited to single institutions or to institutions of one category. Recent proposals have attempted to widen the scope of transferability of credits, for example the French concept of "unités capitalisables" and the German "Baukastensystem". A further step is the Swedish idea of eliminating all types and levels of degrees and of replacing them by certificates indicating the number and subject content of points acquired. This would allow students to terminate their studies whenever they wish and whenever their number of points is considered sufficient for a particular job.

89. The practical problems which will have to be solved are numerous. In particular, appropriate criteria must be drawn up for transferability of points between fields and levels of study

and between institutions. Transferability obviously cannot be absolute: two years in a nursing school cannot be equivalent to the first two years of medical studies, and a set of conversion keys for different subject and level combinations will have to be defined. Curriculum content and analysis should be the main points of reference, but it is precisely in this area that information is extremely insufficient.

II. Location policies

90. For many countries these policies are of great importance for the pursuit of the objective of greater equality of educational opportunity and also in connection with regional development. Two partly opposing trends have to be reconciled: on the one hand, it appears highly desirable to bring post-secondary education as close as possible to its potential consumers who, so far, may have been deprived of it precisely because of too great geographical distances. This implies a wide decentralisation and the establishment of post-secondary institutions often in remote and relatively small towns. One the other hand, the requirements of a better utilisation of resources and, in general, the fact that higher education institutions need to have a certain "critical mass" (of students, teachers, equipment and probably also of disciplines taught) in order to operate effectively, makes for a certain concentration of facilities. This may mean location in larger regional centres only.

91. Presumably, some rational criteria for establishing an optimum map can be identified, although appropriate methodologies and models for this purpose are still lacking. It seems certain that such models of optimum location policies must consider all forms of post-secondary education, not just one of the existing types. This means that they must take into account the inter-relationships and complementarity existing and planned between short- and long-cycle higher education, between university and non-university institutions, etc. In practice, the problem becomes very complicated because location policies respond not only to rational (economic, social or educational) criteria, but to local and political pressures of all kinds: prestige considerations,

interests of more or less powerful lobbies, etc. But, given the weight of political considerations in decision-making of this kind, it may nonetheless be possible to provide a technical basis on which such decisions could be rationally articulated.

III. Planning mechanisms

92. In a preliminary way this problem has already been discussed in another Secretariat paper (1), which argues on the basis of individual country statements and of actual developments that comprehensive planning and co-ordinating mechanisms are indispensable for an effective and meaningful transformation of elitist into mass higher education.

93. The paper identifies a tendency common to many Member countries:

(a) to establish boards at the national (or State) level with a planning role for post-secondary education as a whole rather than for specific segments (such as universities, teacher training colleges, technical education, etc.). Where such segments still have their own governing boards, there is now an effort to co-ordinate these under a central board with a system-wide jurisdiction;

(b) to give such boards a statutory basis, with a membership representing educational interest, industry, the professions and public life;

(c) to create sub-boards (commissions, committees) for specific problems (e.g. admissions, student grants, etc.) or specific projects (establishing new institutions, curricular reforms), but to leave final decisions and implementation to the central agency (board recommends to Ministry, or board actually implements);

(d) for boards to sponsor enquiries or development plans as a prelude to wider discussion before legislation is passed or policy decisions are taken;

(1) Planning mechanisms for new structures of post-secondary education - DAS/EID/70.32.

(e) to create a professional cadre of planners with full-time commitment to the central agency;

(f) to use by-pass methods (e.g. a new commission, or a new type of institution) when the existing machinery is unable to deal satisfactorily with an emerging problem or the existing structure proves too inflexible or inappropriate.

94. Conditions implied in these trends are, of course, often not fulfilled: planning boards are outside the real power structure, they lack any direct means of implementing the established plans, they do not include in their considerations all segments of the post-secondary system, there is a communication gap between them and faculty, students, politicians and the public. It is in this latter area, which hinges on how effectively the participation basis for planning and decision-making can be broadened, that lies the real challenge for preparing the smooth transition to new structures of post-secondary education.

PART TWO : SHORT-CYCLE HIGHER EDUCATION

A. DEFINITION OF THE PROBLEM

95. It is realised that with the present trend towards a comprehensive system of higher education, the concept of short-cycle higher education and the existence of special institutions for this purpose may, in the future, become inappropriate or obsolete. This trend would abolish, or at least attenuate, differences between university and non-university higher education and make the distinctions between short- and long-cycle higher education meaningless or, at least, give it a very different sense. But, before this stage in the development of higher education is reached (and perhaps so that it is reached more easily) many countries see as an indispensable step the development of suitable forms of short-cycle higher education and the building up of special institutions to allow a wider diversification. Although a few countries intend to create or develop this form of higher education within the existing or reformed universities, the majority of countries think that the most efficient way of providing short-cycle higher education is through the establishment or adaptation of special institutions outside the universities. Some of the reasons for this are given below.

96. The present paper deals only with the development of short-cycle higher education outside the universities without thereby implying that the other approach, namely a new articulation within universities, is in itself a less desirable solution. Hence this study will focus more on short-cycle institutions than on short-cycle education in general.

97. This limitation of subject implies, to a large extent, that we shall consider essentially problems of the non-university sector of higher education. In fact, this term might have been more appropriate as a title of the paper because, for example, we plan to cover some institutions of higher education which offer courses

of the same duration as normal university education (in particular, the British Polytechnics) and for which the term short-cycle is therefore inadequate, whereas short-cycle higher education which in a few instances is provided inside universities will not be discussed.

98. The fundamental characteristic common to institutions whose problems will be examined here is their present extra- or non-university status which puts them in the position of having to establish their respectability without losing sight of one of the main functions for which they were created, i.e. to offer education and degrees of a terminal and vocationally oriented character (1). Yet, although imprecise, the term short-cycle higher education was preferred to non-university higher education mainly because we hope in the study to examine a future in which the distinction between university and non-university institutions will become increasingly blurred (2).

