



COMMITTEE ON HIGHER EDUCATION

Higher Education

EVIDENCE—PART ONE

VOLUME A

WRITTEN AND ORAL EVIDENCE

*received by the Committee appointed
by the Prime Minister
under the Chairmanship of Lord Robbins
1961-63*

*Presented to Parliament by the Prime Minister
by Command of Her Majesty
October 1963*

LONDON

HER MAJESTY'S STATIONERY OFFICE

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Cmnd. 2154—VI



WRITTEN AND ORAL EVIDENCE
received by
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NOTE: Sir Edward Herbert died on 28th April, 1963

EXPLANATORY NOTE

The procedure adopted by the Committee is described in the Annex to the Report. The Committee received over 400 documents of written evidence and heard evidence from 90 organisations and 31 individual witnesses.

All the written evidence submitted by witnesses who subsequently gave oral evidence, together with a record of these discussions, is published as Evidence—Part One, Volumes A—F. In all cases the discussions took as the point of departure the written evidence of the witness. The written memoranda and the oral evidence are therefore printed consecutively throughout these six volumes. Some of the discussions gave rise to invitations to submit supplementary written evidence and/or to resume the discussion at a later date. Supplementary written evidence is printed after the oral evidence where it was received later, and it is followed by the record of a resumed discussion in the eight cases where oral evidence was resumed on a subsequent occasion. The material in these volumes is printed in chronological order of the hearings of oral evidence, irrespective of the date on which written evidence was received; in this way the general reader can follow the discussions as they unfolded week by week for the Committee and reflected on each other.

Evidence—Part Two contains a small selection of other documentary evidence. The rest of the written evidence is available for public inspection in the following places:—the Public Record Office, London; the Scottish Record Office, Edinburgh; the National Library of Wales, Aberystwyth; the University of Bristol; the University of Cambridge; the University of Manchester; the University of Oxford; and the London School of Economics.

Many memoranda of evidence were accompanied by supporting documents, some of which are not reproduced in these volumes. In all cases where they are omitted, supporting documents are listed at the end of the memorandum of evidence.

PART ONE

WRITTEN AND ORAL EVIDENCE

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MEMORANDUM

submitted by

THE WEST RIDING OF YORKSHIRE EDUCATION AUTHORITY

17th July, 1961

INTRODUCTION

In recent months the West Riding Education Authority have conducted certain investigations into the higher education of pupils formerly in their schools. They believe that the information they have obtained is relevant to the enquiry now being conducted by the Committee on Higher Education and they have, therefore, prepared the following report for the Committee in four sections.

Section I Part I of which demonstrates that able children from the industrial part of the County are at a disadvantage in their endeavours to secure the higher education which matches their ability, and Part II which shows that the handicaps from which many young people suffer as pupils may continue to affect them when they are university students.

This section relates to note 4(i) on the Committee's terms of reference which asks 'How adequate are the opportunities for potentially qualified students?'

Section II which deals directly with note 4(iii) on the Committee's terms of reference which asks whether the training college course should be related to the university degree course and whether professional training should continue to be provided concurrently with the academic element of the course.

Section III which is an observation on note 4(v) on the Committee's terms of reference relating to teacher recruitment.

Section IV which is an observation on note 8 on the Committee's terms of reference relating to the admission to training colleges of those not intending to take up teaching as their career.

There are three appendices, the first of which presents the statistical evidence supporting Section I, the second is an extract from the Ministry of Education pamphlet 'Early Leaving', and the third quotations from Heads supporting the second part of Section I.

SECTION I PART I

Able children from the industrial areas are at a disadvantage in their endeavours to secure the higher education which matches their ability

In 1957 the Oxford University Press published a book entitled 'Industry and Technical Progress' which was commissioned by the British Association, and in the chapter of the book dealing with education the following statement occurs:—

'Whereas on the basis of the population proportion about 9,300 children of unskilled workers might have been expected to enter English grammar schools in 1946, only some 4,350 did so, and of these only 1,500 reached a satisfactory point in the grammar-school course, and only 230 had obtained or were taking two subjects at the Advanced level. About 44 per cent. of children from 'professional and managerial' class parents were staying for sixth-form work, against about 7 per cent. leaving before the fifth form: for children of unskilled workers these proportions were almost reversed.'

In 1954 the Ministry of Education published a report on Early Leaving which revealed one fact which was quite significant but which passed almost without comment at the time. It showed that a boy or girl of third-rate grammar school ability from a professional or managerial home had a better chance of gaining admission to the university than a boy or girl of first-rate grammar school ability born into the home of an unskilled worker. This was not an assumption but was in fact demonstrated statistically by the table on page 19 of the report.

In 1958 the West Riding Committee conducted an investigation into the distribution of children with an intelligence quotient of 130 over the County as a whole and the facility or difficulty with which these children later gain admission to a university course. For the purposes of this investigation they made comparisons between the agricultural north, the wool valleys of the west, and the coalfield in the south. They were, of course, aware that there are proportionately fewer grammar school places in the coalfield which constitutes the south of the Riding and, therefore, opportunities are correspondingly restricted for the abler pupils. This is a situation which the Committee have been alive to for many years and are in fact improving year by year. But the really disturbing facts which emerged from the investigation are that when the able children from South Yorkshire do get to the grammar school they are less likely to get to the sixth form, if they get to the sixth form they are less likely to get an award, if they get an award it is less likely to get them to Oxford and Cambridge than would be the case if they attended schools in the west or north.

The Committee have followed up the 1958 investigation with a more recent one covering the years 1959 and 1961. Everything they discovered in 1958 is strongly confirmed, yet a subsidiary investigation of the university careers of those who enter the university from the schools of the south shows that once they enter the university they can at least hold their own.

The results of the 1958 and 1961 investigations combined show that

(i) There is a higher proportion of children with an I.Q. of 130+ admitted to the grammar schools of the south than to those of the north and west. The percentages are south 7.5 per cent., west 5.2 per cent., and north 5.8 per cent.

(ii) Nevertheless, a much smaller proportion of selected children eventually gain Major Awards to the university from the south. The figures are south 9.7 per cent., west 10.8 per cent., and north 14.0 per cent.

(iii) Furthermore, a much lower proportion gain admission to Oxford and Cambridge. The figures are south 4.8 per cent., west 9.2 per cent., and north 11.8 per cent.

(iv) The greater the proportion of children admitted to the grammar schools the higher the proportion of those admitted who gain awards to the university.

For example, in the south where only a relatively small (17.8 per cent.) and therefore much more selective group are admitted to the grammar schools, only 9.7 per cent. of those admitted gain awards, whereas in the north, where 30.4 per cent. of all children are admitted to grammar schools, 14.0 per cent. gain awards, and even in the west, where 34.9 per cent. are admitted, 10.8 per cent. gain awards.

(v) The fact in (iv) above is the contrary of what might have been expected, but it illustrates the point made so clearly in Appendix II that the greater the proportion of children admitted to grammar schools the higher the proportion of those admitted who stay at school to the age of 17. This table is taken from the Ministry of Education pamphlet on Early Leaving.

What accounts for the wastage of talent in the south?

Before any consideration is given to the steps which might be taken to avoid this wastage, it may help to speculate as to its nature.

A boy may come from a home which may offer him everything in the way of affection and security and may provide an excellent moral foundation for his life, but it may nevertheless contribute very little to his educational development.

At one extreme a boy may come from a home where he hears good speech, has ready access to a variety of books, listens and views with discrimination, has at least an acquaintance with sound aesthetic values, takes holidays which are rich in worthwhile experiences, and absorbs standards and ambitions which anticipate the assumption of responsibility. The boy will tend to have a good presence, good speech, good address, and be well-read, having wide and searching interests and sound standards of judgment in many fields.

His equal in intellectual attainment, but from a different social background, may well come from a home where he hears little coherent speech, where books are few and poor, where listening and viewing is indiscriminate, where there is little or no acquaintance with aesthetic values, and where newspapers are of the poorest. The boy may well be inarticulate, socially awkward, unable to shake himself free from the limitations of which he is becoming increasingly aware, and which are imposed upon him by his own background.

The first boy may well go to a school where he will have the opportunity to exploit his initial advantages, where staff changes have been fewer, where there are more members of the staff from residential universities which have tended to give the poise and confidence which may be lacking in some of the teachers in the schools of the south who have not been able to free themselves from the shortcomings of a similar background to that from which the pupils are drawn.

As each year goes by the content of the examination syllabus to which both these boys are subjected tends to increase. Standards are pushed up and up. The boy from the educationally poor home can spend less and less time on the pursuits which might palliate the effect of his background. Each year the dice is loaded more and more heavily against this boy and in favour of his more fortunate fellow from the educationally better home.

It is, of course, realised that the advantages which the educationally good home gives are not a veneer, they are not lacking in real substance, they are in some respects as important as the intellectual ability with which the two boys are equally endowed.

The simple fact is that the schools in South Yorkshire have two jobs to do. They have to get the child to the appropriate 'A' level standards, and they have also to undertake all the educational processes normally tackled by the home in those families where the children are the second generation to attend the grammar school, and the later task is probably the more difficult.

The Authority do not believe that the situation is likely to change in the industrial areas of England in the foreseeable future. Unless some definite steps are taken to tackle this problem, the pupils of the schools in the industrial areas will be penalised and the country will fail to make the most of young men and women who possess both character and ability and who live in these areas.

The Authority believe that if an investigation were carried out over the country as a whole similar to that which they have conducted in South Yorkshire it might well be revealed that the industrial north stands in relation to the south of England in much the same position as the south of the West Riding stands in relation to the north and west.

They do not believe that it is possible under the intensive competition of the examination system for the schools in South Yorkshire to offer a programme which will compensate adequately for the lack of educational advantages from which many of the South Yorkshire homes suffer.

In this connection the Authority have in mind that when they wished to alleviate the pressures on the junior school similar to those exerted on the grammar school they sought the help of the Ministry of Education in devising a scheme of selection which would not entail an external examination. This scheme has proved extremely

successful in relieving pressures and is certainly no less efficient as an instrument of selection. The Authority, in the light of the experience in the junior school, can hardly do otherwise than suggest that the Ministry be asked to explore the possibility of applying a similar scheme at 18.

It might also be possible for a limited experiment to be tried whereby University entrance could be made on school recommendation wherever the Head was sufficiently convinced that a pupil who had not gained a place under the normal arrangements was from every point of view of University calibre.

Either of these experiments might lead to the discovery of a way by which schools could be relieved somewhat of the competitive pressures which prevent them from doing much that would compensate their pupils for the educational disadvantages of their background.

Either experiment could be pursued over a limited period to see whether it was justified by subsequent university results.

SECTION I PART II

The disadvantages from which many young people suffer as pupils continue to beset them when they are university students.

The reports which reach the Education Committee about the lack of pastoral and tutorial care from which many of their former grammar school pupils suffer in a considerable number of provincial universities cause them great concern. Heads of grammar schools are particularly well placed to learn in detail about these matters, their former pupils almost invariably turn to them for help and, of course, they employ on their staffs large numbers of probationer teachers who have just completed a university course.

It is quite clear that many students enjoy no personal supervision whatever at some universities. As one Headmaster put it, what they do could 'just as profitably be done by a postal course'. Case after case can be confirmed of students whose studies are almost entirely unsupervised, who are called upon to produce little or no written work until they take the examinations, who are oblivious of the scholastic standards they are required to reach, who cannot obtain help with their studies when they want it, who attend lectures in groups of over 100 and even as many as 200 at a time, and who remain unknown as persons or students to those responsible for their education at this stage.

One Headmaster writes:—'There is, in many cases, too wide a gap between school life and, in the present circumstances, university life. Too often the latter provides no guidance at all—the numbers are too great for a "Tutorial" system. Thus a youth is placed in lodgings, sometimes quite a long travelling distance from the college or university and he can thereafter lead a life which is not much different from life in his home town—indeed it can be even less "cultural". The lodgings can be worse than his home. His "activities" can be worthless and have no connection at all with the university'.

The Committee are deeply concerned about this state of affairs as they believe it to bear much more hardly on the young people coming from homes which are culturally deprived than it does upon those who come from homes that are educationally richer and socially more confident.

Moreover, the Committee themselves maintain five colleges attended by over 1,000 students and in each of these they have consciously striven to create conditions in the environment and social life of the students which compensate in some measure for the educational deprivations already mentioned.

It is far too frequently assumed that because a student attends a university he thereby is subject to influences which give a breadth to his education and which do not exist in training colleges. In the experience of the Authority nothing

could be further from the truth than this. The Authority has had considerable experience of interviewing students who had not obtained a State or County Award but who had gained admission to university and who applied for awards on the basis of their progress at universities. These students were attending universities in all parts of the country, but in very few cases indeed was there any evidence of their being affected by the sort of influences which it is far too commonly assumed are present in universities. It was extremely rare for any student to show any interest at all in literature or the arts. Concerts were very occasionally attended, but few students seemed to pass through the doors of an Art Gallery except, as one or two of them said, when it was raining. Theatres were rarely attended. Novels of quality were rarely read. Poetry was rarely read. It was not uncommon for a student to give, as evidence of general reading, 'Westerns' and 'Crime Stories'. One student could only quote 'Dracula' as a book he had read outside his subject (Medicine), but there were many others who could quote no books at all.

There was little evidence that newspapers of quality were looked at, as they generally are when the student is at school and, so far as weekly reviews such as 'The New Statesman', 'The Spectator', 'The Listener' and 'Time and Tide' were concerned, they seemed to be rarely read. On the showing of these students the Committee was led to the conclusion that there may well have been a decline in the students' general cultural interests since their entrance to University.

It is the Committee's contention in these matters that their Headmasters are in many cases aware of the kind of educational and cultural diet which the South Yorkshire child needs, that pressures from above prevent them from offering them this diet, and that, to pursue the metaphor, the under-nourishment continues in many universities. They believe this to be a serious criticism of higher education and believe it to mean either that potentially good material is not being properly used, or that it is being wasted.

The Committee do not consider it within their purview to suggest how these matters should be put right but their preference would be for more rather than for larger Universities and for a much extended use of well staffed and equipped University halls of residence and hostels.

SECTION II

Should the Training College course be related to the university degree course and should professional training continue to be provided concurrently with the academic element of the course?

In recent months the Authority have been concerned by this matter in relation to the policy of the Ministry of Education on the balance of training, a policy which will ensure that in the future the training colleges will tend more and more to confine themselves to the training of primary school teachers and the secondary schools over the next decade will have to absorb 40,000 graduates, trained or untrained, on to the staffs. It is presumed that this policy has been based mainly on the current need but partly on the belief that secondary school Heads would on the whole prefer trained graduates and in some cases untrained graduates to three-year college-trained teachers.

The West Riding Authority sought to test this belief by enquiring of Heads of schools, Chief Education Officers in Yorkshire, Divisional Education Officers whose committees actually appoint staffs, and C.C. Inspectors. The replies made it abundantly clear that a large majority of each of these bodies believed strongly that there was a place for the college-trained teacher not only in secondary modern schools but in grammar schools also. The views of the Heads of modern and grammar schools on each kind of training may thus be summarised.

(1) The nature of the college training makes a teacher better able to deal with the average and slow learner and much more effective with remedial work.

(2) The primary school approach to teaching is desirable in the first two years of the secondary modern school, and this is much more likely to be used by a college-trained teacher than by a graduate, who is likely to know very little about it.

(3) The college-trained teacher tends to think more of the child and his needs, whereas the graduate teacher thinks more of the subject and the success in it that can be achieved by the brightest pupils. The untrained graduate who may successfully lecture to the most able children often fails to teach the least able. He cannot reach their level and disciplinary troubles follow. He has to pick up his teaching methods the long and hard way, making all his mistakes in the school.

(4) Untrained graduates have little idea how to modify their material to suit classes of varying ability and learn their job at the child's expense. They do not see their particular subject as a means of developing children's thinking and are too concerned with factual information. Their teaching, even with F and G streams, follows the pattern which they knew themselves in the grammar school.