B. BACKGROUND CONSIDERATIONS

99. Before defining some of the main issues considered of utmost importance in the development of short-cycle higher education institutions (SCI), it seems useful to give a brief and synoptic classification and analysis of the existing systems of SCI and to identify the main general motivations and objectives which lie behind the development and/or reform of these systems.

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(1) In this context the term short-cycle higher education should be distinguished from first-cycle higher education which designates essentially (at least, at the present time) the first period (usually two years) of normal full university study. In the future this distinction might (or should) disappear.

(2) In addition, the term non-university may in some cases be more misleading than the term short-cycle. In France, for example, non-university higher education stricto sensu includes the Grandes Ecoles but not the IUT's, although the present study intends to examine the latter and not the former.

I. Existing types of systems of short-cycle institutions

(i) The multipurpose model

100. The prototype of the multipurpose model is the American Junior or Community College. Its development was a direct consequence of mass comprehensive secondary education such as characterised the United States, Canada and Japan (1). Consequently, the main factors behind this development have been the pressure of numbers and the resulting changes in the composition of the student body.

101. The basic characteristics of the "multipurpose" model are:

(a) The respective SCI's have a rather close link to university education, not usually from the administrative point of view but because some of their courses can be assimilated to the first two years of full university study, thus allowing transfer of students and inter-institutional mobility;

(b) They are multi-functional institutions with highly diversified curricula ranging from purely academic programmes which prepare for continuation of studies at university to various types of general and vocational training of a terminal nature;

(c) Institutions of this model are geared to meet local or regional needs and less concerned with problems of national standards. They constitute a highly decentralised system with a considerable degree of institutional autonomy.

102. The main SCI's which can be classified under the multipurpose model are the Junior Colleges of some of the Western provinces of Canada and, in the same country, the CEGEP's

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(1) The Junior College system in Japan, although based on the American model, underwent fundamental changes when introduced into the Japanese context. Given its actual characteristics it is perhaps nearer to the United Kingdom type.

(Collèges d'Enseignement Général et Professionel) of Quebec. The latter have even a closer link to universities because the first cycle of university studies is to be provided exclusively in these colleges along with courses of a terminal and vocational nature (the CEGEP's are less autonomous, however, and subject to greater central control).

103. In Europe, two countries have tried to build up an SCI system, introducing some of the characteristics of the multipurpose model. In Yugoslavia the "Više Škole" (two-year post-secondary schools) in the early sixties, offered transfer as well as terminal courses, and represented the first European experience of relatively autonomous institutions outside the universities providing two-year courses considered equivalent to the first two years of university study. Also the two-year-old Norwegian District Colleges represent a departure from the old European tradition and the adoption of some of the main characteristics of this model.

(ii) The specialised model

104. The development of a "specialised type" of SCI was mainly the result of efforts to provide post-secondary education to students coming from the non-academic streams of secondary schools who were, therefore, not admitted to the university sector. In this respect they were the continuation of a streaming process begun at secondary level.

105. This model has the following basic characteristics:

(a) The links with universities are very loose or almost non-existent. As these institutions provide mainly terminal, vocationally oriented courses, the organisation of their studies is completely independent of the university sector.

(b) Each institution provides a limited number of programmes and specialises in one or a few areas of study or training, e.g. various technical fields, teacher training, social assistance, paramedical professions, etc.

(c) Inter-institutional differentiation tends to be small owing to low institutional autonomy. They are centrally administered either by regional or national authorities; on the one hand this favours the existence of a co-ordinated system (at least between institutions of the same specialisation) but, on the other, pressures to conform to national standards counteract institutional initiative which would reflect local or regional needs.

106. Until the early sixties almost all continental European countries had an SCI system which fitted rather closely the above characteristics, in particular, Belgium, Denmark, France, Germany, the Netherlands, Portugal, Spain and Turkey (1). During the late sixties, however, many European countries began introducing far-reaching reforms significant examples of which are: the reform of the "enseignement technique supérieur" in Belgium, the creation of IUT's in France, the reorganisation of "Fachhochschulen" (formerly "Ingenieurschulen" and "Höhere Fachschulen") in Germany, the planned polytechnics in Portugal, and an overall reform of the higher education system in Spain. Some of the characteristics of these new patterns will be analysed below.

(iii) The binary model

107. In the OECD are this model concerns almost exclusively the United Kingdom where post-secondary education is divided into two separate sectors which have been developing independently of each other: the university or autonomous sector on the one hand, and the advanced further education sector on the other. The institutions included in the latter (2) operate on the following principles:

(1) A few European countries (e.g. Austria and Italy) did not have institutions of this type.

(2) As already mentioned, the term SCI should not be applied here. The duration of study in these institutions is not shorter than in universities.

(a) the separation from universities is even more marked than in continental Europe (1), as the two sectors operate under different administrative bodies;

(b) like SCI's of the "multipurpose model", the United Kingdom institutions are highly diversified, not only in the type and level of studies provided, but also in the development of various patterns of study, e.g. sandwich courses, part-time day and evening courses, etc.;

(c) some institutions in this sector (at present, mainly the Polytechnics) offer, independently of the universities, degree-level and post-graduate courses. Even so, they represent a specialised and professionally oriented sector as opposed to the more theoretical academic orientation of the universities. And even if, in principle, their degrees are of the same level as those awarded by universities, they are far from carrying the same social prestige.

108. Post-secondary technical education in the United Kingdom seems to have influenced the development of the Ontario CAAT's (Colleges of Applied Arts and Technology) in Canada. The main function of these colleges, which are strongly community oriented, is to provide highly diversified terminal programmes of technical education thus reducing to a minimum student transfer to universities.

109. The above classification of SCI systems represents an obvious over-simplification and should serve only as an analytical framework in which to identify the mixed or totally new models which are emerging in response to the deficiencies of existing systems. Probably the fundamental weakness, common to all three "historical models" is that they imply a distinction between the "noble" and "less noble" parts of higher education. It is this distinction which is at the root of the present search for appropriate reforms.

(1) A recent exception to this pattern is found in the relations which have been established between some teacher training establishments and universities.

110. It is proposed that the three models be examined in greater detail in a later study, especially with regard to their dynamics i.e. their mechanisms of change and development. At this stage only two general trends will be mentioned.

111. First it appears that during the past 15 to 20 years short-cycle and, in general, non-university higher education institutions grew at roughly the same rate as universities (1). If, in a few countries, the former expanded considerably faster than the latter, e.g. Junior Colleges in the United States and two-year post-secondary schools in Yugoslavia, the dichotomic nature of the system was in no way altered. Thus, the drawbacks which these dichotomies generated were often perpetuated and even strengthened.

112. Secondly, most countries have witnessed in all parts of their post-secondary education systems what might be called an institutional upgrading trend. In this respect the SCI's occupied a special position: on the one hand, the status of many of them (sometimes the entire sector) is the result of an upgrading of secondary schools and, on the other, many strive (and often succeed) to gain university status. The sector is therefore a perpetually changing one with an inflow of institutions from below and an outflow above which implies, in fact, an escape from the "less noble" position. Moreover, when an SCI becomes a university status institution, it often no longer fulfills some of the main functions for which it was created (e.g. part-time education, courses oriented to local needs). Significant examples of this process are the British CAT's, some American Junior Colleges, and in a certain sense also those European SCI's which, when unable to become full universities, often add one or two years to the duration of their course of studies so that they may be considered of university level.

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(1) See "Development of Higher Education, 1950-1967. Analytical Report". OECD, ED(70)3.

II. Objectives and motivations behind the development and reform of short-cycle institutions

113. The new types of SCI's which have emerged in the past years in the various Member countries must be viewed in the light of the changing functions and objectives which these institutions are expected to fulfill. These functions can be grouped under four headings: (1) to respond to the increasing pressure of individual demand for higher education; (2) to contribute to the equalisation of educational opportunities; (3) to respond to growing needs for a wide and diversified range of qualified manpower; and (4) to generate or facilitate innovation in the post-secondary system as a whole by assuming a number of functions which traditional universities are often reluctant to accept.

(i) Pressure of numbers

114. In the past, this factor played a more important role in the development of the United Kingdom and American systems than in the continental European one where SCI's were often more selective than universities. But the rapid expansion of university education during the past two decades, the high number of drop-outs, and in general the changing nature of the higher education clientele make the development of SCI's in Europe also an urgent necessity. This would relieve the pressure on universities and at the same time provide a diversity of educational forms at the post-secondary school level.

(ii) Equality of opportunity

115. The unequal representation of various groups and social classes in university enrolments is a well-known phenomenon. Under certain conditions SCI's might provide the means through their wider geographic distribution, shorter duration of study, and courses which are more adapted to aptitudes and motivations of the less privileged social strata, for an easier access to higher education for those excluded in the past.

(iii) Fulfilment of manpower needs

116. The main economic rationale of SCI's is that they provide qualifications and skills for which university education is of too high and theoretical a level and secondary education an insufficient one. In addition, SCI's appear to be more capable than universities of offering a variety of courses and methods of study which is increasingly required for economic and technological development. Unlike the American Junior Colleges where the "catering function" prevailed, the manpower supply function has always dominated the European SCI's. However, an even wider implementation and a further diversification of these institutions seem to be urgently needed everywhere.

(iv) Agent of innovation

117. It has often been shown that innovations are more likely to succeed through the creation of new institutions than through transformation of the old. Furthermore, even if the creation of these institutions is on a small scale or only on an experimental basis, the success may have a powerful "demonstration" effect on the rest of the system.

118. This observation applies to many aspects of higher education, the most important probably being the various new functions which higher education institutions are expected to assume, namely provision of continuing education (retraining, adult education), participation in regional development, offering of various kinds of services to the community, etc. No less essential are innovations concerning some of the new basic principles of higher learning: individualised education, combining education and work, more diversified curricula corresponding to the wider range of abilities, education for "self-fulfilment" or "individual development".

All these innovations apply obviously to the whole of higher education, universities, and SCI's alike, but their implementation through the latter appears in some countries to be the easiest or best way to begin a process of change. This may be true for any of several reasons: they are newly created, or at least they have no secular tradition; they might have greater built-in flexibility; they are closer to local needs and interests; and they perhaps reflect more accurately the nature of the new higher education clientele.

119. To what extent the new or reformed SCI's can meet, or at least help to meet, the four types of objectives outlined above, remains to be seen. In a future study the OECD Secretariat will try to develop a number of indicators which should permit at least a rough evaluation of the results achieved in this respect.

C. ISSUES AND DILEMMAS

120. All types of SCI's face in their development a number of important issues and dilemmas, some of which will be identified in this sector.

I. Access and admission

(i) Open access versus selection

121. One finds in the various systems of higher education different balances between selective and open institutions. Within each system, the SCI's are assigned a particular role which may differ from one system to another.

122. In the multipurpose (United States, Canada, Yugoslavia) and binary (United Kingdom) systems where universities are characterised by selective admission, it is the SCI's which constitute the open part of the system. In the United States and Canada, the existence of mass secondary school education (more than 70 per cent of the age group complete this level) is a significant factor in the increasing demand for access to higher education by students coming from the less privileged groups of society. The SCI's, having open access, are the institutions receiving the heaviest impact from this increasing demand.

123. However some important drawbacks must also be noted: The coexistence of free and open access to SCI's and selection at universities may easily lead to a certain pseudo-democratisation of the system by reinforcing institutional status differences.