(5) The inclusion of non-graduates on a modern school staff reduces the need for juggling with time-tables and enables the best use to be made of graduate specialists.

(6) The college-trained teacher tends to be better trained. Education matters throughout the three years of his course, whereas for the graduate it is something superimposed on a three-year academic course, at the successful conclusion of which he tends to relax.

(7) Graduates tend to look for sixth form teaching and specialist 'status' and tend to lack enthusiasm for a post which cannot offer this to them. The university training departments tend to over-value grammar school teaching and some university lecturers and tutors of mathematics and science appear definitely to discourage their students from training.

(8) The graduate teacher in the modern school is all too often the disappointed grammar school teacher, who is ill-equipped by his graduate course and even by his subsequent training to deal with the wide range of ability in the modern school, and when he proves unsuccessful he is more difficult to dislodge as his qualification commands an unwarranted respect from the Governors.

The following points were made by Heads of grammar schools who would welcome some college-trained teachers in their schools:—

(1) College-trained teachers who can take several subjects and whose specialism is the art of being a good junior form teacher are invaluable in settling the child from the small primary school into the larger and more forbidding grammar school.

(2) The fact that they are able and willing to teach several subjects (as against the untrained graduate who wants to teach his subject and the teacher with the general degree who tends to want to specialise in one other) makes time-tabling easier and avoids the rigidity that is associated with a school staff composed of so many mathematicians, historians, modern linguists, and other specialists.

(3) The nature of their training enables them to avoid the practice, which can be harmful, of teaching as they themselves were taught regardless of the intellectual level of their pupils, a weakness which is especially characteristic of the untrained graduate and which can only be removed at the expense of the pupils by painful experience or by the use of great tact by a trained colleague working as an equal on the staff.

(4) The successful college-trained teacher in a grammar school is less likely constantly to be seeking promotion and consequently contributes much to the desirable stability of the staff.

(5) The college-trained teacher, because of his versatility and readiness to teach several subjects, is specially valuable to the small and medium-sized grammar school, which because of its size, cannot afford more than one full-time specialist in some of the subjects.

The Authority cannot escape the view that teaching methods in the past, particularly in the secondary school, have been concerned in the main with the abler child. It is now becoming each year more obvious that the attention of the country must be turned to the slow learner and that the educational problem of the future is how to turn the less able child into a better educated and better trained adult than the children with greater ability have become in the past.

In connection with this matter the Authority are concerned about the extent to which already the admission demands of the training colleges by raising the admission standards are tending more and more to stress the academic education of the student at the expense of the teacher's understanding of the child, and they hope that nothing will be done to diminish the development of those characteristics of the training college product which teachers and educationists generally in the West Riding of Yorkshire rate so highly.

The problem of the untrained graduate is one which they feel must receive urgent and immediate attention if, as the Ministry of Education suggest, the schools will in the next ten years be required to absorb an additional 40,000 graduates. In this connection they wish to draw the attention of the Committee on Higher Education to the following proposals of the West Riding Education Officer which have already received considerable publicity:—

1. Graduates, on obtaining their degree, should be employed for two probationary years and during these years they should be paid on the appropriate Burnham scale for graduates, which is £715 p.a. for the holder of a good honours degree.
2. They would spend four terms of these two years in schools and two terms either at a university training department or in a training college. The training terms would, of course, be separated by periods of teaching practice in the schools. All teachers should be given experience in a variety of types of schools.
3. At the end of their two years they would have to satisfy the area training organisation by examination and by their work in the school that they had mastered the necessary professional theory and practice.
4. Once they had done this they would be paid the salary which now is paid to a graduate beginning his third year and they would receive in addition the appropriate training increment.
5. The schools in which the teaching practice took place would have to be approved for the purpose by the local education authority and by H.M. Inspector, and selected experienced teachers in them might be paid responsibility allowances for working with the graduate probationers.

A scheme of this kind might have a number of advantages, viz:—

1. The receipt of a salary when on probation in one's profession is preferred by most people to the payment of a grant-in-aid while studying for it.
2. Gaining a knowledge of one's craft by working under the guidance of an expert practitioner has positive virtues; the grammar school Heads have expressed a preference for this kind of training, and the scheme suggested would give it to them in some considerable measure.
3. On the other hand, periods of probationary teaching in different kinds of schools would ensure that teachers of all kinds saw something of what happens in those cases (infant schools, special schools, backward groups in junior or modern schools) where the usual academic techniques just won't work. Moreover, some graduates who start with a firm intention of making their career in secondary schools might well decide as a result of their experience to devote their careers to infant or junior work, and a spread of trained graduates throughout the service is a desirable thing in itself.

4. Teaching practice would give way under this scheme to probationary teaching under planned supervision.
5. The value of a three-year general degree course would be greatly enhanced if it were followed by the sandwich training of this kind.
6. If the training college and university training department staffs were increased so that one batch of probationary teachers could be supervised while others were doing their theory at the college, the output of the existing training colleges and university training departments could be very considerably increased at no additional capital cost.
7. A salary of £1,430 for two probationary years which would entail four terms' teaching and ensure trained teacher status, would attract the honours graduate who now obtains £1,464 for his first two years of service and remains untrained at the end of them.
8. It is even possible that such a scheme might eventually be adapted to ensure that more of those who come from industry to teaching in the further education field might be trained. Certainly the output of the present few colleges could be increased by the adoption of this scheme of training. Even the moderate salary which would be offered to the probationary teacher would be more attractive than the present grant.

To sum up, the scheme would provide more better trained graduates quickly and at little additional capital cost. But its most important aspect would be that the graduates should be trained in such a way that they realise that not all children can learn as they learned.

SECTION III

How is the trend for more people to stay at school and take part in higher education affecting recruiting policies?

The Committee represents an area which for many years has suffered from a shortage of graduate teachers, who are urgently needed, not only for Headships and subject posts in grammar and comprehensive schools, but who in their view have an important part to play in schools of all kinds from nursery and infant schools upwards. They are, therefore, disturbed to note that no increase of graduates working in the primary schools is forecast for the future and their past experience leads them to view with some doubt the forecast of an increase of 40,000 graduate teachers of seniors over the next decade. It is likely that many of these graduates, if they are in fact produced, will be absorbed into jobs of all kinds in industry, commerce and the professions, which hitherto have not been filled by graduates, or indeed into jobs which may not even yet exist. They have informed the Ministry of Education that they would be less concerned about these matters if the Ministry or the National Advisory Council would make available to Local Education Authorities some forecast as to how the supply of trained teachers during the next decade will meet the following demands:—

- (i) The expanding universities' staffs.
- (ii) The expanding training colleges' staffs.
- (iii) The expanding technical colleges' staffs.
- (iv) The expanding youth service.
- (v) The expanding day-release classes.
- (vi) The expanding sixth forms, which are reaching the stage when they will have to double their staffs to maintain their normal pupil teacher ratios.
- (vii) The increase in extended courses.
- (viii) The reduction in the size of secondary school classes.

(ix) The opening of large numbers of new secondary schools which provide for the employment of additional specialist staff where none was employed before.

(x) The demands of the Commonwealth and elsewhere for teachers from this country.

(xi) The possible raising of the school-leaving age.

(xii) The possible introduction of county colleges.

SECTION IV

Should the present Training Colleges provide some courses for those who do not intend to take up teaching?

In point No. 8 of their notes on their terms of reference the Committee asked whether the present training colleges should provide some courses for those who do not intend to take up teaching.

Since the war the West Riding Education Committee have established five colleges of higher education—Woolley Hall College, Grantley Hall College, Bretton Training College, The Lady Mabel College of Physical Education, and the Ilkley College of Housecraft. Four of these institutions have broken new ground in the education they provide and have in varying degrees been successful in so doing.

The Authority believe that there is much to be said for training teachers along with those of other professions and occupations, particularly those connected with other social services such as Housing Management, Hospital Administration, the training of Children's Officers and of Youth Employment Officers and Youth Officers, as well as training in, say, Librarianship and Journalism. The Authority would be glad to see experimentally an expansion of one of their colleges to accommodate training courses of this kind which, in their view, could be run as a 'Liberal Arts College' associated with a university as their training colleges now are.

APPENDIX I

A

SELECTION EXAMINATION
1949, 1950, 1951, 1952 and 1953

	1	2	3	4	5
	Total No. of 11+ children	No. of places offered	% of 11+ children allocated	No. of children with I.Q. of 130+	% of selected children with I.Q. of 130+
Coalfield ...	46,465	8,286	17.8%	621	7.5%
North ...	8,889	2,703	30.4%	158	5.8%
West ...	5,634	1,967	34.9%	103	5.2%

B

COUNTY UNIVERSITY AWARDS
1956, 1957, 1958, 1959 and 1960

	1	2	3				6	7	8
			No. who obtain Awards						
	No. of applicants for Univ. Awards	Majors	Exh.	Bursars	Total	% who obtain Awards	% who obtain Majors	% to Oxford and Cambridge	
									Coalfield
North ...	583	81	180	118	379	65.0%	13.9%	5.3%	
West ...	349	42	100	71	213	61.0%	13.6%	5.2%	

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B

C

COMPARISON TABLE

	5 years { Selection 1949, 1950, 1951, 1952, 1953 Awards 1956, 1957, 1958, 1959, 1960							
	1	2	3	4	5	6	7	8
	Per 1,000 of Selection Examination field				Per 1,000 allocated to Grammar Schools			
	Allocated to Gr. Sch.	Applying for Univ. Awards	Obtaining Univ. Awards	Obtaining Major schps.	Applying for Univ. Awards	Obtaining Univ. Awards	Obtaining Major Schps.	Admitted to Oxford and Cambridge
Coalfield	178	32	17	2.4	180	97	13.3	4.8
North ...	304	66	43	9.1	216	140	30.0	11.8
West ...	349	62	38	7.5	177	108	21.4	9.2

APPENDIX II

Percentage of total population with professional and managerial occupations	Groups of County Boroughs sub-divided according to grammar school provision	Average grammar school provision	Average percentage of all 17-year-olds still at school
		%	%
9—11% (six county boroughs)	(a) Those with low grammar school provision	11.0	2.8 (a)
	(b) Those with high grammar school provision	20.3	4.3 (b)
	(c) Together	15.7	3.6 (c)
12—13% (eight county boroughs)	(a) Those with low grammar school provision	12.5	3.0 (a)
	(b) Those with high grammar school provision	21.0	6.0 (b)
	(c) Together	16.8	4.5 (c)
14—16% (ten county boroughs)	(a) Those with low grammar school provision	17.0	3.6 (a)
	(b) Those with high grammar school provision	20.2	5.4 (b)
	(c) Together	18.6	4.5 (c)
17—20% (eight county boroughs)	(a) Those with low grammar school provision	15.7	3.6 (a)
	(b) Those with high grammar school provision	20.5	4.9 (b)
	(c) Together	18.1	4.2 (c)
21—27% (eight county boroughs)	(a) Those with low grammar school provision	20.0	6.8 (a)
	(b) Those with high grammar school provision	26.2	6.9 (b)
	(c) Together	23.1	6.8 (c)

This table sets out the result of part of an enquiry carried out by the Central Advisory Council for Education in 40 selected county boroughs where the situation was not complicated by the presence in the grammar schools of a considerable proportion of pupils from other areas or by other disturbing factors.

It will be noticed:—

- (a) that towns with a relatively high middle class population tend to have both a larger grammar school provision and more pupils of 17 still at school;
- (b) that within each group the towns with the higher grammar school provision tend to have more pupils of 17 still at school.

APPENDIX III

OBSERVATIONS OF WEST RIDING GRAMMAR SCHOOL HEADS

One Headmaster writes thus without criticism of the conditions—

1. 'The comment of my old students is that it is the individual who is at fault if he does not adjust himself to his new circumstances and surroundings. They feel generally well satisfied with the system of tutorial instruction and the help which they get from both specialised and general tutorials. They felt that the opportunity lies within them to avail themselves of social life and social activities. Most of them have been used to travelling long distances to school, and so if they are in lodgings they are prepared to get up early or arrive home late in order that they may join in the social life of their Colleges and Universities. My recent contacts extended to those who had from this school failed to succeed academically at the University, but I can assure you that they were quite unwilling to blame the Universities' system for their lack of success.'

Others, however, write much more critically—

2. 'Our best pupils keep their heads above water at the civic universities, but the good average ones sink for lack of oversight and encouragement in good time. For them the university is a lecturing and examining institution of faceless folk who do not know them. It is a transition they cannot make from concerned guidance in a small group here to being entirely unguided undergraduates.'

'When a pupil comes back to see us, I often ask 'Can anyone on the university staff greet you by name as I did when you came in?' They always say 'no' with surprise.'

'I see this question also from the other side as my eldest son is a lecturer at . . . , and the youngest at When I scold them for this indifference, they say it is the prestige of research that makes their colleagues' impatient of any time spent on students.'

3. 'As to living accommodation I was recently told by a junior member of my staff that he and two other students hired a large old kitchen in which they slept, cooked and catered for themselves. He seems to have quite enjoyed it but I can hardly think that the university concerned could have known about the conditions under which these students were living.'

'Since dictating the above notes an old boy has called at the school. He was up at . . . for one year and then sent down. He tells me that he is now at . . . Technical College doing Optics. He tells me that when at the university he was in lodgings for the first two terms and was unaware of any tutorial supervision. He was then one term in a hall of residence. He was called on for no essays and there was no check on the standard of work he was doing and that his time was occupied in writing up and following up the notes given in lectures. He tells me he had no idea of the standard required in his first year's examinations: he thought he was working but was given no guidance at all.'

4. 'As an example of the sort of situation that can arise I will quote the case of a girl named . . . who went up to read for a General Honours Degree at A month or two before she took her final examinations she appeared in my study in tears, when I questioned her it seemed that she was in some difficulty over her coming examination papers. I asked her what advice she had received from the Professor who was particularly responsible for her and she pointed out that as a general degree student there was no particular departmental head who had overall responsibility for her. I then asked about the advice she had received from the Tutor for Women Students and it was quite clear that her contact with this person was negligible. I gave the girl what advice I could and 'phoned the Vice-Chancellor to let

him know that the university had failed to establish any sort of real contact at a personal level between its teaching staff and . . . I am very pleased to say that the matter was rectified very quickly ; but this sort of trouble does arise. I have, of course, picked a particularly bad example, but at the same time it is quite clear that a very large number of students do go through our university system establishing very little personal contact with anyone in authority. They do live out and in many cases their cultural environment is as poor as it would be were they to remain in . . .’

5. ‘Provincial university, girl, first year doing honours. In ‘recognised’ lodging three miles out of town, shares room, bed and breakfast only—‘turned out’ after breakfast and not allowed back till 8 p.m.’

‘Practice of some universities of accepting students and discarding them at the end of the first year. This suggests either (a) wrong selection, (b) inadequate teaching and supervision. What happens to such students?’

6. ‘Threat of being discarded—

In . . . University a student of physics and mathematics was told, in her first few weeks there, that ‘There will only be ten of you left at the end of the course’. This was out of 40 selected students. It made her afraid to ask for help in her difficulties lest she should, by asking, expose her inadequacy.

Of 100 students admitted to the Honours English School at . . . University in 1958 only 30 remained at the beginning of this year. No one can do her best work under a constant fear of being discarded altogether or relegated to another course, even, in some cases, after surviving two years in the Honours School.’

7. ‘Lodgings—

These vary widely. In the poor ones there is no flexibility of meal times so that evening functions may be very difficult for students. In one . . . approved lodging, two years ago, students were locked out until 5.30 p.m. and if not in by 6.0 p.m. had to forgo the evening meal. Three students shared a work room and two shared a bedroom.

Some lodgings in . . . are of the two-up two-down type in very poor districts.

Many do not provide a work room at all and crowd in as many students as possible, with totally inadequate facilities. Four men students in . . . last year shared one bedroom with no work room.’

ORAL EVIDENCE

given by

Mr. A. B. Clegg and Mr. W. H. Petty

on behalf of

THE WEST RIDING OF YORKSHIRE EDUCATION AUTHORITY

Friday, 22nd September, 1961

Chairman: Mr. Clegg, I think I am speaking for all members of the Committee when I thank you for, and congratulate you on, your written evidence. We have all perused it with great interest and have found it extremely valuable. I wonder whether there is any part of this document which you would wish to comment on further before we begin to ask you questions?

Mr. Clegg: I do not think so.

Chairman: Has any member of the Committee questions to put to Mr. Clegg on the more concentrated and factual part of section I, in which he gives evidence of the disproportionality between successes in different areas of the West Riding?

Sir David Anderson: How far are children taken away from school for employment in this particularly industrial area?

Mr. Clegg: If we collected evidence on that I think it would show that the opportunities for employment, particularly for girls, are less in the southern than the northern and western areas.

Mr. Southall: In Section I, Part I, paragraph (iv) you say: 'The greater the proportion of children admitted to the grammar schools the higher the proportion of those admitted who gain awards to the university'. For the south you quote 17·8 per cent., and you say only 9·7 per cent. gain awards. Is the 9·7 per cent. out of the 17·8 per cent. or out of the total? You contrast this with the north: '... where 30·4 per cent. of all children are admitted to grammar schools, 14·0 per cent. gain awards', and the ratio does not seem vastly different.

Mr. Clegg: The 9·7 per cent. is of the whole field. Our problem is that university pressures bear very much more hardly on the schools of the south.

Chairman: Do you mean pressures bear more hardly on those children in respect of their capacity to pass written entrance examinations, or is it in respect of their capacity to show up well at interviews?

Mr. Clegg: I would say both. I have come across a sentence by Edward Thring which, although it must have been written eighty years ago, expresses almost exactly the point I want to make: 'If boys who come to school cannot talk English, and the schools start by assuming they can, and the schools are rigidly tied down by public opinion and the law to a fixed line of work to be got through in a match against time, the schools cannot deal with this question or teach. They are prevented by law, examination and public opinion'. That is the essence of the problem. The youngsters from the south are severely handicapped; they are not supported by parental ambition and they have the grave disadvantage of being unable to speak coherently.

Dame Kitty Anderson: Is this because they do not get practice in it at home?

Mr. Clegg: Yes.

Miss Gardner: They have not the vocabulary?

Mr. Clegg: It is an inability to communicate.

Dame Kitty Anderson: And they have two different vocabularies?

Mr. Clegg: Yes; one is used at home. I wonder whether the picture as revealed by the West Riding is reproduced over the country as a whole. I suspect that the difference we find between the north and the south of our area might well be found in reverse order between the south of England and the north.

Dame Kitty Anderson: Is the problem greater for girls or boys?

Mr. Clegg: I cannot give you statistics on this, but I should say in almost every case it is greater for girls.

Chairman: I can understand that this disability is a crushing one in answering examination questions involving expository powers—English, history, and so on. Does it bear equally hardly on the students of mathematics?

Mr. Clegg: No.

Chairman: Is it in the arts particularly?

Mr. Clegg: Yes.

Chairman: I think we are all aware of this disability, which arises from unfamiliarity with complicated usages of speech; we know the curious sheepish attitude which children from such families have in regard to any use of the English language which is complex and fine. There is no doubt about the disabilities which that involves on the humanities side. I would say that it also plays a part even in exact science in a tangible way. The question is: what should be done about it?

Mr. Clegg: There are two kinds of pressure exerted on these youngsters. One I do not think you can avoid. That is the one caused by the actual shortage of university places. The other, which has been the source of discussion for many years, is the fact that the actual examinations themselves determine what these children shall do. May I give you an example of the kind of thing that worries us? Every year in the south of the Riding we have youngsters who miss their admission to the university faculty by five marks. The sort of case I hear of frequently is of a youngster who has possibly 60 marks in one subject and 55 in another at 'A' level. The headmaster knows the boy, his background and what he should have in the way of a further year of education in order to compensate for the disadvantages under which he suffers. The headmaster writes to the faculty and says: 'Can we put this boy on a different course? May he do this, this and this, instead of repeating his 'A' levels?' Inevitably—and I can understand the faculty's reasons for this: they have their selection to make—

the answer comes back: 'No'; he must repeat his 'A' levels'. The repetition of the 'A' level course can be soul-killing. Let us take the case where a university said the boy must come back and get his extra five marks in French. Any number of things might have been done for the boy which would have been better for him than repeating the year's course for the sake of five marks. He might go abroad for a year, or spend a year strengthening his English course. Our headmasters in the south feel strongly that they are not able to give a boy like that a third year which would be of much more value to him.

Mr. Shearman: Does what you say about systems of selection for secondary schools apply to the whole area?

Mr. Clegg: No, but it will.

Mr. Shearman: Has it proved a success?

Mr. Clegg: Yes.

Mr. Shearman: The essence of the scheme is much more reliance on teachers' recommendations?

Mr. Clegg: Yes.

Mr. Shearman: You are suggesting to us that an experiment along these lines might be worth considering for university education.

Mr. Clegg: We have overcome the problem of deciding as between schools at eleven. We think the judgment of our grammar school heads on the quality of their students is no less reliable than the judgment of our junior school heads on the quality of theirs.

Sir Philip Morris: Would it be practical for university entrance to be made on school recommendation unless the head's recommendation were conditioned to an accurate knowledge of the supply and demand in university places?

Mr. Clegg: I agree that that is a difficulty.

Sir Philip Morris: Supposing it is a genuine academic opinion that the boy's work in French is not adequate as it stands, and supposing they say it has to be better in order to enable him to have a fair start, the object of the exercise has to be to improve

his qualifications in the subjects in which he is trying to qualify. Does not the problem become how best to enable him to do that?

Mr. Clegg: We find that the faculty here wants 65, the faculty there says 55 and the faculty elsewhere says 70. It is difficult for us to believe in the schools that the extra five marks are just what are needed to start the boy off on this particular course.

Dame Kitty Anderson: Nottingham University has, I understand, this year selected after interview and the psychological effect has been profound. Where an applicant does not have the demand of a certain 'A' level percentage to be reached, she does in fact often attain it, without the handicap of worry.

Mr. Clegg: I agree. I have less sympathy with the university's problem than with the problem which is created in the schools.

Sir Philip Morris: If the Nottingham specific were applied to all universities there would be a number of people with high results who did not get places. What can universities do about people who have done less well than they should?

Mr. Clegg: This is the problem to which we should like to find an answer.

Chairman: It is one thing to devise a scheme which works within a given area where people are known to one another, as your heads are, but it is another matter when you are dealing with university institutions which recruit from all over the country. I confess I do not know how to weigh a headmaster's letter against the performance in an examination. In my experience headmasters' letters are not always very helpful in this respect, in that they are apt to use conventional language. However, am I right in thinking that you consider something should be said by this Committee about the disabilities imposed on the elbow-room of headmasters by the entrance requirements of universities?

Mr. Clegg: Yes. The scheme we introduced at 11 plus was contrived for us by the Ministry. I would like also to know whether the Ministry thought it

possible to conduct an experiment on similar lines at the 18 plus stage.

Mr. Shearman: Selection for university entrance is a different matter; that is territory in which the Ministry's writ does not run. I wonder whether you have explored another possible avenue—the local one? One would expect a university like Sheffield or Leeds to have some particular responsibility for the educational needs of its locality.

Mr. Clegg: Yes. There is the difficulty, however, that every grammar school in the country, whether or not it has ever sent a boy or girl there, has Oxford or Cambridge in mind, and might not want to be tied down to the local university. On the other hand, in the south of the Riding some schools now feel the only chance for their boys is to get them into the local university. I would like to follow up your suggestion.

Miss Gardner: If mature state scholars are accepted in the universities, why should there not be some system under which as an experiment a certain number of places are given on headmasters' reports?

Sir Patrick Linstead: Or would you not have a number of free places at the university?

Mr. Clegg: That is what we would like to have.

Mr. Shearman: Is there not another possibility? Might the right answer be to take these boys out of the school atmosphere, give them a year in a different kind of atmosphere; and arrange that this year would serve as part of the qualification for admission to a university?

Mr. Clegg: We have a grammar school in Mexborough which we are going to rebuild. The Ministry has agreed that we should rebuild it in two parts. We have a block which will take all the youngsters up to 'O' level. We are going to build an entirely separate block catering for four hundred youngsters. This will take all the normal sixth-formers from the lower school plus any children from the secondary modern schools in the whole area who want to continue their education. We want to turn this into

an institution different from anything which we now have. It will be under the guidance of an independent headmaster, and we can only hope that it will give these youngsters what we hope to give them.

Chairman: But if a period at such a school were to be part-qualification for university admission, it would need some co-operation with the university?

Mr. Clegg: Yes.

Miss Gardner: Will this institution be entirely residential?

Mr. Clegg: We would like it to be, but we have not gone as far as that yet.

Miss Gardner: Will the pupils have to come in by train?

Mr. Clegg: The surrounding area is densely populated, and I think all the youngsters will be able to get there by bus.

Chairman: You will, I am sure, agree that the best solution to your problem would be the easing of pressure on university places by the creation of more places.

Mr. Clegg: Certainly. It is the solution we hope for, but our fear is that the demand for university education will increase to keep pace with the supply, so that our youngsters in south Yorkshire will still be in the same position relatively as they are now.

Chairman: May we pass to section I, part II, where you draw up a formidable indictment of university procedure in regard to these young people.

Mr. Clegg: This is evidence which we collected from our grammar school heads, of whom we have fifty. There is also the evidence we have from interviewing youngsters who come back to us to ask us to review our decision not to give them awards. We try to give them awards. We find that youngsters who are borderline admissions to the universities fare very badly when they get to university, and are able to do little or nothing at all to continue the necessary compensation for the things they have lacked in their home background. When they have come back to us for awards we have found that, if anything, they

have suffered in the intervening time. They have had to keep their noses to the grindstone of their academic studies, but have done nothing at all beyond that. It is not for me to say whether this is good or bad as far as other occupations are concerned, but when it affects potential teachers it is disadvantageous.

Sir Patrick Linstead: What proportion of students is involved? You said this was mainly a borderline review.

Mr. Clegg: Of course we only see those who come back to us for review. We do not know how many others are affected in this way. But, of all the grammar school heads we approached, only two or three said they had not had experience of this kind of thing; of their youngsters living in some cases in very depressing circumstances and being able to do nothing as students other than follow a strict academic course; cases of youngsters who never saw a member of the university staff to talk to in their first year and did very little written work in their first year. Our headmasters complain bitterly about those universities where, for example, a large group of students is brought together at the beginning of the academic year and told: 'There are a hundred of you here now. This time next year you will be reduced to twenty-five.' Our heads can give example after example of this sort of thing. One headmistress quotes examples of it in faculties of mathematics, and she says that it discourages her girls from taking up the subject.

Mr. Shearman: The wastage is surely very seldom 75 per cent.?

Mr. Clegg: I do not know; we have not followed this up statistically.

Sir Patrick Linstead: The failure rate in the first year in my college is 14 per cent. Some have to repeat a year, but about 87 per cent. get degrees.

Sir Philip Morris: A 15 per cent. failure rate I could understand; that is about in conformity with my information. A 40 per cent. failure to complete an honours course in certain subjects I can understand; but anything in the

region of 50 per cent. is outside my experience.

Mr. Clegg: My remark related to those who began an honours course, could not continue and had to take a general course. My information may not be correct. I should like to follow it up.

Chairman: Are conditions equally bad in all the universities?

Mr. Clegg: No. There are big differences. It is not necessarily a difference between universities, but within faculties in a university.

Sir Philip Morris: Do you think these disadvantages apply only to a certain group of students, and do other students in the same universities fare better for some reason?

Mr. Clegg: I think conditions in universities are very hard on students from certain social strata. For some it would not matter whether they went to one university or another; they would fare pretty well whatever the conditions in which they lived and worked; but the child who goes up to the university full of apprehension, with perhaps a few chips on his shoulder, from the vast background of South Yorkshire—he would have a very difficult life.

Sir Patrick Linstead: Does the student of engineering or science do better than the arts student?

Mr. Clegg: I think it is pretty scattered as between arts and science.

Sir Patrick Linstead: Is there any connection between these hard cases and insufficient grant?

Mr. Clegg: No.

Sir Patrick Linstead: Would you say the defect lies in the lack of opportunities within the university or with lack of people taking the opportunities which do exist?

Mr. Clegg: I think the staff in some of the provincial universities have not the facilities to make continuous and close contact with the many youngsters they have. In many cases the youngsters themselves live in such deplorable conditions that they cannot get into university activities. I know of cases where a student cannot get back into his or her lodgings until

a given hour of the day, and cases where boys are living three in a back kitchen over a period of three years. There are youngsters who can spend three years in a garret—those who have not come from something equivalent—but there are others who should not. They need help and much more attention than they have been getting. I am bound to come back to the way I see the finished product in the teaching profession. If the choice for these particular youngsters lay between a residential training college and a university where they would have slight contact with university life as it is properly understood and residential conditions such as many of them now have, I have no doubt in my mind that, as far as the teaching profession is concerned, the three-year training college product is better. That is the only way I am able to judge.

Chairman: Can you point to instances where you think the pastoral attention is good?

Mr. Clegg: Yes.

Chairman: But you think these cases are quantitatively in a minority?

Mr. Clegg: I would like to look into it further. I do not think I am secure in the statistics of these cases. All I can say is that of the grammar school heads I approached in the West Riding almost all sent examples of cases distressing to them, and in only one case did a head express satisfaction. I do not feel I can in fairness pass on names of universities and faculties without the permission of our headmasters.

Chairman: If you could let us have it in some form which does not cause you any difficulty we would be pleased to have it.

Mr. Clegg: I will do that.

Mr. Elvin: If there is rapid expansion in universities it is going to be difficult to get even a proportionate expansion of residential facilities and there is going to be a temporary shortage of staff. Is there any way out of that dilemma?

Mr. Clegg: I am afraid not.

Mr. Elvin: Would you prefer to keep university life what it should be, at the expense of limiting numbers or the other way round?

Mr. Clegg: There are certain things which now happen which should not happen in any circumstances, and at least the worst of the present circumstances should be changed.

Miss Gardner: Would you prefer in a period of rapid expansion a limiting of the number of places or expansion regardless of the fact that some people were going to have a very rough deal?

Mr. Clegg: From the point of view of the teaching profession I would say that the worst conditions which now obtain should be abolished.

Miss Gardner: Do you mean some students ought not to be admitted?

Mr. Clegg: Either that, or the conditions under which they live and work should be changed.

Dame Kitty Anderson: Do you think that an expansion of other colleges within the educational framework, colleges which might give people more individual attention, would be a solution?

Mr. Clegg: It is one possible solution.

Mr. Shearman: Am I right in saying that your Authority has in recent years run preparatory courses to help prepare students for university life?

Mr. Clegg: Yes.

Mr. Shearman: Do you think once the boy has got admission to university it helps him to adjust himself to the proper cultural aspects of university life?

Mr. Clegg: We hope it encourages him to take the fullest possible advantage of all the university has to offer.

Mr. Shearman: Have you any evidence of the results?

Mr. Clegg: No.

Chairman: You have diagnosed an evil which I imagine most of us recognise. One would hope, as life becomes more enlightened, there would be no more heads of faculties who talk in the terms you mentioned. But when that sort of difficulty is resolved one is

still confronted with a disagreeable choice. A university population with a larger proportion drawn from homes of this kind demands a different teaching technique from that which used to be regarded as appropriate. It used to be thought best to pitch the youngsters in at the deep end and it seemed to work pretty well; I am sure it does not work well now. We have to go out of our way to provide more personal contacts and also a cultural background which would not have been thought appropriate, say, forty years ago. Here in 1961 we are confronted with social problems which arise from the quantitative shortage of university places, a quantitative shortage which is itself responsible for some of the difficulties you indicate have arisen in the schools. You cannot expand universities so rapidly if you are putting members of the staff on to quasi-tutorial functions, the creation of personal contacts between staff and student, as you could if you were proceeding on the old-fashioned mass lecture lines. Unless you can assume you have unlimited funds and unlimited bodies available, both things at the same time, a choice has to be made.