If, in the divison of labour within the American system, Community Colleges are assigned the role to "serve both the lower socio-economic strata and the lower ability youth" (1), it is clear that at the same time they might also serve to isolate these groups from other, selective parts of the system. Relieved from this pressure, four-year institutions of high standard can "make place" for youth from middle- and upper-class strata and from upper ability groups.
An important compensatory mechanism for this discrimination is the provision for Community College students to transfer at the end of their two-year studies (or even before) to four-year colleges or universities. But statistics show that only a relatively small proportion actually benefit from this provision. In fact, American Junior Colleges operate to a large extent as a selection (or to use Burton Clark's term, "cooling out) mechanism for full higher education, yielding heavy drop-outs of which the underprivileged classes may be precisely the main victims. Thus, in the American system, the degree of equality of opportunity is relatively high upon admission into the system and during the first year of study but much lower at the level of graduation; in other words, equality of opportunity in access does not lead automatically to equality of achievement.

124. All this implies that the principle of open access to SCI's in the American transfer model may create as many problems as it solves unless, of course, new patterns such as reforms of content, diversification of programmes, new types of linkages between Community Colleges and universities, etc. are introduced. The search for innovation in this respect is now being actively pursued throughout the United States (2).

125. In the United Kingdom system the non-university sector is also open (compared to British universities) but to a lesser degree than in America, and it definitely plays a role in

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(1) "Planning of New Structures of Post-Secondary Education, Country Statement, United States of America", OECD, DAS/EID/70.24/07.

(2) According to the latest figures the social composition of the student body in Junior Colleges is changing, i.e. middle and even upper classes are now more represented than in the past.

providing access to higher education to less favoured groups of society. In addition, it offers the possibility of study leading to a degree of university (and even post-graduate) level outside the university sector.

126. However, the large British non-university sector is a stratified system ir itself, composed of a variety of institutions with different levels and patterns of study and, accordingly, different conditions of access. Admission requirements for degree-level courses in polytechnics - the elite institutions of the non-university sector - are slightly lower than for universities, but much higher than for higher diploma and certificate courses. The inequality of education opportunity is particularly aggravated by the limitations of student mobility between different courses of study. Although policies are slowly being changed, still those students having entered the non-university sector may, in only very exceptional circumstances, transfer to universities. In the United Kingdom, unlike in America, the real selection process takes place during secondary schooling (see following section).

127. The situation and role of continental European SCI's with respect to the mix of open access and selection is very different from the two preceding cases. These institutions are influenced mainly by economic and manpower considerations, and tend to respond less to social demand and to the equality-of-opportunity objective than their American counterparts. There are, however, two important reasons why SCI's in Europe could neglect, to some extent, the need for an open sector and be less sensitive to the pressure of numbers.

128. First, a very powerful tradition of open universities prevails in the majority of countries. It is precisely the universities - particularly some fields of study - which represent the open sector and, consequently, are suffering the strongest impact from the quantitative expansion of recent years. Hence, in some European countries, selective SCI's coexist with open universities and in a few cases, for example in France, students having been refused admission to short-cycle technical institutes are admitted for university study.

129. Secondly, in Europe the pressure of numbers is due fundamentally to the expansion of the general academic streams of secondary schools which prepare students for university study, thereby creating a much greater demand for long-cycle institutions than for SCI's.

130. The SCI's have, by providing access to post-secondary study for students coming from the non-academic streams, and for whom therefore the universities were not open, nevertheless played an important role in providing educational opportunity to less privileged groups.

(ii) Linkages with upper secondary schools

131. The role of secondary schools as a selection mechanism for streaming students into the different types of higher education institutions is of primary importance almost everywhere in Europe (the United Kingdom included). On the contrary, in the United States, Canada and Japan, this streaming takes place, at least formally, only upon admission to higher education. Recent and expected developments in Europe point in the same direction, mainly because of the sometimes radical reforms of upper secondary education which are already launched or in preparation. The main idea behind these reforms is comprehensiveness and possibility of access to all forms of higher education (including university) for graduates of all types of upper secondary education. This implies fundamentally the elimination of hierarchy among the different types of secondary schools (should a single comprehensive or integrated type not be established) and a diversification based solely on the various fields of study available. Curricula changes - introduction of common core subjects for various disciplines, more vocationally and practically oriented courses in academic streams and more courses of general studies in technical disciplines - would be the basic strategy by which to diminish the traditional hierarchical differences.

132. Following the above considerations, future SCI's will have to face a number of new problems:

- If, in the near future, graduates from all types of secondary schools will have access to long-cycle university studies which have more prestige and usually lead to a better position and higher salaries in industry and administration, the SCI's might risk losing part of their potential clientele, while the pressure on universities will be further increased.
- Should SCI compete for the same clientele as universities or should they cater for students whose interests and abilities do not correspond to the requirements of theoretical, academic education?
- Will a great number of students, dropping out of universities seek admission to SCI's? What effect would this have on the status and prestige of these institutions?
- For what type of students will SCI constitute a first choice of studies? What will be the importance of educational background in the admission process for these institutions? And what significance will the concept of "equivalent standard" vis-à-vis formal secondary qualifications have in admission to SCI? Will there be educational opportunity for those without a formal secondary school diploma but with sufficient professional qualifications ("second route" to higher education)?
- To what extent will it be possible to organise access to higher education as a flexible and reversible process rather than an irreversible one?
- To some extent the solution to these questions could be found in a better articulation between upper secondary studies and the first years of higher education. An efficient and developed system of information and guidance at both levels of study (whose importance is recognised more often in theory than in practice) could greatly contribute to this end and help improve the image of SCI's. Such a system should serve as a means by which admission to different parts of post-secondary education will be determined by more objective criteria than educational background (and social origin). But what are these criteria? How can orientation become an integral and

institutionalised part of the admission process without violating the principle of freedom of choice of studies? Can a common obligatory "orientation year" contribute to more rational decision-making on the part of students and improvement in admission policies on the part of institutions?