May we proceed to Section II, where you unfold your interesting reflections on the training of teachers?

Mr. Clegg: This is an issue on which I have strong views. My concern is that certain trends, certain developments in teaching which are of vital importance at the present time, should not be impeded by any changes that might take place. Our problem over the next twenty years, or the foreseeable future, is how to achieve a better standard of educational training with the less able child. We have in our grammar schools the trained graduate and the untrained graduate, and their interest is in teaching their subjects. The technique they use, put crudely, is: 'This is what you have to do; this is how you should do it; do it in this way and I will mark it out of ten to see whether you have done it right'. You see it at its best in a first-rate exposition in the sixth form to a group of alert and apt youngsters, and you see it at its worst, as I saw it two or three months ago in a modern school, D stream, third year, where a trained graduate was

dictating notes on Robespierre—a sterile, valueless piece of teaching which would make no impression whatever on the youngsters. At the other end of the education service where we are concerned with infants and with the poorly endowed child you have teachers whose concern is not so much: ‘How do I teach this subject?’, but, ‘How do I make this child want to learn?’. You have a very different approach and as seen in the best of schools it is an inspiration to me. It is this kind of approach which must inspire the secondary schools. It is doing so, I regret to say, more under the headmistresses than under the headmasters. The training which produces this approach to teaching is of vital importance. These two methods of teaching converge on the modern school. There is at present a tendency for the training colleges to look more and more to the universities. I would hope that nothing would be done to change the nature of the training in the training colleges by training their administration. To put it bluntly, if the training colleges came more closely under the influence of the universities and university training departments, essential as that is for the teaching of the grammar school pupil or youngster in the main stream of the modern school, the danger is that this present development of teaching, which I think is most exciting in the education service and is essential, is likely to be lost.

Chairman: How should this danger be reconciled with recognition of the very strong aspirations in the training colleges to receive more of a university status?

Mr. Clegg: I wonder what lies behind those aspirations. There is in this country an extraordinary hierarchy in education, with everybody trying to be in a group to which he does not belong. Everybody believes that the millenium will be reached by the changing of status. To what extent is the training of teachers going to be improved if the status of the training college is altered? I think there is a danger that the reverse may happen.

Chairman: But is there not a residuum of substance here to which a committee like this should pay serious

attention, and if so, how does this fit in with the dangers you mention in your paper?

Mr. Clegg: In the schools great progress has been made over the last twenty-five years. Before the war it was in the infants school, and since the war this progress has been made to a very remarkable extent also in the junior schools. If this is true, where is the training falling short? What is there under the present system which is wrong and ought to be improved? I find it difficult to specify. The difficulties we have had to face since the war in the training colleges have been first of all the difficulties in diagnosing our needs. There were difficulties some years ago—ten years ago perhaps—in finding the numbers, but I would find it hard to agree that there are any difficulties of substance in the training colleges as they now exist.

Chairman: You are in harmony with the change from two years to three?

Mr. Clegg: Yes.

Mr. Elvin: There is great pressure to the effect that teachers should be graduates; some say all—some say a large number of students—should have degrees.

Mr. Clegg: If we pursue the degree using ‘degree’ in the traditional sense we shall probably lose the concurrent training, and if that happened all my fears would be realised. Every grammar school head in the West Riding whom I have approached says that, whatever happens, we should not lose the concurrent training. If we change to a system of a three years’ education plus the fourth year training, we shall not merely be reproducing a system which has been effective in universities, but we shall be doing irreparable harm to the training of teachers to deal with infants, juniors and slow learners.

Dame Kitty Anderson: Would you consider it a bad thing in itself to build on to the training college course as it is at present a new kind of course which might be recognised by a new kind of degree?

Mr. Clegg: No.

Professor Drever: Would it not be a dangerous thing?

Mr. Clegg: It would be dangerous unless done first with very careful pilot schemes. There is much talk about changing administration, changing control. How is this going to affect our primary school teachers? Are they going to be better? There is almost the belief that if you only change the framework somehow or other you are going to produce a better school or an effective teacher. I can point to a lot of ways in which we are failing now, but they are not the sort of things that are going to be changed by a drastic change in our organisation. What are the things that are now wrong, that are going to be put right by a change in organisation?

Mr. Shearman: I think we ought not to say that everything in the present training college system is satisfactory; do you not think we ought to look a little more deeply into it?

Mr. Clegg: I agree, but I am afraid lest we assume that the untrained graduate or graduate of modest attainments who has been forced into teaching is better than the product of the training college. Take the youngster who just gets into the university, comes out with a first degree and does the fourth year of training, and the youngster who was his equal and went through the three-year course or two-year course in the training college—the concurrent course. My case is that the youngster who has done the three-year course in the training college is likely to be more successful than the boy who was his equal and went to the university and finished off with a fourth year of training.

Chairman: Let your case be admitted to the full that there is something essentially good in the ethos of the good training college, that the method of instruction and the product resulting therefrom has something essentially valuable to contribute to the general educational system. Is there still not an unsolved problem concerning the status of such bodies in the educational hierarchy? May there not be some substance in the complaints of those

who argue the allegedly inferior status of teachers and does there not remain something to be done administratively or by way of nomenclature, by the devising of a new series of degrees, which will remove the sense of social slur which some at any rate of these people seem to suffer under?

Mr. Clegg: I have not met it in this form. Suppose every teacher we take into the West Riding has a degree; if you change the name of their qualification, it is not going to alter the quality of their teaching; but to stop the concurrent course, so that you have three years on special subjects and a fourth year training, would do grievous harm. In support of this, I have letters from headmistresses saying that some of their girls who could in fact go to the university deliberately choose the training college.

Sir Philip Morris: Presumably this applies to a relatively small number of admissions to training colleges?

Mr. Clegg: I think the overlap of ability between training colleges and universities is at least 20 per cent.

Mr. Elvin: If we define this in terms of young men and young girls offered university or training college places who choose the latter, it is probably 1 per cent.

Mr. Clegg: I think there is a considerable possibility of developing still further through the institutes the chance for the training college student who has the aptitude and ability to go on and get a qualification in one subject equivalent to a degree. I would also think it desirable to explore the possibility of education as a subject being studied concurrently with something else. These things should be explored, but I would be sorry indeed if anything were to be done by way of change which would stop the production of the kind of teachers who, in my view, are alone able to deal with the lower levels of work.

Chairman: Thank you very much indeed for a most instructive discussion.

MEMORANDUM

submitted by

PROFESSOR N. F. (now SIR NEVILL) MOTT

7th July, 1961

BALANCE BETWEEN TEACHING AND RESEARCH

Sir Eric Ashby said recently ('Listener', 1st June), 'I am criticising . . . the assumption, imported from Germany in the eighteen-fifties, that the primary purpose of a university is to pursue truth rather than transmit truth'; and also 'the real purpose of a university is teaching at the frontiers of knowledge'.

I believe that it is widely held that teaching has suffered as a consequence of too much emphasis on research, and that the educational role of the universities must be emphasized. Nevertheless Ashby's view, if pushed to its logical conclusion, implies that dons should do just as much research as is necessary to keep their teaching up to date, and could greatly change, for better or worse, the status and effectiveness of our universities. Our Cambridge Colleges consider themselves dedicated to 'Education, religion, learning and research' and do not put these in order of importance. In this memorandum I attempt to state the claims of research, believing that the expansion of our universities, necessitating as it may the recruitment of staff without much talent for original work, is bound to put the interests of research in jeopardy.

For the purpose of this memorandum, I would like to divide teachers in higher education into three groups:

(a) Men with a deep knowledge of (say) literature and a desire to teach it. Examples are perhaps a Jowett or a Richard Hoggart. I doubt if any special problem of research arises here.

(b) Men teaching in fields of knowledge which are rapidly developing within the universities, and where research, traditionally in the universities themselves, sets the standard for what they teach (pure science and mathematics, sociology and economics).

(c) Men who are teaching for a professional requirement (medicine, engineering, theology, law, education, social work, etc.). Probably in the expanded universities and in higher education as a whole, they will form the largest group. Such men, by their experience in their profession and by contacts with it, may keep their knowledge up to date and may put a different emphasis on research from group (b).

While the expansion of the universities will (I hope) lead to recruitment of many men in group (c), willing and able to teach vocational courses, and also men in group (a), willing to take part in general courses, it is about the group (b) that I wish to write.

The reasons why the universities should continue to undertake the main responsibility for fundamental research have been frequently stated. It is certainly what most university teachers of science wish, and we may not be impartial advocates. However, the reasons as they appear to one university teacher are summarised below.

(1) Outstanding scientists will go where they can do research. It is important that outstanding men in all walks of life should be free to express their views on public policy. Scientists in government establishments and industry rarely have this freedom; university teachers have.

(2) So long as this country makes its traditional contribution to fundamental research, the universities are the most economical place for it. A university teacher has the duties of teaching, research, and administration; he can and usually does give his main effort to different aspects of these duties at different times of his career. Therefore in a university where all these activities are respected and

encouraged, research will be done mainly by men at the time of life when each can do it best. This is not so in a government research establishment.

(3) Unlike university departments training for a profession (medicine, engineering, law), and unlike the sixth forms in schools, there is no body of opinion outside the universities which determines what university science departments should teach. These departments teach and examine in a rapidly changing subject, into which their participation in research gives their members an insight. If they were not in the forefront of research, they would not know what to teach; their physicists would have to take frequent leave to Harwell to find out.

(4) Though elementary teaching is often done by men not engaged in research and does not lose and may even gain thereby, those undertaking advanced teaching should be thoroughly familiar with research and usually active in it. There is no suggestion in this memorandum that all members of a science department should do research all through their careers; there should be incentives and promotion for those whose main contribution is in teaching. However, there are great advantages in bringing under-graduates *at all levels* in contact with men actively engaged in the advancement of knowledge. The man who comes to his lecture straight from the laboratory with 'I know now what the metal atom in DNA is doing', or with 'sorry I'm late, I was on the telephone to R.A.E. about that fatigue problem in the jet turbine'—is the man who will capture the imagination and inspire his students.

The difficulties that universities may face as centres of basic research are the following:

(a) The attraction of government research centres (Harwell, R.R.E., etc.) and of positions in the United States. The danger here is *not* the higher salaries offered, but the better facilities. I cannot stress strongly enough the discouraging effect of poor facilities, or the feeling that a university department is a poor relation of government or American science. If this were to become widespread, the universities would lose their first-class men at once. Recruitment of adequate teachers, already difficult, could become impossible.

(b) The effects of expansion of the numbers of students reading pure science. Here I can best illustrate my point by using some results of an enquiry that I have undertaken as chairman of a working party set up by the Ministry of Education on the shortage of teachers of mathematics in grammar schools. It was suggested to this working party that the standard demanded for Honours courses in this subject led to the rejection or transference to other subjects of students who would otherwise study it with a view to teaching. I wrote to all professors of mathematics in English universities, asking whether this was so, and whether General Honours courses including mathematics were available or could be made available for such students. There was almost universal reluctance to lower the standard of the Honours courses but wide acceptance of the need for university courses in mathematics for large numbers of less gifted students. On the other hand, the difficulty of staffing them was strongly emphasized. One professor stated his opinion that, if every Ph.D. in mathematics made his career in university teaching, there would not be enough to staff the expanded universities. Another wrote 'we cannot in the next decade maintain the traditional view that university appointments are only for highly creative minds unless we are prepared to see the education of teachers taken out of the hands of the universities'. Many, realising that the universities in most subjects are now likely to have the responsibility not only for Grammar but for Modern School teachers, stated that mathematics departments must recruit men whose sole or main duty was to teach. All were aware of the dilemma.

In rather less acute form the same considerations apply to the physical sciences. The problem is perhaps less acute because in experimental science second-class men are capable of doing useful work in groups of adequate size under first-class direction.

The writer does not know how much expansion can be undertaken without the sort of dilution feared by the mathematics professors. The following points may be relevant.

(i) A small number of large scientific departments are likely to be healthier and more productive than a large number of small ones. A large department will be unlucky not to contain one or two men of sufficient talent to inspire the rest.

(ii) I believe that alongside the special honours schools, schools of 'technical physics' or 'applied physics' ought to be developed more frequently—sharing the first year probably with the honours schools. Such schools could be staffed more by men with industrial experience and the teaching could be less dominated by basic research and more attuned to the needs of industry. Such schools should wherever possible be within or affiliated to the universities, chiefly to allow interchange of staff. I think, for instance, that our policy in Cambridge in building up a strong department of metallurgy with a vocational bias within the Natural Sciences Tripos is a better pattern for other universities than that of Oxford where there is almost complete concentration on pure science.

(iii) It is, as has often been said, essential to combat the idea that every university teacher ought to continue his research all his life. Incentives, promotion and status for those who concentrate on teaching are now insufficient in many universities.

Finally, I would like to add a few words about the University Grants Committee in this connection and its relation to the Ministry of Education and the D.S.I.R. As the university population becomes larger, the need will increase for them to respond quickly to the need for particular kinds of educated men and women (teachers, technologists, mathematicians, etc.). How far this is compatible with the present system of self-government I believe to be a major issue for your committee. However, whatever form of government is recommended, the universities will have to respond in the education they offer to pressures from outside. In research the position is quite different; thus if a national need for a certain kind of research is felt, the response (e.g. by D.S.I.R.) would normally be to set up a new Research Station or to hand the problem to one already existing. Proposals for research in the universities come almost wholly from teaching officers in the universities; money is allocated for this by the D.S.I.R. and the Research Councils on the advice of committees comprising mainly university scientists. While I believe that many of the proposals for research should continue to come from within the universities, I think that in research the universities could nonetheless respond more than they do to public need (e.g. in the field of physics, by work in semiconductors). Therefore any changes in organisation that might make the universities more responsive to educational needs should be accompanied by changes which place a definite responsibility for research on them, and a duty to respond to public needs. This will be disputed, but should I think be considered.

ORAL EVIDENCE

given by

PROFESSOR N. F. (now SIR NEVILL) MOTT

Wednesday, 27th September, 1961

Chairman: We have all been extremely interested in your memorandum. Its main purport is to warn us that the recommendations we make should not result in the dilution and neglect of research activities in the universities. Could you say what administrative measures might be recommended by this committee with this in view?

Professor Mott: Yes. I must begin by underlining what I have said in my written evidence. To know that the universities are equipped in a way inferior to government establishments or to the United States is immensely discouraging. In particular, the feeling in Scotland of being under-equipped and not even up to the English standard is extremely marked.

Chairman: Is this state of affairs general among the universities in the United Kingdom?

Professor Mott: No; I do not think it is the case in my laboratory, or in Oxford, Bristol or Liverpool for example: but it is in a great many.

Chairman: Would you, however, think that to provide all universities with extensive and expensive research equipment might be a wasteful use of resources?

Professor Mott: It would certainly be extremely expensive and it would be wasteful of resources because there would not be sufficient leaders or senior research workers to make each unit effective. I have come to two conclusions. One is that the personnel in government research establishments should be used for teaching. The staff of the National Physical Laboratory, for example, would be delighted; it would give them new life. Research facilities there are first-class. Such an arrangement would be economical; it would be effective.

Chairman: What would be the attitude of the universities to this use of government establishments? Would Cambridge be prepared to give

doctorates for work done exclusively at a research station?

Professor Mott: If you ask whether the universities would be prepared to let government establishments undertake only post-graduate teaching and research, I think they would resist it strongly. I am suggesting that a technological university should be set up, at, say, Malvern or Farnborough which had the whole task of teaching from the first undergraduate year onwards. In this way you would use a number of under-employed scientists effectively. If you were to confine them to postgraduate research, the universities would rightly feel that perhaps their most vital work was being taken away from them.

Dame Kitty Anderson: Do you have something like a C.A.T. in mind?

Professor Mott: A technological university. It would be an extremely difficult administrative act, but one which a great many people in the university science world would welcome.

Mr. Elvin: Would you be in favour of a technological university confined to one subject?

Professor Mott: That would be too narrow. It would need to build up its own chemical and other branches; in the Radio Research Establishment, for example, there is already some chemistry and they should have more.

Mr. Elvin: Would you leave out the humanities?

Professor Mott: One need only go to M.I.T. to see how the humanities have been built up on what started as a technological institution. The technological university I have in mind would start with what the government establishment had to offer.

Chairman: Will the professional body you are associated with furnish evidence of the under-employment of scientists in these research stations?

Professor Mott: No.

Chairman: It is a very important and powerful point if it could be substantiated.

Professor Mott: I think it would be impossible to give evidence of under-employment. The staff work from nine to five like anyone else, but anyone with experience of science knows there are periods when a research worker is healthier and happier if he can also turn to other things.

Sir David Anderson: What would be the relationship between research activities at, say, Teddington, if it became part of a technological university, and the research activities for which the establishment was originally created? Would the new technological university be in close proximity under a separate head, or would there be one head for both?

Professor Mott: The question is a very difficult one. It is true that these research establishments have priority jobs which they cannot lay aside. They must have some machinery for saying who is to carry out research and who is to teach; however, if you would be interested to have my further thoughts on this, may I have leave to submit another paper on this administrative question?

Chairman: We should be very indebted to you. May I follow this with another, and related, question? If the cost of equipment for scientific and technological research forces us to concentrate it in a comparatively small number of places, and if there is to be a general expansion of university student numbers, are we not driven to the conclusion that there must be a number of first degree institutions which do not offer facilities for research to the teachers in them?

Professor Mott: It is a dilemma. I think it may perhaps be overcome by considering the scientific hinterland of the university in question. It may well be possible to find there an industrial scientist who can do some of his research in the university and bring the university into close contact with his own laboratory.

Chairman: And you would not mind at all the idea of part-time professorships?

Professor Mott: No. If Colchester, for example, did not build up its science in close relation with Marconis, I think it might be doomed to have a small and meaningless department.

Chairman: May I now seek your views on the possibility of establishing liberal arts colleges? We have had submissions from two schools of thought. One, that it would be undesirable to create a body of colleges which would be regarded as in some sense inferior to universities. The other urges us strongly to consider initiating this sort of experiment.

Professor Mott: If such a college were established in close connection with a university it would be possible to have a continual interchange of personnel between it and university departments. A man, for example, who had shown distinction in teaching in the department of physics in the university could be promoted to a senior lectureship in this other college and it could be thought of as a promotion. I need not emphasise that I think it is necessary to have plenty of opportunities for promotion for good teachers. If, however, these institutions are separate and under a different organisation, and with little, if any, emphasis on research, then who is going to teach in them? If the salaries there are better than in the grammar or public schools, the effect would be to rob the schools of people who wanted to make teaching their career but who would prefer to teach older people. There would be no more contact between these institutions and the universities than there is between the schools and the universities, and perhaps less, because the point of contact between the schools and the universities is that their products go to the universities. I do not believe such colleges could be successful for work in the natural sciences.

Mr. Elvin: In America there is a distinction between liberal arts and junior colleges. Are you putting before us the liberal arts college, the college which does first degree work but not much more, or a junior college which would take people for the first, or first and second years, who then go on to finish their undergraduate work elsewhere?

Professor Mott: The American junior college is equivalent to the last year of the sixth form here and the first year of the university, and our closest analogy is the Scottish one.

Mr. Elvin: Do you think the junior college is a serious proposition for this country?

Professor Mott: No.

Chairman: You are against the creation of separate liberal arts colleges, and you think that teaching at that level should be associated in some way with the universities?

Professor Mott: Yes, with one exception. Vocational colleges, teacher training colleges for instance, are not institutions with which one would wish to interfere. The idea of a polytechnic institution including both teacher training and other forms of vocational training on the same campus appeals to me. I am not in favour of a liberal arts college aiming at general education with no vocational bias and no research. The American analogy is not complete, because they have no sixth forms. Liberal arts colleges in the United States are wealthy: they also have fine buildings and carry great social prestige. Such colleges here would start without these advantages, and, even with them, some of the American colleges are trying to become universities.

Chairman: Do you recommend that honours course work should be taken side by side with courses which perhaps it would be wrong to call pass or even general courses, because these names are in bad odour, but something of that kind?

Professor Mott: Yes. I believe that the universities, while keeping their honours schools and their research schools, could be induced to take less specialised education more seriously if this work could carry more prestige. Oxford and Cambridge have the rudiments of a system for this.

Dame Kitty Anderson: Would it have prestige if some scholar of distinction were associated with it, somebody perhaps who was also concerned with postgraduate studies in his own field?

Professor Mott: I would like to see a man who has found his distinction either by the way he sways policy in the university or in the outside world concerning himself with a general education—somebody whom the students felt to be a leader. There should be two avenues of promotion. If people could rise to the equivalent status of professor through other kinds of service it would do an immense amount of good. People of outstanding personality who have made some mark in the world should be brought into this kind of work.

Miss Gardner: Is it not part of the problem that in most universities the pyramidal structure runs up to the professor at the top, whereas in the Oxford and Cambridge administrative system a great deal of credit goes to people for very various reasons? There is the senior tutor; there is the Oxford and Cambridge eccentric, well known and loved by his pupils. These people contribute in different ways. Another aspect of this is the identity between professor and head of a department in the provincial universities. Is this necessary?

Professor Mott: I am afraid it is inevitable in science departments. It is true of Oxford and Cambridge also. The scientific head of a department there has the same power as his counterpart in a provincial university. It cannot be helped; somebody has to decide who is to have what.

Mr. Elvin: What recommendations would you make to rectify what you consider to be the inadequate opportunity for promotion for those who concentrate on teaching in the universities?

Professor Mott: I think your committee should recommend that there should be a higher proportion of senior lecturers and readers than at present. This should be coupled with a very strong recommendation to the universities that fifty per cent. of these positions should be for people whose service to the university had been primarily through their work for the students.

Chairman: The difficulty is partly overcome in Oxford and Cambridge by

the college system; but would it be feasible to recommend that this system be extrapolated to all other universities?

Professor Mott: No. You cannot recommend that the staff of modern universities should be paid extra for teaching. I would suggest that you point to the situation at Oxford and Cambridge and say that a higher proportion of posts should be created at senior lecturer grade and that these should be thought of as posts equivalent to that of the Cambridge tutor. Of course the universities may continue to appoint to these posts solely on the strength of published research, but I would hope that there would be sufficient pressure in the opposite direction.

Sir David Anderson: Do you consider the standard of present honours degrees in science and technology is sufficiently high?

Professor Mott: There are many reasons why I would like to see a four-year course in pure science, at any rate for half our students. One reason is that this would mean less pressure on the schools. I do not, however, think a four-year course necessary for all science students. For the majority of graduate teachers a total of five years would, I think, be excessive. Turning to technology, I can only emphasise the uniqueness of this country in the shortness of its education. It seems clear that we are not launching into the engineering world people with sufficient technological knowledge or ambition. A four-year engineering course would, I think, be welcomed. Engineering departments say they do not get their proper share of the ablest students. The climate of opinion is to blame. A student growing up in a research department becomes research-minded, and thinks that what matters are papers to research societies, the visit to America, and becoming a member of the international scientific community. The most talented people do not acquire the ambition to go into industry.

Chairman: Would you say that this state of affairs prevailed in other countries to the same degree?

Professor Mott: I think not in Germany and Switzerland. The Technische Hochschule has very high prestige. Their technological courses have a larger proportion of pure science, and they are longer.

Chairman: So the present difficulty need not be accepted as a consequence of the laws of nature?

Professor Mott: No.

Miss Gardner: Is it your view that everyone teaching science and mathematics in a university should have a Ph.D.? I am thinking of the report of the National Institute of Physics which criticized the narrow range of many holders of Ph.D.s and their incapacity to move beyond the small area in which they work.

Professor Mott: I believe that everyone who teaches science and mathematics in a university should have had experience of research either within a university or outside at some time during his career. If there is narrowness, it is where a young man has changed his social class and, at the age of twenty-five or so, is standing on a pinnacle by virtue of the fact that in one small field of knowledge—say, the spin of the fluorine atom—he has reached the top and is a specialist. Of course it would have been better had he acquired confidence in debating, an understanding of literature and an ability to express himself through his general earlier education. But he has not. Here he is, a shy boy whose whole character is changed by the publication of his piece of research. I do not apologise for it; I think it magnificent. But it is not hard to understand his reluctance to abandon this small corner of knowledge, on which his success hangs, to give his attention to much broader fields in which he will be one among many.

Chairman: Are you satisfied with the University Grants Committee as an administrative form with its present terms of reference? For instance, do you think it would be satisfactory, or capable with slight modifications of being made satisfactory, for the planning of technological studies not only in the universities but in the C.A.T.s and elsewhere?

Professor Mott: I have no cause for dissatisfaction. I feel, however, that the advice the University Grants Committee gives universities could be rather more definite and that to give this advice it needs stronger advisory sub-committees on scientific and technological matters.

Chairman: What about its relation to technological institutions which at present do not come within its scope?

Sir David Anderson: Perhaps in replying you would say what position you envisage for the C.A.T.s in the future?

Professor Mott: The more the University Grants Committee takes under its wing the more it will be forced to give strong directives. Since I am in favour of stronger advice from the University Grants Committee it follows that I would be in favour of the University Grants Committee taking over the C.A.T.s. If the universities are to have complete academic freedom I think they should be kept fairly small. However the disadvantages of that would be so great that I would prefer to see stronger direction from the U.G.C. This may be a minority view, at least in Cambridge.

Sir David Anderson: In this connection would you expand the point raised in the last paragraph of your memorandum: 'While I believe that many of the proposals for research should continue to come from within the universities, I think that in research the universities could nonetheless respond more than they do to public need'. Have you in mind that the universities might be directed by the D.S.I.R. or some other government department to pursue a particular field of research?

Professor Mott: May I give you an example? The field of semi-conductors, is perhaps the most important industrial branch of physics at the present time, and there would have been opportunity to pursue this in connection with the new university of Sussex, with its close proximity to the Mullard Laboratories. The U.G.C. could have said 'If you want a physics department you can develop it in this field and we will help you'. In fact I am sure the U.G.C. said no such thing and would have thought it improper to do so. Let me take

another example. Many of us will feel there is a lack of research in education in this country. One of the newer universities could be told: 'If you develop this subject you will get support'. We need a little more authority at the top in allocating resources to prevent the universities from going, like a flock of sheep, all in one direction such as nuclear physics. If that were done, we would make strong and viable research departments within each university.

Chairman: Is it your judgment that on the natural science side some more central advice, and perhaps in certain cases direction, would not be regarded as an interference with academic freedom?

Professor Mott: I did not say that; I said that in my opinion it ought to be done. If some central body said: 'Oxford, Liverpool and Glasgow are going to do nuclear physics, we will look after them properly. No other university need apply', it would in fact be good for the whole university set-up. I do not think the U.G.C. would be doing something entirely new if it did this; it did so with agriculture and other subjects.

Chairman: You are, I understand, chairman of a working party on the supply of mathematics teachers?

Professor Mott: Yes.

Chairman: Is your report likely to be forthcoming before we write ours, that is in 1963?

Professor Mott: I do not think we shall write a report. We have assessed the shortage of mathematicians and have made some proposals. The main purpose of our working party is to provide a channel between the Ministry of Education and the University Grants Committee. We shall be reporting to the National Advisory Council on the Training and Supply of Teachers.

Chairman: Would it be right for us to assume that, while we should take note of the representations that are coming forward to us in this matter, the problem is being dealt with as well as it can be?

Professor Mott: I have already emphasised the tentative nature of the

advice or pressure which the U.G.C. gives to the universities in relation to research. The same applies to teaching. Of course it has had to put pressure on the universities to expand technology. If it is fully convinced

of the case, I think the U.G.C. is capable of putting pressure on the universities to expand mathematics.

Chairman: Professor Mott, thank you very much. It has been a most interesting discussion.

FURTHER MEMORANDUM

submitted by

PROFESSOR N. F. (now SIR NEVILL) MOTT

30th January, 1962

ADMINISTRATIVE ARRANGEMENTS FOR AN INSTITUTION FOR HIGHER EDUCATION LINKED WITH A RESEARCH ESTABLISHMENT

1. THE CASE FOR AN INSTITUTION OF THE KIND DESCRIBED

In order not to beg the question as to whether the proposed institution should be a university, a college of advanced technology or something else, I shall refer to it in this memorandum as a 'technological university'. The proposal then is that a technological university should be built in the same town as a government research establishment and as close to it as possible, that it should have its own staff, but

(a) The staff and research students of the university would carry out research in the laboratories of the establishment, and where appropriate direct groups there.

(b) The permanent staff of the establishment would take a substantial part in both undergraduate and postgraduate teaching in the university.

A development of this kind is desirable in order to use scarce scientific manpower in the best and most economical way. It is necessary to educate more scientists and technologists. Some of these will receive their education in the new Universities of Sussex, Norwich and York and other universities to be founded. Staff for the science and engineering departments of these universities will have to be recruited. University teachers in these subjects expect facilities for research. It will be difficult, however, both on grounds of expense and even more of size and quality, to set up schools in all these universities where the research done is worthwhile, and consequently to recruit staff of high calibre. It would be unrealistic to suppose that all the new and existing universities will be able to provide the kind of scientific education that can be given by outstanding men in contact with research of importance carried out with the best equipment available.

These men are available in some of the government establishments. Their value as educators would be great. But one has to ask whether, by taking part in teaching, their primary duties of research and development would suffer. The consensus of opinion is that it would gain. It is not, of course, suggested that all members of the staff would do some teaching during the whole of their careers. A man doing an urgent piece of work would devote, as now, all his time to it. But during a considerable part of a scientist's working life some teaching duties are probably a stimulus to research.

There is a further advantage to be gained from a close association between a technological university and a research establishment. The departments of pure science in our major universities, in spite of the competition of the government establishment, remain able to retain on their staffs a reasonable proportion of the country's outstanding scientists: they are, therefore, attractive to the most talented boys from the schools. The same can scarcely be said with the same conviction of technology; major advances in technology are less commonly made in university laboratories. But a university sharing facilities with a big research establishment would link teaching and research in technology to an extent which can hardly be achieved in any other way, and would do much to make a career in technology more attractive to boys of the highest ability.

2. ADMINISTRATIVE ARRANGEMENTS

In many towns in continental Europe major research institutes exist closely linked with technological universities. This is the case at Eindhoven, where many members of the staff of the Philips Research Laboratories hold extraordinary professorships

at the recently established technical university there and take part in the teaching ; at the same time students may and do work for their doctorates at the Philips Laboratories. At Aachen alongside the university (Technische Hochschule) are a number of Max Planck Institutes, financed partly by government and partly by industry ; professors of the universities are their directors. At the same time scientists whose main occupation is in industry or in these research institutions can also receive a contract to do teaching. At the present time in the Technische Hochschule of Aachen there are more than sixty courses arranged in this way.

In Germany, for example at Aachen, co-operation between the Hochschule and the Institutes is eased by the fact that both are the responsibility of the Kultusministerium of the Land Nordrhein-Westfalen. In this country we would have to start from the fact that the government research institutes are the responsibility of ministries or authorities which are not directly concerned with teaching. Thus the National Physical Laboratory is the responsibility of the Department of Scientific and Industrial Research, the Royal Radar Establishment and the Royal Aircraft Establishment of the Ministry of Aviation, and Harwell of the Atomic Energy Authority. These are perhaps the institutions at present existing which are the most suitable for co-operation with a technological university.

Let us suppose that a site was chosen for a new university within a mile or two of an establishment such as the Royal Radar Establishment (R.R.E.) at Malvern. If this were done, I do not think that too close an integration of the two institutions need be attempted in the first place. The technological university would need to cover some scientific subjects such as chemistry which are not a main interest of R.R.E. and would also doubtless wish to develop the humanities or social sciences. I think too that the university must have its own research programme in almost all subjects. But two points would have to be negotiated between the authority responsible for the university and the Ministry of Aviation.