II. Transfer versus terminal programmes: a search for compatibility

133. Probably the most important and difficult problem which both old and new SCI's are facing is striking an appropriate balance among the four categories of objectives enumerated in Section B-II above. More specifically, the problem could be formulated as follows: the SCI's must respond to the increasing pressure of social demand for higher education and offer real equality of opportunity, i.e. provide the possibility of transfer to university for students capable and wishing to continue their studies; they must, at the same time, continue to assume their main role as agents of diversification and innovation by providing vocationally and practically oriented studies. The first requirement tends to force SCI's towards a certain isomorphism with universities (and dependence upon them), and hence to a neglect of some of their original functions; the second might weaken their "respectability" and distort their role as "equalisers of educational opportunity". This search for compatibility between transfer and terminal courses will be examined from the point of view of structural as well as curricula implications.

(i) Structural aspects

134. The problems involved in emphasising too heavily transfer work can best be illustrated by the example of the American Community Colleges. Without any doubt, they have contributed to develop a flexible system and provided opportunity for access to four-year institutions to students who otherwise would have been unable to benefit from long-cycle education. But by giving so much emphasis to this "transfer" function (often not of their own will but under the pressure of student demand for these types of courses) they often neglected other important objectives and became academically

sometimes subordinated to surrounding universities whose recognition they needed for their programmes, or even became "bad copies" of these universities when they attempted to be upgraded to the status of four-year colleges. All other multipurpose institutions are confronted with this problem, especially the Junior Colleges of Alberta and the CEGEP's of Quebec. District Colleges of Norway and CAAT's of Ontario which intend to introduce transfer courses in the near future are highly conscious of the need to find an equilibrium, but it is too early to know whether and how they will succeed.

135. The specialised SCI in continental Europe, on the contrary, by heavily stressing their economic objectives, have emphasised the terminal nature of the education provided and thus became "blind alleys" for graduates coming out of these institutions. The most recent reforms deal with this problem by introducing so-called "passerelles", "cursos puente", "permeability" or similar measures aimed at permitting or facilitating transfer "subject to certain conditions". An important element of these measures is that transfer is envisaged as a two-way process not only allowing SCI graduates to enrol in long-cycle studies but also - perhaps to a greater extent - permitting potential university drop-outs to enrol in SCI's. Unsuccessful or discouraged students could in this way be recuperated by the system and given the possibility of finishing short-cycle studies.

136. The practical issues which follow from the above considerations concern especially:

(a) the optimum or maximum volume of SCI-university transfer which should be aimed at;

(b) the conditions to be fulfilled by students desiring to transfer (in terms of additional examinations and duration of study); and

(c) the type of measures by which the rate of transfer can be regulated without limiting unduly the freedom of choice of studies.

(ii) Curriculum aspects

137. The problem of appropriate curricula and of conceptual and and pedagogical linkages between practically and theoretically oriented studies represents probably the core of the search for compatibility between transfer and terminal courses. Ideally, this problem would be resolved if equivalence could be established between the first part (first cycle) of long university studies and courses provided in SCI. In practice no real solutions have yet been found, and many have failed. Of these, at least conceptually the most interesting was the Yugoslav essay of "curriculum inversion". According to this scheme, the practically and vocationally oriented courses were to come at the beginning of post-secondary studies and the more theoretical afterwards. This would have allowed a complete equivalence between short-cycle technical (vocational) higher education offered by the "Visa Skola" and the first two years of regular long-cycle university education, students in both institutions have at the end of their first two years the choice of either continuing their studies or entering the labour force with a recognised intermediary degree. The scheme was not successful, partly because neither its pedagogical nor its conceptual implications were really solved and partly because it resulted in too high a transfer rate of students from the non-university vocationally oriented sector to the university sector. As a consequence Yugoslavia is, today, probably the only country where the trend is towards an increasing separation between SCI's and universities and where student mobility between the two sectors is being reduced to a minimum.

138. Whether the idea of "curriculum inversion" can be taken up again and more successfully implemented in different conditions remains to be seen: certainly the traditional sequence of courses in university studies often proves to be inefficient and ineffective. For example, it is claimed that students of medicine or engineering who spend their first one or two years on purely theoretical sutdies have almost forgotten what they could evaluate better the relevance of basic sciences for their field.

139. Even if "curriculum inversion" should for the moment be considered unrealistic, most approaches to the problem of curriculum reform in SCI's and to linkages with the curriculum in long-cycle higher education represent a search for types of courses common to various fields of study and to institutions providing education of different levels and orientations. Substantial progress has already been made in finding common courses directed towards related or neighbouring fields of study (e.g. medicine, pharmacy, various fields of engineering) but usually these courses are of the same educational level or institutional type. Much less has been done towards finding such common courses ("tronc commun") for medical and paramedical studies, for long-cycle social science and short-cycle courses for social assistants, for engineering and short-cycle technical studies, etc.

140. Related to the issue of common inter-level and inter-institutional courses (which seems to imply considerable improvement in the use of scarce physical and personnel resources) is undoubtedly the problem of interdisciplinarity. Again, this question should be considered with reference to the linkages between SCI's and universities.

(iii) Towards a "student centred" higher education system

141. The combination of a new approach to curricula problems and the simultaneous development of a credit point system to cover all higher education institutions would be the most powerful method of achieving an organic linkage of SCI's to other forms of higher education while preserving, and even developing, its diversity.

142. The credits would correspond to small "learning units" or "modules" transferable between fields and levels of study and between the various types of institutions. Many features of such a system have already been introduced in the United States but their implementation in Europe is a rather new phenomenon and mostly limited to single institutions or institutions of one category. Recent proposals have attempted to widen the scope of transferability of credits, for example the French concept of "unités capitalisables" and the German "Baukastensystem". A further step is the Swedish idea of eliminating all types and levels of degrees

and replacing them by certificates indicating the number and subject content of points acquired. This would allow students to terminate their studies whenever they wish and whenever their number of points is considered sufficient for a particular job.

143. The practical problems which will have to be solved are numerous. In particular appropriate criteria must be drawn up for transferability of points between fields and levels of study and between institutions. Transferability obviously cannot be absolute: two years in a nursing school cannot be equivalent to the first two years of medical studies, and a set of conversion keys for different subject and level combinations will have to be defined. Curriculum content and analysis should be the main points of reference, but it is precisely in this area that information is extremely insufficient.