(a) Scientific staff in R.R.E. should by invitation take part in the teaching activities of the university, both at the elementary and at the advanced level. Some should become extraordinary professors and sit on academic committees. Whether the scientific officers should profit financially from so doing is questionable ; their salaries are now somewhat above those of university teachers. I envisage that payment for their services would be made by the university authorities to the authorities responsible for R.R.E. and agreement should be made with the Establishment that it should provide, say, 25-50 per cent. of the total teaching load in certain subjects. The question would then arise whether the government scientists would wish to teach during some part of their careers or whether special inducements would have to be held out. From all I hear the idea of having some teaching responsibilities is very popular ; but the machinery for promotion would have to take due account of success in such teaching activities and would have to show that it was doing so, so that everyone was aware of it. It would seem to be appropriate that, as in Germany, senior staff of the establishment who for a number of years were doing a substantial amount of teaching could become honorary professors or lecturers within the university.

(b) The other essential point is to associate the professors of the university, at any rate as advisers, with the research direction of the establishment. I would suggest also that it should be normal for the teaching staff in physics and electrical engineering at any rate to do their research studies within the establishment, where they would be much better equipped than most British universities can hope to be.

3. A POSSIBLE FIRST STEP

There are colleges of advanced technology which have outgrown their sites in the centres of large cities and for which a move is under consideration. The case for a move to a site in close proximity to one of these establishments is strong.

Professor N. F. Mott

4. ULTIMATE AIM

In a loose associateship of the kind described here, given goodwill on both sides, many of the advantages described in paragraph 1 should be realised. But a closer association, particularly the appointment of staff by a joint appointments committee, should be considered, too. I do not feel qualified to say what changes in the responsibilities of (for example) the Ministry of Aviation would be necessary to make this possible.

5. SECURITY

If any secret work was carried on in the establishment, a decision would have to be made that certain parts of the work of R.R.E. should be outside the security fence (as at the Rutherford Laboratory at Harwell).

MEMORANDUM

submitted by

MR. F. M. H. MARKHAM

30th May, 1961

THE EXPANSION OF HIGHER EDUCATION

1. From 1940 onwards the Hankey Committee on Technical Personnel, of which I was Secretary, took steps to expand the supply of scientific and technical personnel for war-needs, by means of the State Bursary and Engineering Cadetship Schemes in Universities and Technical Colleges. When fully mobilised for war this country was probably at least as successful as any other belligerent country in its supply and use of scientific and technical manpower. At least no desperate shortages developed by the end of the war.

In 1943 the Interdepartmental Committee on Further Education, with the same Chairman and Secretary, was asked, as part of the reconstruction programme, to 'consider in the light of the prospects of employment the number of persons who should be encouraged to enter upon courses of education and training above the secondary school or equivalent standard'. We estimated, after consulting the Universities, industry and the professions, that higher education, including the Universities, should be expanded to at least 50 per cent. above the pre-war level. In 1946 the Barlow Committee, reviewing the need for scientists, set a considerably higher target. The fact that, with University population running at twice the pre-war numbers, these estimates have already proved conservative is a measure of the substantial progress that has already been made, though it is arguable that it has not been achieved without some dilution of quality in the less favoured Universities.

2. Yet it is frequently pointed out that the University population in this country is proportionately much smaller than in other countries. Such comparative statistics can be misleading. The distinctive pattern of English higher education with its high level of attainment in the sixth form and correspondingly high level in the first degree, makes nonsense of such crude comparative statistics of University population. Moreover, a great deal of higher education takes place in this country in institutions other than Universities.

G. S. Payne, in his exhaustive comparative survey (*British Scientific and Technological Manpower*, O.U.P., 1960), carried out on behalf of the U.S. President's Committee on Scientists and Engineers, points out that in many U.S. Universities and Colleges the first two years is equivalent to our sixth form level, and that the U.S. first degree cannot simply be equated with our first degree. Comparing like with like he reaches the conclusion that U.K. produces as many pure scientists per capita as U.S.; at the Ph.D. level where standards are comparable the U.K. produces per capita 20 per cent. more. He estimates that, taking all comparable qualifications down to the Higher National Certificate, the U.K. supply of engineers and technologists is proportionately at least 25 per cent. less. These conclusions may be too favourable to our system, and I only quote them because a semi-official opinion from the other side of the Atlantic may help to put the comparative statistics in their proper perspective. In any case they would not justify any complacency as our needs and responsibilities are out of all proportion to the size of our total population.

3. The combination of 'bulge and trend' in sixth forms is rapidly producing an encouraging, possibly even a revolutionary situation. It is, however, unfortunate that the Crowther Report, in its discussion of the pressure on entrance to the Universities, failed to distinguish sufficiently (a) between the formal requirements of 'A' Level passes for University entrance and the actual standards required; (b) between the intense competition for entrance to the more favoured universities and an overall discrepancy between the number of properly qualified school leavers and the total number of university places available. Awarders in the Advanced

Level examination and university selectors would probably agree that an Advanced Level pass mark is far too low for university entrance, and that a mark of about 60 per cent. in the Advanced Level indicates the potential University entrant. It is at this point that the candidate who can master his material and think for himself emerges from those who can reproduce what they are taught. This distinction will be made much clearer in the proposed new gradings for the Advanced Level examination. The Oxford Locals Examination Board results for 1960 show that 38 per cent. of candidates who took two Advanced Level subjects gained a 60 per cent. mark in at least one subject. Similar figures could be extracted from other Boards, but it is unlikely that the proportion would vary appreciably among Examining Boards. For England and Wales this percentage would yield a total of roughly 27,500 candidates attaining this standard compared with a University entry from England and Wales of 22,000.

4. From this starting point, the size of the change produced by the bulge and trend can be more easily assessed. The Crowther Report shows conclusively that there is a considerable wastage of talent due to early school-leaving and inadequate teaching, both in quantity and quality. I do not think, however, that we should expect the number of candidates of first-class quality to increase proportionately to the general increase, in the 6th forms. Since the war the proportion of first-class degrees at Oxford has not increased whereas the proportion of second-class honours degrees has increased substantially. We have recently at Oxford considered this question in the case of the Modern History School, the largest in the University, to see whether our standard for the first-class had been kept unduly high and have reluctantly reached the conclusion that it had not changed. This suggests that the large majority of first-class minds have for some time past been reaching the Universities, and that there is a definite limit to the pool of first-class ability. We may therefore expect an increase of first-class degrees proportionate to the growth of population, but a good deal less as a result of the 'trend'.

5. The question then arises whether our standard for the honours degree is too high? Honours syllabuses are certainly overloaded by the rapid accumulation of factual knowledge, especially in the sciences, and they could profitably be overhauled. But in the next decade another factor may affect the situation. As I understand the position from my scientific colleagues (and here as a layman I am aware of treading on dangerous ground) many branches of science may evolve in a direction which will require from honours students, even more than in the past, general intellectual ability and especially mathematical ability.

6. University scientific education tends to produce research scientists, to the exclusion of scientific administrators and science teachers. I think it would be highly desirable that students with the capacity and zest to do so should be enabled to combine a study of Arts and Science both in the 6th form and the University. From tentative discussions with scientists at Oxford, it seems that a combined Arts/Science Honours syllabus would not be impracticable, for selected students who have a firm foundation of an Advanced Level Science subject. Possible combinations of Arts and Science are now being considered at Oxford. There are already University entrance candidates coming forward who have Advanced level Science subjects but wish to read an Arts subject or a combination of Arts and Science.

7. The Universities are already taking steps to counteract over-specialisation, by rethinking their entrance requirements, with considerably more emphasis on the use and understanding of the English language, general studies, and understanding of scientific method, for all candidates.

8. Development along these lines would help to attract more graduates into administration and to school teaching on the science side. I need not emphasise the crucial importance and immediate urgency of the supply of scientific and particularly mathematical 6th form teachers. Many headmasters have told me that the present situation is 'catastrophic'. As an awarder in the Advanced level examination and a College scholarship examiner, I am constantly aware of the

fact that the expansion of potential honours graduates depends on the stimulus of good 6th form teaching.

It is sometimes assumed that expansion of the Universities will automatically solve this problem. I do not think this is likely. Industry will make increasing demands on scientists and especially mathematicians. The problem is to persuade even a comparatively small number of science and mathematics graduates to consider a school-teaching career. The solution depends primarily on providing an adequate differential salary for the 6th form teacher in relation to competing demands; and secondly, in shifting the emphasis in the Universities on the education of research scientists. It is much to be feared that the promising harvest of the bulge and trend may be blighted by the teaching shortage.

9. There are two expedients which I would suggest for consideration by the Committee.

(a) During the war Lord Hankey used to hold conferences with employers to explain our scientific manpower needs and priorities. They never failed to respond when the situation was put squarely before them. If somebody with the kind of authority possessed by Lord Hankey were to carry out a similar campaign, I believe that a good deal of help could be got in the short run by way of part-time release of scientists from industry and Government establishments to help in 6th form teaching.

(b) Lectures and demonstrations of high quality could be communicated to much wider audiences of students by means of sound broadcasting and television. It is certain that there will be a persistent shortage of scientific teaching manpower for a long time to come, and a broadcasting service devoted to higher education is an urgent need, as well as the use of closed-circuit television. We are already a long way behind the U.S.A. in the development of these techniques.

10. In the Arts Faculties, the problems are less urgent and less difficult than in the sciences. Unless there is a much more marked swing from the study of Arts to Science than at present, the supply of Arts graduates for the professions should be adequate. The danger of over-specialisation is not, of course, absent from the Arts Faculties. It is, however, worth noting what a high value industry as well as the professions, puts on a non-vocational education in the humanities, and the care and enlightened discrimination with which, in general, industry recruits Arts graduates. This attitude does, of course, vary markedly among different industries, with their different needs and structure.

11. In the light of these considerations and assuming that the standard (if not the content) of the honours degree is kept, it seems reasonable to conclude that a fairly moderate expansion of the University population to about 150,000 would accommodate all the worthwhile honours students for some time to come, and that they could be absorbed in suitable employment.

12. So far I have dealt with the prospects of expansion of honours graduates. Yet clearly there is a demand and a need for expansion of higher education on other lines and at other levels. Should this expansion take place exclusively or mainly in Universities?

The case for expanding the Universities substantially beyond the maximum figure of 170,000 already envisaged appears to rest on a variety of arguments.

(a) On comparison of the size of university student population in this country with other countries.

(b) That university education ought to be available, as a matter of right or principle, to those who complete secondary education and want university education.

(c) The desirability of more graduate teachers, and more graduate engineers and technologists for industry.

13. To adopt all or any of these policies would, of course, mean an inflation of the currency of a University degree and alter our existing conception of University education. This in itself is probably not an insuperable objection; as in the U.S.A. the relative value of different degrees would soon be established and recognised.

14. But there are severe practical difficulties in following such a course, which ought to be considered.

As regards (a) I have already argued that such comparative statistics are meaningless, and provide no valid basis for adopting a slavish imitation of other systems of education which have no relevance to our own pattern of higher education, especially when we have the opportunity of considering alternative lines of development in the light of our future needs.

As regards (b) the State is committed to providing fees and maintenance (subject to a liberal means test) to all students selected for University education. Would it be justifiable to extend such facilities to those who had not proved their capacity to benefit from so elaborate a form of higher education?

15. Moreover, the U.G.C. is committed to the principle of parity of salaries in all Universities. It is already disquieting that so many of our first-class men are being attracted into University teaching by the expanding opportunities. The relative prestige of a University teaching career in this country is high: and it is not so much a question of salary as the attraction of an independent life and the opportunities for research. At present it is altogether too easy for the able student, and even the not so able, to embark on prolonged postgraduate research, which will commit him to an academic career, without considering carefully whether such a career is best suited to his capacity or potentiality. I would suggest that there is a case for saying that there should be fewer and more selective grants for post-graduate research, and more grants for sabbatical and refresher courses for mature men and women already established in professional careers. If I am right in my contention that the pool of really first-class ability is limited, a very serious situation would arise if too great a proportion of such ability were to be engaged in University work by a too rapid expansion of the Universities. According to the P.E.P. survey, 53 per cent. of all first-class degree graduates in 1950 entered a university career.

This problem is aggravated by the rigid structure of professional employment in this country. In the U.S.A., by contrast, there is much greater mobility of employment between Universities, government and industry; and moreover much more government and industrial research goes on in U.S. Universities. This question of the deployment and distribution of first-class ability is perhaps the gravest long-term problem involved in the expansion of higher education.

16. I do not think many university teachers would disagree with my view of the limited pool of first-class ability, but it is, of course, an empirical judgment. It might be desirable to have a thorough statistical enquiry into the present number and distribution of first-class degree men and women.

17. As regards (c) I have already argued that the supply of graduate teachers for sixth-form teaching does not really depend on expanding numbers at the University. It is by no means certain that industry would welcome very mediocre B.Sc. engineers and technologists rather than trained technologists from Technical Colleges. Already employers are complaining about the 'dreary procession of would-be B.Sc.s. to be seen each year by industrial recruiters'. (A comment on the output from the Universities in general quoted in *Oxford University Appointments Committee Report for 1959*.)

18. All these considerations would, I suggest, point to the need for a balanced development of higher education on a broad front—controlled expansion of the Universities, promotion of a number of Teacher Training Colleges to the status of 'liberal-arts Colleges', promotion similarly of a number of Technical Colleges with full-time residential facilities and more 'sandwich' courses, and the linking

where possible of these Colleges to the Universities. The better products of these Colleges might well proceed to a University honours course, possibly after a two-years course, especially as there is an increasing tendency among the young to desire to proceed to higher education at an earlier age of 17+ rather than 18+.

This social trend, which may well become more marked, would reinforce the need for a form of education intermediate between school and the University.

19. The trends of science, of population, of sixth-form education involve so many unpredictable factors that the development of new institutions of higher education must be flexible and capable of growth.

It also follows that there is a need for some standing body which could co-ordinate the planning of the U.G.C., other branches of higher education and sixth-form education.

20. It is difficult for university teachers, hard-pressed by the expansion of numbers and the demands of research, to give enough time to planning the revision of syllabuses. There is a need for organisation and funds to enable university teachers to be released, whole or part-time, to assist in such planning and in refresher courses for teachers.

21. It should be understood that the foregoing arguments are my personal opinions, and are in no sense an official or unofficial view from the University of Oxford.

ORAL EVIDENCE

given by

MR. F. M. H. MARKHAM

Wednesday, 27th September, 1961

Chairman: May we open the conversation by asking you what points of practical action you think emerge from the various considerations you have put forward in your memorandum.

Mr. Markham: I am afraid my paper raises more problems than it solves, and was merely an attempt to put things in general perspective. First, I think there is a limit to the desirable university population. The factors of the bulge and the trend are of course unpredictable, but as you will see from the figures I have quoted, my case is that the figure of 27,000 potential honours students might with the bulge and trend go up by the end of the decade to perhaps 40,000.

Chairman: You are on the whole sceptical of the view that the pool of potential university ability is much greater than the numbers at present in the universities? You think that the bottom of the barrel is being scraped?

Mr. Markham: The bulge and the trend are, of course, just beginning, but at this moment I doubt that there is anyone who is really qualified for an honours course who is not, or could not be, in a university.

Mr. Elvin: Do you include in this anybody between fifteen and eighteen who, if things went right, would be suitable?

Mr. Markham: Certainly, at the moment, although this does not take account of the bulge and trend. In the past, of course, there has been considerable wastage of ability.

Chairman: Let us leave out the bulge, and let us suppose we are dealing with a stationary population. What you call a trend would presumably be due to better educational methods at an earlier stage, but, failing the success of methods of that kind, you feel that the present provision is approximately right?

Mr. Markham: Very nearly.

Chairman: Do I understand you to mean by 'qualified' only those who have the expectation of gaining firsts or upper seconds?

Mr. Markham: No. I mean all those who are capable of obtaining an honours degree of any kind. The number I gave would not necessarily cover all those who might take general degrees; that is a much wider field.

Chairman: Would you then place the people who would take general degrees in some other institution?

Mr. Markham: Whether the expansion should take place exclusively or mainly in universities is, I think, a matter for debate. My second point concerns the limit to the number of first class people; I do not know whether this needs further explanation.

Chairman: By 'first class' ability do you mean people who gain firsts in the final examination or have you in mind some wider conception of 'first class'?

Mr. Markham: I mean those who get firsts. I am not saying an academic first class can be equated with first class ability. There are a great number of able people who do not get firsts. In the past a large number of people with first class ability did not go to universities, but there will presumably be a steady decrease in their numbers in the future.

Chairman: But is it your conception that in ideal conditions the universities would be populated only by potential seconds or firsts?

Mr. Markham: I would not go as far as that; there are good third class honours men who are valuable and who benefit from a university course.

Chairman: Then we come back to the general question of the pool of ability. You think the universities are getting most of those who are able to profit from a university course?

Mr. Markham: At the moment, yes. The planned expansion will take the number up to 175,000. My case is that this provision will accommodate all the honours students who are capable of benefiting from that kind of education.

Dame Kitty Anderson: Is there not likely to be a large increase in the number of potential university entrants because of environmental and natural development? In any case is there not a considerable pool of ability among girls, for instance, which is not yet tapped?

Mr. Markham: No doubt. It depends on what level of work is appropriate for the universities as opposed to the other forms of higher education.

Chairman: Why is it that in your judgment the distribution of ability in the population is relatively meagre compared with what seems to be experienced in other parts of the world?

Mr. Markham: My contention is that it is not so. One cannot compare the statistics of American or continental university education with ours. First one has to clear out of the way the misleading overall statistics and compare like with like. I have quoted in my written evidence the exhaustive survey by G. S. Payne which puts the American comparative statistics in perspective. I have not enough knowledge about continental universities, and less about Russia.

Chairman: We have no illusions about the lower starting point in the universities in the United States. Even if we make a liberal assumption that the first two years there are devoted to making up the arrears of schooling, the fact remains that the decision of those responsible in the United States seems to be that a substantially larger proportion of the age group are given an education which is, generally speaking, of university standard. Have you inspected the various universities in the United States?

Mr. Markham: No.

Chairman: I wonder whether, if you had, it would be your conclusion that the students in the third and fourth

years there were of a lower standard than those whom you regard as eligible for university education?

Mr. Markham: It is very difficult to generalise about the United States; standards vary enormously between the different universities and colleges.

Chairman: Although our figures are certainly not in final form, if we take account of all types of higher education in this country which would be regarded as comparable with university education elsewhere, the figure is between 8 per cent. and 9 per cent. of the age group, and the figure for the United States may be at least double. And I think you will agree with me that since a great deal of the important work of the world is done by people who are not first class, the country must do the best it can to educate them.

Mr. Elvin: The point has been put to us that the United States has gained immensely by giving continued general education to people who, measured by our present university standards, would not be first class. Do you think this is something we should consider carefully?

Mr. Markham: Yes. The question is whether these people should be educated only in universities, mainly in universities, or in other forms of institutions.

Chairman: We come back again to the pool of ability. It is a crucial question for this committee. We are receiving different kinds of advice on it. We are told, for example, that if you give an intelligence test to those who have continued education from the age of fifteen to eighteen, this group may show a considerable increase in score as compared with those who did not continue their education.

Mr. Markham: I am basing my case on the only objective test we have, the 'A' level figures. Of course the trend may change the picture; it is unpredictable; it may snowball and become a very important factor indeed. The group of 'first class' ability is very small. My main contention is that, this being so, any very large expansion of the universities would absorb too high a proportion of the pool for teachers and thus starve

the other professions, the Civil Service, industry and business.

Miss Gardner: I would not think there was any danger of the academic profession having such a great pull. My impression is to the contrary, though possibly this applies more in science than in arts. There are complaints from university departments that they cannot compete, in filling their posts, with government establishments and industry.

Mr. Markham: This is not true of the first class man who wants a career in research. He is not concerned about his salary.

Chairman: Do you mean to imply that when important academic posts are advertised there is a plethora of first class candidates for the short lists? It seems contrary to all experience.

Mr. Markham: There are very few first class people, but they would apply. Our experience at Oxford on the arts side is that if a young man gets a first or near first, he tends to think of nothing but research and university teaching as a career, and I think this is equally true of pure science. There are tremendous opportunities for arts men in business and industry, and the Civil Service is finding it difficult to attract first class people.

Mr. Elvin: Is it not true that a number of people stay at Oxford and Cambridge for a fourth year and then leave?

Mr. Markham: I think this is becoming less true because with the expansion of the universities they see a chance of a university job. The secretaries of appointments boards could no doubt give you a more expert view on this.

Chairman: May I turn to another aspect of this problem and ask whether complete uniformity in educational discipline is desirable for all the eligible members of an age group? Should all higher education be of the type that is now given in the universities? For instance, take the Colleges of Advanced Technology, where much of the education differs from that of the universities. Is the somewhat inferior status which seems to be implicit in the present situation one which is in the last resort desirable?

Mr. Markham: The Colleges of Advanced Technology and other technical colleges are providing for the considerable number of people who have either left school early or are late developers. They are doing very good work. Some of the technical colleges should be promoted to something analogous to university status. I do not know whether they necessarily need or want university status as we now understand it. There is, however, no doubt that they are being artificially handicapped by not being able to give their own degrees. The new universities which are being founded will grant their own degrees. Is it not anomalous that they should be able to do so while well-equipped and well-established technological institutions cannot?

Sir David Anderson: Would you envisage some of the colleges coming under the University Grants Committee?

Mr. Markham: I should like to see them taken out of Local Education Authority control and put under the University Grants Committee.

Sir David Anderson: You envisage more institutions than the present C.A.T.s might be included in this?

Mr. Markham: Yes. Some Area Colleges are well developed and should also provide residential facilities. I think also that some teacher training colleges should be turned into something like liberal arts colleges.

Mr. Elvin: Do you mean that the training colleges should have no vocational features?

Mr. Markham: No; but they should not be solely concerned with training teachers.

Mr. Elvin: If there were a need for liberal arts colleges, might that not be best met by new institutions?

Mr. Markham: It is always easier to build on what you have than to start from scratch. There is a danger that if new university-type institutions were created they would be based too much on our existing conception of universities. The students who would be there would not be suitable for that kind of education; they should be taught in a different way.

Chairman: Some of the points discussed today may, I think, hinge on the suitability of present honours courses for a large number of students. Some people think there is scope for a considerable development of higher education with the status of university education, but consider that the typical three years' honours course, with its high specialisation, is not well suited for a great number of students. May this not lead us to consider that further thought should be given to the structure of many degree syllabuses?

Mr. Markham: Many people may argue that present syllabuses are pitched too high, but I think on the whole this is not so. I gather from the scientists that their subjects are evolving so rapidly that to follow an honours science course in the future will require even greater ability than at present, that it would not be practicable to lower the standard of honours courses in science. I have suggested that the content of syllabuses, as distinct from the intellectual standard, tends to be overloaded and could be pruned.

Chairman: I once heard a very high authority in the educational world say that in ideal circumstances he would like to see a lowering of the standard of first degrees in this country and a greater concentration of graduate work, not of research but of further training. What is your reaction to this observation?

Mr. Markham: This happens on the science side now, because anybody who is to become a professional scientist must do postgraduate work. But I am thinking more of the lower end, of the man who is not capable of tackling an honours science course.

Chairman: Is it your experience that these people are not capable of benefiting from some form of education of university status?

Mr. Markham: I think they might be capable of benefiting from some kind of university course. Alternatively, they might do better in a technological college or in something similar to an American liberal arts college.

Chairman: Does this difficulty arise only in the natural sciences?

Mr. Markham: Equally, I think, on the arts side; only a certain number of

students are benefiting from our present kind of honours course in the sense that they teach themselves, and work on their own.

Miss Gardner: I find it difficult to accept the view, which seems implicit in what you have said, that at eighteen the honours type of student can be clearly distinguished from the other type. I should find it difficult to be certain that at eighteen this person would be capable of work of an honours type while this other person would benefit most from a liberal arts course.

Mr. Markham: I am not saying that 'A' level results can prognosticate degree results, but simply that if somebody does not achieve more than 50 per cent. at 'A' level it is tolerably certain that he will not make a reasonable showing in an honours degree course. This is statistically only approximate, of course.

Mr. Elvin: Do not some people make so much of education at a university, regardless of their academic attainment, that it can be said that the university made all the difference to their lives and career?

Mr. Markham: I agree; but we are living in a very harsh century and our survival may depend on making the best use of our pool of ability. I am not talking about the ideal: I am talking about the best ways of deploying our scarce manpower.

Dame Kitty Anderson: Do you find that some people come back after doing a job in industry, having found it unrewarding and wanting to get into teaching again?

Mr. Markham: It happens increasingly with scientists, especially in technical colleges. Some of the best staff are those who have had industrial experience and have found that teaching was their vocation. The solution of the problems of the bulge and trend depends very largely on providing teachers, particularly science teachers. I do not think there is the same difficulty on the arts side; the crucial need will be for scientists, and particularly mathematicians.

Chairman: Mr. Markham, we are very grateful to you for this discussion.

MEMORANDUM

submitted by

THE ROYAL INSTITUTE OF CHEMISTRY

28th July, 1961

As the Council of the qualifying professional organisation for chemists, we welcome this opportunity of submitting observations on various matters relevant to the field of enquiry of the Committee on Higher Education. We note with particular satisfaction that the terms of reference of the Committee relate not only to universities but also to other types of institutions (whether in England and Wales or in Scotland), for we believe that a closer correlation of the policies of the separate authorities concerned is essential to the proper development of higher education in science and technology in Great Britain.

1. THE BASIS OF OUR INTEREST

Our interest in this enquiry stems largely from the fact that the Institute has for over 75 years conducted its own examinations for admission to professional membership. These examinations, which are at honours degree level in chemistry, are now for admission to graduate membership (Grad.R.I.C.). The Institute is also concerned with assessing the standards of other qualifications, such as degrees and diplomas, on which complete or partial exemption from those examinations may be accorded. This concern extends back to standards of general and scientific education in schools, in relation to such awards as the General Certificate of Education at Ordinary and Advanced levels, and applies specifically to Ordinary and Higher National Certificates and Higher National Diplomas in Chemistry and in Applied Chemistry which are administered jointly by the Institute and the Ministry of Education (England and Wales) and the Scottish Education Department.

The Institute is also directly concerned with assessing the quality of postgraduate experience, gained in various fields of work involving the practice, application or teaching of chemistry, for admission to its corporate membership: first as an Associate (A.R.I.C.) and later, subject to attainment of professional maturity and responsibility, as a Fellow (F.R.I.C.). In such assessments account may be taken of the award of higher degrees of universities and higher diplomas, including the Institute's postgraduate Diplomas in Applied Chemistry and its recently established Research Diploma.

Moreover, the Institute has a special interest in the conditions of service and remuneration of professionally qualified chemists in various occupational categories, and keeps itself informed as to the needs of employing bodies for chemists with diverse types of training, qualification and experience.

2. QUALIFICATIONS IN CHEMISTRY AND APPLIED CHEMISTRY AT FIRST DEGREE LEVEL

In the field of chemistry there are several types of award of full graduate standard and diverse routes through which they may be obtained. The most important of these are referred to here in general terms.

(a) University degrees.—All the universities in Great Britain provide courses leading to honours degrees in chemistry (and several now do so in biochemistry). Most of these are of the 'special' honours type, with chemistry as the main subject but with physics and mathematics among the necessary ancillary subjects. Several also provide 'general' honours courses in which chemistry is one of two main subjects. (London University degrees of both types may also be taken 'externally' in technical colleges, but most of the courses, especially for part-time students, are now of the general honours type.) A few universities offer degrees on which honours may be obtained in chemical technology or certain fields of applied chemistry. In some universities there are courses

leading to other kinds of 'ordinary' or 'general' degrees in which chemistry is a principal subject, and there may be provision for students taking these to be selected to transfer or go on to a special honours course.

(b) Diplomas in Technology.—Most colleges of advanced technology and several other technical colleges now provide full-time or sandwich courses of honours degree standard for the Dip.Tech. in Applied Chemistry (some being so described, but others as Chemical Technology or Industrial Chemistry).

(c) Graduate Membership of the R.I.C.—Some 70 technical colleges (including all the colleges of advanced technology) have been specifically recognised by the Institute for the training of candidates to the level of its final (Part II) examination for Grad.R.I.C. which is at honours degree level. Five of these colleges are in 'special relationship' with the Institute; they conduct their own final examinations subject to external assessment by the Institute. The courses for Grad.R.I.C. may be on a full-time or sandwich basis (when the H.N.D. in Chemistry may be taken en route) or on a part-time basis, usually with day release. Many part-time students proceed by way of National Certificates in Chemistry, but they are being increasingly encouraged and enabled to transfer to full-time or sandwich courses for the later stages, especially after passing Part I of the Grad.R.I.C. examination or gaining exemption from it on the basis of a good H.N.C. in Chemistry. Examination results have shown the great value to students of having had a substantial period on a full-time or sandwich course.

Exemption from the whole of the Grad.R.I.C. examination is afforded by good honours degrees in chemistry (or, under certain conditions, in biochemistry or applied chemistry) of universities in Great Britain and Ireland, or by 1st or 2nd class honours in the Diploma in Technology (based on a course with an adequate content of general chemistry) or in any of the college diplomas, A.R.C.S.T., A.H.-W.C., and D.L.C. Most other degrees or diplomas afford only partial exemption, e.g. from Part I of the Grad.R.I.C. examination.

Under revised by-laws that have just been approved (subject to allowance by the Privy Council) it is proposed to establish a new grade of corporate membership of the Institute, to be known as Licentiatehip (L.R.I.C.), for admission to which the requirement will be the equivalent of a good 'pass' degree coupled with a period of approved experience in the practice, application or teaching of chemistry. This will provide for the intake to corporate membership of many holders of degrees or diplomas at a lower academic level than admit to Graduate Membership or Associateship, including (subject to compliance with appropriate conditions, covering the Institute's normal requirements as to general education, and physics and mathematics as ancillary subjects) holders of the H.N.D. in Chemistry and those who obtain the H.N.C. in Chemistry and extend their studies of chemistry and relevant technology for at least a further year.

The intention is that L.R.I.C. shall be a grade for professional scientists and technologists (as distinct from technicians) and it is hoped that its establishment will encourage many more to attain this status. Those who obtain Ordinary or Higher National Certificates or the H.N.D. in Chemistry or in Applied Chemistry but do not qualify for L.R.I.C. will provide a much needed supply of chemical technicians and assistants of various kinds (see section 4, below), but some of these may go forward to take the membership qualifications of such technological professional bodies as the Society of Dyers and Colourists or the Plastics Institute.

3. POSTGRADUATE QUALIFICATIONS IN CHEMISTRY AND APPLIED CHEMISTRY

Higher degrees of universities in the U.K. are awarded for research and/or advanced study carried out within the university. For research most universities accept only those who have obtained good honours in their first degrees (or latterly in the Dip.Tech.) but many will also accept those with other equivalent qualifications including Grad.R.I.C. Only holders of suitable first degrees of London University may be registered to work for higher degrees of that University externally in

technical colleges or other approved establishments. Registration for the Institute's Research Diploma (at Ph.D. level) is open to Graduate Members, Associates or Fellows of the Institute who undertake research work (part-time or full-time) in pure or applied chemistry in a technical college or an industrial or government establishment under an approved supervisor. On the applied side there is also the M.C.T. (Membership of the College of Technologists) awarded for research undertaken, mainly in colleges of advanced technology, in close association with industry.