144. The ideas contained in the curricula and structural reforms represent more than tools or devices facilitating student transfer and mobility: they are, in fact, the expression of a trend towards a student-centred rather than an institution-centred higher education.

III. Status of teachers and students in short cycle institutions

(i) Teachers

145. The often marginal status of SCI's is clearly reflected in some of the present conflicts affecting the teachers of these institutions. Although for some time they have been assuming the responsibilities corresponding to higher education, this has frequently not been recognised in their formal status. In many countries they are still more easily assimilated to secondary school teachers, both salary- and status-wise, and thus denied the rank of professor which is usually reserved for the teaching staff of universities. Further indicators of this situation are the number of teaching hours, degree of academic freedom, possibilities of research, etc., which bear a much closer resemblance to secondary school patterns than to those of higher education.

146. As always, the whole problem has at least two aspects. On the one hand it is said that teachers in SCI are not sufficiently qualified to be ranked (and paid) on a par with

university professors, on the other hand it is argued that the only way of raising the educational standards and prestige of the SCI's is by providing attractive working conditions and adequate status to highly qualified staff.

147. To a great extent this problem has been solved where new SCI's were created. Thus, in the French IUT's as well as in the Norwegian District Colleges, the teaching staff have the same status as those in universities although at slightly lower echelons of the scale (a full professor in a District College has the status of an assistant professor in a university). Other countries, such as Germany and Belgium, are following the same trend. But the contrary is true in the United Kingdom where the teaching staff of polytechnics do not have the status of university professors in spite of the fact that polytechnics are considered as institutions of university level.

148. If professors of SCI will gradually be required to have the same level of qualifications as university professors, what incentives are going to be provided to attract good teachers to the so-called "less noble" instututions? In the case of new institutions, the prospect of working in a context which opens up great possibilities for innovation might provide such an incentive. In other cases, where only reforms of existing institutions take place, alternative solutions must be found. For example, an important step might be to provide research facilities, and the time for research, even when the particular SCI represents dominantly or exclusively a teaching institution. In practical terms this can probably best be done where some organisational or administrative link is established with neighbouring universities, as is intended in the idea of German "Gesamthochschulen" and Danish University Centres, in French IUT's, Belgian technical education, etc.

149. Another favourable solution in this respect might be SCI's enrolling large numbers of students (e.g. more than 3,000) covering a wide range of fields of study such as the United Kingdom polytechnics. The existence of an important multi-disciplinary teaching staff may indeed help to develop a more stimulating academic atmosphere than that of the former isolated specialised institutions.

150. But to what extent is it desirable to have highly academically-minded professors teaching and directing SCI's? And what are the risks of recruiting a large proportion of those who have not been able to "make it" (or not yet) at universities ? With their minds directed to the prestigeful institutions will they not be tempted to distort some of the main functions of SCI's and try to develop bad replicas of universities? And will they, in a sense, not "contaminate" the attitudes and aspirations of other teachers of SCI? Significantly enough, in the United States, where Junior Colleges have been integrated into higher education for a longer time, some investigations show that 60 per cent of the faculty members of these schools would prefer to teach in four-year institutions rather than in Junior Colleges (1). How can any of these teachers convince students that these are not second or third class institutions?

(ii) Students

151. As in the case of teachers, the problem is often one of material conditions. The situation must obviously be avoided in which students attending SCI's - many of whom come from the lower social classes - benefit less from financial assistance and other relevant facilities (use of libraries, restaurants, cultural activities, etc.) than the students enrolled in universities who are more likely to come from middle or upper class social backgrounds. The situation is slowly changing and again this is particularly true in some of the new SCI (e.g. Norwegian District Colleges, IUT's) where students are entitled to exactly the same scholarship schemes and facilities as university students. The question is whether in certain conditions they should not in fact receive additional advantages, partly to help compensate for the material and cultural disadvantages resulting from their social backgrounds, partly (when necessary) as a means of strengthening the powers of attraction of SCI's.

(1) Hodgkinson, H.L. Institutions in Transition. Carnegie Commission on Higher Education, Berkeley, California, 1970.

IV. Autonomy and governmental control

152. Although administratively SCI are gradually being granted higher education status and even considered of "university level", in many countries they are not accorded at the same time the degree and type of autonomy which is usually associated with traditional higher education institutions. Hence, the SCI's and the non-university sector in general are under much tighter governmental control than universities. However, the extent to which this control should be exercised is at present a highly controversial issue.

153. The pressures towards increasing autonomy come mainly from the SCI's concerned. They argue that in order to fulfil some of their basic functions they must have more independence in financial, administrative and academic matters. It is being said that an appropriate adaptation to technical and scientific developments, rapid response to local or regional needs and sufficient flexibility to introduce innovations and to contribute to the diversification of the system as a whole, cannot be achieved in a situation characterised by the slow and complicated decision-making process which typifies centralised administrations.

154. Governmental representatives perceive another aspect of the problem. According to them, if SCI's were granted a wide margin of independence, they would be tempted to follow the up-grading trend and concentrate essentially on policies with a view to obtaining university status. In this way SCI's would neglect their main role within the system and, consequently, their responsibilities towards society.

155. The solution to the issue of autonomy versus governmental control will depend considerably on the national context. If control is vested in local or regional authorities it might on the one hand facilitate the desired integration of all post-secondary institutions at this level, but on the other hand make national coordination more difficult. The reverse can happen if control is exercised by central authorities. The problem also varies according to the degree of autonomy prevailing in universities. When it is very high, the demand for more autonomy on the part of SCI's will at least in part reflect their search for more "respectability" (e.g. United Kingdom Polytechnics); when it is

low, the SCI will probably support more easily the already existing limits to their autonomy.

156. In any case, a certain overall trend can be observed: SCI's and especially the new or reformed establishments, are in general gaining a greater degree of autonomy than was accorded to the old institutions of the non-university sector. At the same time, universities tend to be subjected to more central control (especially financial) than in the past (1).

V. Location, regional development and service to the community

(i) Location of SCI

157. For some countries this is a very important issue. A wider geographic distribution and location of SCI's in areas which have up to now been lacking in higher education facilities is often considered both as a means of equalising educational opportunity and as a contribution to regional development. Clearly, this also applies to universities where there is a very strong trend towards geographic decentralisation and the breaking up of oversized institutions situated in the capital or in a few centres in the most highly populated parts of the country (e.g. affiliated universities in Sweden, "collegios universitarios" in Spain, the creation of new campuses of the big American universities, etc.).

158. However, the problems of location of new SCI's are of a special nature. As originally they were often physically located in close proximity to secondary schools - sometimes under the same roof - a wide range of rather small and specialised establishments emerged. This dispersion was enhanced by the creation of various types of SCI's, particularly those where unit costs were low and which responded more to political pressures than to systematic planning.

159. The upgrading of these schools to higher education institutions has generated strong pressures towards a regional concentration of their activities. The widely dispersed local-oriented institutions are gradually being replaced by rather large regional-oriented establishments. The main pressure behind this trend is probably the necessity of finding a "critical mass" without which SCI's cannot fulfil their functions and, even less,

(1) This does not apply in countries such as France where in the past universities were under rigid central control.

improve their prestige and attractiveness. Higher education establishments do indeed require a greater concentration of resources in terms of buildings, equipment, teaching staff, etc. which small communities cannot provide or afford. Thus, the first solution is usually an integration - or at least cooperation - of different local schools which are considered constituent units of bigger regional establishments, or the upgrading of certain institutions strategically well located. In addition, the need for closer regional collaboration with universities - usually located in large urban centres - may also play an important role in the location of new or reformed SCI's.

160. However, some counter-trends or at least a number of opposing forces to this process of concentration of SCI's are also apparent: distances between the constituent units might represent an important obstacle to real integration; political and social pressures from communities where the schools to be integrated are situated; attitudes of authorities of individual institutions who want their establishments to be upgraded and who resist the loss of autonomy.

161. Practically all SCI systems - of whatever type - are subject to these conflicting pressures. The British Polytechnics, German "Fachochschulen", Norwegian District Colleges, Ontario CAAT's and Quebec CEGEP's, present interesting examples of the difficulties involved in the integration of existing local institutions into large regional establishments.

162. Yet, in general, the trend is clear: decentralisation of universities on the one hand and concentration of SCI's on the other. This process, however desirable and understandable for the achievement of certain objectives, may carry with it some danger of the geographic location of SCI's being chosen on the basis of similar criteria to those for university institutions. If this should happen, SCI's would be less able to fulfil one of their important functions, namely to bring higher education closer to the numerous potential students for whom geographic distance may represent a fundamental reason for abstaining from further studies. In the new situation, students may either still feel unable to enter a higher education institution because it is too remote from their place of residence, or register immediately

in a university which is more prestigeful and geographically no further away than an SCI.

163. In other words, the shift from local- to regional-oriented SCI's could create a gap in the institutional manp of post-secondary education, a gap to be filled by the creation of a new type of locally-centred institution, such as most of the Junior Colleges in the United States which do not undergo the regional concentration process. This seems particularly important for underprivileged areas - economically declining regions or "poverty pockets" - and in any consideration of mass higher education.

(ii) Regional development

164. SCI's, as all higher education establishments, have an important role to play as agents or poles of regional development. They do this not only by their direct contribution to the economic, social and cultural needs of the area in which they are situated - by training qualified manpower and by providing other specific services - but also by the sheer economic mass which they represent, especially if they have reached a certain size: the buying power of their employees (teachers, administrators), the services which this concentration generates (shops, restaurants, transport); employment opportunities created by requirements for new buildings; often significant changes in the urban landscape; and sometimes quite a strong attraction to new industries for whom the proximity of sources of qualified manpower and knowledge may be more important than proximity to sources of raw materials or to consumers.

165. An exploration of all these aspects has hardly started but it can already be said that the creation and/or development of higher education establishments in general, and SCI's in particular (because they are often more closely connected with the surrounding community), is or should be an important element in the whole conception of comprehensive regional planning ("aménagement du territorie").

166. As far as the direct contribution of SCI's to regional development is concerned, it is ubject to various interpretations; and in some cases conflicts arising from the different points of

view have greatly affected the development of SCI's. The central issue under debate is the degree and type of collaboration which should be established between the SCI and the various sectors of economy represented in the region. Some of the problems which arise are the following:

- To what extent should the curricula and programme of studies be adapted to specific regional needs in an increasingly mobile society?
- What are the conditions under which a closer cooperation with, and service to, the surrounding enterprises can be established without risking a situation of control or of a dependent relationship?

  How can SCI's respond, on the one hand, to the national standards of education set for them and, on the other, to the immediate manpower needs of regions with very different levels of development?

(iii) Service to the community

167. Some issues related to the service function of SCI's already emerge from the two preceding sections; in addition there are the problems of part-time studies, of adult and permanent education and of extension services of all kinds. These problems will be further developed in a second version of this paper; for the moment it should only be recalled that, in this respect, SCI's are often expected to play a more important role than universities, largely because universities have not always been willing or ready to assume these types of responsibility.

168. Part-time education, adult education and extension services have been traditionally more generalised in Anglo-Saxon higher education systems (including universities), but even there the proportion of part-time students has been steadily declining during the past years. In continental Europe these forms of education are in most cases being provided in special institutions outside the formal educational system. It should also be borne in mind that some SCI's consider part-time education - if it should concern a large proportion of their students - as a symbol of lower institutional status and might even resist it on those grounds.

169. The extent to which newly reformed SCI's will be assuming important responsibilities for these "additional" functions in the near future is not very clear. However, some signs of a change of attitude are being observed in several new SCI's, such as District Colleges, CEGEP's, IUT's, where special programmes along these lines are being developed. Significant progress would certainly be achieved if an idea, which was formulated with regard to the French IUT's (1), could be implemented. According to the concept the SCI should assume, to a certain extent at least, the responsibility of providing a permanent service to their graduates in the form of retraining or refresher courses, re-orientation programmes, etc. This could be a first and important step towards the re-organisation of studies on the basis of a system of recurrent education.

VI. Cost and financing

170. This issue is obviously connected with all those mentioned so far. It represents a central part of another study to be undertaken by the Secretariat within the framework of the programme on planning new structures of post-secondary education; therefore it will not be raised in the context of the present paper. Probably the main questions to be answered - but certainly not the only ones - are whether the costs of creating and operating SCI's - in particular with respect to unit costs - are significantly different from those of full university education; which are the major components of these costs - compared to the cost structure of universities; and what methods and sources of financing can be envisaged with particular reference to SCI's? A comparative cost/benefit analysis of short-cycle versus long-cycle education would undoubtedly represent an important contribution to policy formulations concerning SCI's and the higher education system as a whole.

VII. Employment of short cycle graduates

171. To a great extent the status and prestige of SCI's will depend on the conditions under which their graduates enter the labour market and on their prospects of a satisfactory professional

(1) Bernard, M.Y. Les Instituts Universitaires de Technologie. Dunod, 1970.

career. Responsibilities must certainly be shared. On the one hand it is up to the educational system and especially up to the SCI's to train high quality graduates able to fulfil requirements of the economy. On the other hand, conditions have to be provided facilitating the integration of SCI graduates in the labour force in a way which improves their salary conditions and status, particularly in relation to university graduates. This condition is often not fulfilled. For example, job classification and corresponding salary scales in the administration and civil service of many countries do not foresee any specific positions for graduates of short-cycle institutions (or of uncompleted long-cycle studies).

172. Quite often in the past, SCI graduates were able to get similar working conditions to university graduates immediately after graduation when entering their first employment. However, their possibilities of promotion in the course of their professional career were much more limited. The question which arises is whether these limitations to professional advancement can be attributed mainly to the specific type of training received or to certain attitudes prevailing among employers, and in the labour market in general, which act as constraints to the upward mobility of this type of graduate.

173. Promotion policies based on work performance rather than on the type of degree obtained will most likely help to reduce these disparities. Not less important is the opening-up of better possibilities for further education (continuing education, retraining, university education, etc.). This, in fact, probably represents the key measure towards improving the professional status of SCI graduates, and consequently an essential contribution to the "ennoblement" of SCI's in general.

VIII. A search for identity: the underlying issue

174. It is interesting to note that the integration of SCI's into higher education has not necessarily contributed to the increase of their prestige within the context of the overall system. SCI's are still in the process of finding their place and their role in a structure which often seems highly resistant to the incorporation of new members. Conceptually this can be explained rather simply:

as they became, or are becoming, recognised members of the higher education group, they are judged and judge themselves by comparison to the traditionally most prestigeful members of this group, namely the universities.

175. In the past they did not have this preoccupation, neither did society in general - or at least they had it to a much lesser extent. In spite of many disadvantages, their place and their functions were relatively clearly defined, whether as secondary school institutions or as part of a post-secondary sector considered separate and independent of universities, and their prestige per se was more or less established. But this situation is in a process of change as old universities increasingly become a frame of reference for the new or reformed SCI's. This process implies, in fact, the adoption of a value scale which places highest pure research, development of knowledge for its own sake and theoretical and abstract disciplines, while technically, vocationally and practically-oriented studies are placed on the lowest echelons. Such a value scale is obviously completely unsuited to the present needs of society and even less to the emerging system of mass higher education which, on the contrary, requires a wide institutional diversification without, or with a minimum of, institutional hierarchy.

176. The present problem seems to be that structures of higher education, although evolving slowly, have still changed more rapidly than the value systems prevailing in them. Thus, while the incorporation of SCI's into the system is progressively taking place, the very powerful and traditional norms emanating from universities makes it difficult, if not impossible, for the new members to acquire sufficient prestige and parity of esteem without following these norms and thereby rejecting their own specific functions.

177. It is possible that the whole problem can only find a real solution in the context of recurrent education which would make any distinction between short- and long-cycle higher education meaningless. But a full, or even a partial implementation of such an ideal cannct probably be expected anywhere within the near future. In the meantime SCI's are faced with a basic dilemma: whether to pursue their objectives through a gradual integration

with the university sector or through a more or less independent and parllel development.

178. While separate development may contribute to reinforce even more the dichotomic nature of the system by widening the gap between "noble" and "less noble" institutions; it may also contribute to the development of such a large and widely diversified system offering all types, levels and patterns of study that, sooner or later, the traditional university sector would represent only a minority in the overall system and gradually lose its dominant position (1); "integration among equals" could then be envisaged as a realistic possibility.

179. On the other hand, integration with the university sector may imply that SCI's will increasingly orient all their activities in a sense corresponding to the traditional university image and thus to a dangerous uniformisation of the system; or it may bring about a radical change in the philosophy, objectives, functions and methods of university education and consequently a new definition and concept of university institutions and of higher education in general.

180. To a great extent the attitude of universities will constitute the main criterion for a decision between these two alternatives. Will they accept the SCI's as equal partners with all the consequences that such an acceptance would imply? Or will they prefer to keep their traditional (even if superficially revised) value structure?

181. If universities assume the second of these two attitudes, a parallel development of SCI's would probably constitute in the short term a more efficient strategy. If, on the contrary, universities take the first attitude, their integration with various types of SCI's will contribute to the development of a system where unity could be achieved without uniformity, and diversity could exist with a minimum of institutional hierarchy.

(1) Some elements of such a development seem to appear in the United Kingdom binary system.