4. THE NEED FOR QUALIFIED CHEMISTS OF VARIOUS KINDS

Diverse routes to a variety of qualifications of graduate standing in chemistry or applied chemistry are thus already available in several types of institutions. We believe that such diversity should be retained. Although we would not advocate the establishment of new types of institutions of higher education, we believe that there should be scope for the extension of existing types and freedom for them to experiment with and develop various kinds of courses and awards to meet the growing demand for qualified chemists and chemical technicians for diverse purposes.

Qualified chemists are needed not only for teaching at all levels—in schools, technical colleges and universities—and for research in institutions of higher education and in research institutes, but also in very large numbers for research, development and control of materials and processes in practically all fields of industry (including the nationalised industries) and in many government establishments (including those of the U.K.A.E.A.). The fact that chemistry is a basic science, occupying a central position among the branches of science and technology, means that chemists are required in a wide range of activities, extending on the one hand through biochemistry to biological, medical and agricultural science or to food technology, and on the other through physical chemistry and physics to chemical engineering, metallurgy, and the technology of fuels, plastics, textiles, etc. Indeed, many who graduated in chemistry have become technologists of various kinds. Many have become heads of educational or government establishments or directors or managers of industrial concerns.

In all these fields there is a demand—and indeed much competition—for chemists with the highest academic qualifications, but plenty of scope for those whose somewhat lower academic attainments are made up for by other desirable qualities. Thus, industry and the government service need more with good honours degrees or equivalent qualifications, especially for research—which may range from the fundamental to the specifically technological, but always involves a wide knowledge and understanding of scientific principles and ability to apply them to diverse problems and developments. Some of these organisations demand applicants with a Ph.D. degree for such posts, but others are not convinced as to the value of what may be a somewhat narrow and academic introduction to research and prefer to take on those with good first degrees; many would welcome more applicants with research experience covering a wide range of investigation and techniques as potential leaders of applied research and what may be described as pioneering technology. Parity of esteem with leaders of 'pure' research is needed to attract more of the best brains to these less academic fields of research on which the initiation of new industrial developments depends.

Moreover, there will certainly be a growing demand for people whose first degrees or equivalent qualifications have been of a more general kind than the well-established 'special honours' degree in chemistry. This requirement is being partly met by the provision of general honours degrees in two main science subjects in several universities (degrees that should be especially useful for school teachers as well as for scientists engaged in other types of work), and of honours degrees and Diplomas in Technology in various fields of applied chemistry. Extension of provisions for the Dip. Tech., especially in colleges of advanced technology, would seem to be specially desirable, and it is expected that introduction of the L.R.I.C. (see section 2, above) will have an important effect in

meeting some of these needs, especially by encouraging the provision of post-H.N.C. courses in such fields as modern analytical methods, radiochemistry, and the chemical technology of particular classes of materials and processes.

For those who are to be employed in industry or comparable fields of Government service, a period of industrial experience before or during their college training has advantages. Many full-time students in universities and technical colleges obtain some such experience through relevant vacation work, but the sandwich type of course provides this much more assuredly and has been widely welcomed since its introduction in the field of chemistry a few years ago. There is, however, scope for considerable expansion, especially perhaps for college-based students (as opposed to those who are employees of a particular firm and are released as such to a sandwich course), provided that adequate grants for the college period of training can be made available. More attention needs to be given to the nature of the training to be offered during the industrial periods of a sandwich course. The National Council for Technological Awards has been concerned with this problem (for Dip. Tech. courses), but little has yet been done for sandwich courses leading to other awards.

5. THE NEED FOR VARIOUS KINDS OF TECHNICIANS

In all fields in which qualified chemists are employed there is an increasing need for assistants and technicians of various kinds—perhaps 4–5 for every professionally qualified scientist or technologist in many kinds of occupation. Indeed, one of the great changes that has taken place since 1939 is the recognition of the vital need to produce large numbers of well-trained technicians as assistants in research laboratories and to relieve graduate chemists of the more routine work in analytical control laboratories.

This need is being increasingly met by the expansion of National Certificate courses in Chemistry and the growing tendency of students to qualify for endorsements in subjects relevant to the type of employment. With the advent of complex industrial processes with automatic control there is a demand for foremen and under-managers with much higher technical training than in the past. These may come from National Certificate courses in Engineering or from those in Chemistry or Applied Chemistry or from possible alternative chemical technician courses in which some of the more erudite theoretical chemistry is replaced by appropriate engineering or electronics. In any event, much depends on the effectiveness of 'training on the job' that is given to these part-time students. It has been suggested that the supply of chemical assistants and technicians in general could be greatly expanded if it were possible for every senior chemist engaged in laboratory work in a university or technical college to take on a suitable boy or girl from a secondary modern school for 3–4 years of training; some of these could then be made available to industry.

In teaching institutions at all levels there is a great need for an adequate supply of good technicians, including those of the laboratory steward type. Shortages of these in many schools impose a serious burden on science teachers and make it more difficult to recruit such teachers of appropriate calibre. For the training of these technicians the part-time courses in 'Laboratory Technician Work' offered by the City and Guilds of London Institute in conjunction with the Institute of Science Technology are of particular value and could be extended with advantage. Here again, training on the job is of special importance.

6. INSTITUTIONS OF HIGHER EDUCATION: CO-ORDINATION OF DEVELOPMENT

Universities.—We welcome the great expansion that has occurred and is still continuing in the provisions for degree courses of various kinds in universities, and the agreement to establish several new universities.

Colleges of Advanced Technology.—We are particularly interested in this development for, in 1950, we advocated the upgrading of a limited number (6–10) of



technical colleges to this level. At that time we were in favour of encouraging them to develop their own diplomas of Associateship as separate awards, each of which would have to earn its own esteem—as had long since happened with such diplomas as A.R.C.S., A.R.S.M., A.C.G.I., A.R.T.C. (now A.R.C.S.T., Glasgow), A.H.-W.C., etc., which still have a recognised status even where the college has become part of or affiliated to a university and students may obtain a degree as well as the college diploma. We now accept the establishment of the National Council for Technological Awards for bestowing a common award (Dip. Tech.) at honours degree level on approved courses in colleges of advanced technology and other technical colleges. There is, however, much to be said for C.A.T.s being allowed to award degrees, although it would still be desirable for these to be distinguishable from those of universities, e.g., the Dip. Tech. might be converted to 'B. Tech.', and the research diploma, M.C.T., possibly to 'D. Tech.', if obtained in these colleges (cf. B.Sc. Tech., etc., obtainable in the Manchester College of Science and Technology, which represents the Faculty of Technology in the University of Manchester).

In the meantime, we welcome the recent proposal to free C.A.T.s from local authority control, and should like to see them enjoy the academic freedom accorded to universities, with their income provided on the basis of quinquennial reviews by a body comparable with the University Grants Committee. It is admitted, however, that in so far as C.A.T.s acquire the status of university institutions there will be a case for affiliating them in some way with universities. But most universities in the U.K. already offer first degree courses in many technological fields, such as the main branches of engineering and metallurgy, and some do so in special fields of technology or applied science including some branches of applied chemistry (e.g., Leeds). This raises the question of how far it is necessary or desirable to retain or introduce separate courses of comparable character leading to different awards in universities and in C.A.T.s. Much will depend on how far there are differences of approach and of general atmosphere in the two kinds of institution. It is to be expected that the universities will keep a more academic approach even to technological subjects and that C.A.T.s will be more in touch with the industrial side, especially in so far as they are concerned with sandwich courses. But both require active science departments and staff and equipment of the highest calibre. It is assumed that, in any event, the number of C.A.T.s will not be allowed to increase unduly.

Other technical colleges.—Many of these have long established reputations for the training of candidates to honours degree level in chemistry for Grad. R.I.C. (formerly directly for A.R.I.C.) or External London degrees (now mostly by the General Honours course), and several have recently established courses for the Dip. Tech. in fields of applied chemistry. It is desirable that most of them should be encouraged to serve regional and local needs, especially for part-time courses. With the further development of full-time and sandwich courses, however, it may become possible to concentrate the most advanced work in chemistry in fewer colleges. At present there are many large new colleges with excellent facilities but very few students in the advanced classes. It would certainly be more economic to equip and staff fewer colleges for top level work, including the full-time course for the final stage of Grad. R.I.C., which it is desired to encourage further. This is dependent on suitable hostel accommodation being available.

Teaching and research.—It is regarded as of special importance that all who are engaged as teachers at the higher levels should have full opportunity and facilities for research. In universities and in C.A.T.s this is fully recognised and is generally effective. In many technical colleges, however, research is not being adequately prosecuted. Money is not always available and an allowance of time from teaching duties is often insufficient. Moreover, there has been a lack of a suitable higher qualification for a teacher who does not already possess a first degree of London University; the introduction of the R.I.C. Research Diploma and, in some instances, the M.C.T. award may help to remove this difficulty.

The provision of good research facilities is one of the major attractions of teaching posts in universities, and the question has been raised as to whether the emphasis on published research in making academic appointments ensures that the universities get a sufficient number of able and inspired lecturers. By no means all the most gifted research workers make good teachers, and it is important that a proper balance be struck between those whose primary interest is in extending the frontiers of knowledge and those who, while actively engaged in research, have a capacity for putting over to students the significance and implications of scientific advances. It might be helpful if more scope for advancement could be given to those who prove to be exceptionally good teachers.

General.—We believe it to be of the highest importance that there should be much greater opportunities for exchanges of ideas between universities, colleges of advanced technology and other technical colleges on their future developments so as to avoid unnecessary conflicts of purpose and wastage of effort. This is particularly significant in fields of science and technology where great expenditure on laboratories, workshops, and specialised equipment is involved, and it is no doubt a matter to which the Committee will give special attention.

7. TEACHERS IN SCHOOLS

It is generally agreed that the proper development of higher education in science and technology is dependent on finding means for overcoming the present shortage of good teachers of science and mathematics in grammar schools as well as in secondary modern schools. This shortage is particularly desperate in girls' schools and is a major factor in limiting the supply of women scientists and technicians.

It has been indicated to us that the prospect of using the recent extension to three years of courses for non-graduate teachers in Teacher Training Colleges for alleviating the shortage of science teachers has been dimmed by the declared intention of concentrating efforts initially on producing primary school teachers. Secondary modern schools will be hardest hit by this policy which, if maintained, may lead to the virtual cessation of serious science teaching in many of them.

For graduate teachers the practice of spending a year after graduation in the education department of the university is reported to be reasonably satisfactory. But for those who enter a university with the firm intention of teaching, consideration should be given to extending the experiment at Keele of integrating teacher training with the degree course.

It has been suggested to us that a degree (B.Ed.) should be awarded on successful completion of an appropriate 3-year course at a Teacher Training College. This would seem to be worthy of consideration.

8. CO-ORDINATION WITHIN THE WHOLE EDUCATIONAL SYSTEM

Whatever may be the future pattern of higher education, a continuing need will be to provide effective machinery to ensure that young people are enabled to proceed from school to the type of further education that is suited to them, and from which they will derive the greatest benefit. We also attach special importance to provisions for transfers between various kinds of courses in institutions of higher education, where this is desirable to correct initial errors of selection or to allow for the diverse ways in which students develop.

It cannot be assumed that everyone who obtains two or more passes at A level in the G.C.E. would succeed in getting a good honours degree if he went to a university. Nor should it be assumed that those who do indifferently well in the 'special' honours type of course provided by most universities would not have benefited more by taking a more general type of course, such as that leading to a general honours degree, which may be of equivalent overall standard but involve rather less capacity for understanding abstract theories and their mathematical implications. There is little doubt that many with a less academic turn of

mind would have profited more by taking full-time or sandwich courses leading to awards of honours degree standing in technical colleges, especially in colleges of advanced technology, for the Dip.Tech. in Applied Chemistry or for the Grad.R.I.C. in Chemistry. Others might be better advised to proceed straight from school to employment, and to take part-time courses for the H.N.C. in Chemistry, which may be either an end in itself or may lead through further courses to L.R.I.C. or, by way of Grad.R.I.C., to A.R.I.C. An increasing number of school-leavers with appropriate A level passes are following this route, at least as far as the H.N.C. Those who are able to go further are encouraged to transfer to a full-time or sandwich course for the later stages. Moreover, opportunities already exist for transfer at the O.N.C. stage to Dip.Tech. or external London general honours degree courses in technical colleges, or even to go to universities.

The first requirement is that there should be full information about the various routes to qualification available to the schools and to pupils and their parents, so that boys and girls who are interested in going on with chemistry may take such appropriate subjects in the G.C.E. or the Scottish Certificate of Education as will enable them to qualify for entry to universities or technical colleges, and to fulfil the preliminary requirements of the professional body. The university route to a qualification is well known and 'popular'. Applicants for places in the chemistry departments of universities are in excess of the number of places available, but there are many courses of degree level in technical colleges that have barely enough students to justify their continuance. The alternative possibilities must be made more widely known.

We believe that much closer relations need to be established between schools and universities, to ensure that the content and pattern of VI form courses may be developed on lines that will serve the best needs of those going on to universities. At present the VI form courses in grammar schools are largely influenced by the requirements of the universities for G.C.E. A level subjects, through examinations set by the various Examining Boards. Recently the Science Masters' Association and the Association of Women Science Teachers have put forward proposals for a drastic change, not only in the content of, but also in the approach to, science teaching in schools, and are feeling the lack of effective machinery for getting revised syllabuses discussed with teachers in the universities, so that these may be introduced into the examination system under agreed conditions. This type of problem is likely to arise from time to time, and we believe it to be of great importance that something should be done to provide for regular interchanges of views between teachers in schools and those in universities and other institutions of higher education (which both parties would probably welcome), so that the whole system may be integrated and kept in line with modern requirements. Much is being done in this direction in other countries for science teaching, and there is no shortage of ideas in this country: the difficulty lies in passing them across the barrier between the schools and the universities.

Selection procedure.—It is highly desirable that university selection procedure should be improved, and that the system should be extended to cover entry into technical colleges, or at least into colleges of advanced technology, where some applicants might be more appropriately placed. It is appreciated that there are difficulties in organising effective selection procedure on a wider basis. Even at present, where universities only are concerned, the problem of sorting out multiple applications is a serious one. Moreover, G.C.E. A level results may not be available in time, and selection must be based on interviews and reports, or on the results of an extra (3rd year) spent in the VI form. Holding A level examinations earlier, with results available by the end of May, would be a good answer if the selection procedure could be deferred to early summer. This is a general problem that will become more pressing as greater numbers of good VI form pupils seek entry to an increased number of universities and other institutions for higher education.

In so far as the selection procedure for entry to universities and technical colleges is based on passes in appropriate subjects at specified levels in the G.C.E. or the

Scottish Certificate of Education, it is bound to be imperfect. Moreover, students themselves develop diverse aptitudes at different stages. We believe, therefore, that there should be more scope for students to transfer from one type of course to another, or even from one kind of institution to another, if this seems to be desirable at a particular point. Thus it might be desirable to re-assess the position of university students after the first year, and to decide then if they should proceed to a special honours course, or go forward to some more general type of degree course, or even be transferred to an appropriate course in a college of advanced technology, or other technical college. Our concern is that not only those who initially set their sights too low, but also those who set them too high or in the wrong direction, should be able to correct the position. Otherwise neither may be able to make the best of their abilities in their own interest or in that of the country as a whole.

The Institute also submitted a reply to a Committee questionnaire of 4th July, 1961, circulated to certain professional institutions.

ORAL EVIDENCE

given by

Sir William Slater and Dr. H. J. T. Ellingham

on behalf of

THE ROYAL INSTITUTE OF CHEMISTRY

Wednesday, 27th September, 1961

Chairman: Sir William, you have given us in your written evidence a splendid conspectus of the field which the Royal Institute of Chemistry covers. Would you care to summarise what you said in terms of recommendations for administrative action?

Sir William Slater: I should say first that a great deal of the credit for this document goes to Dr. Ellingham. One of the points which has emerged from discussion in the Institute is the need for different types of chemist. While the special honours degree provides for the high flier, others who find it difficult to absorb the more abstruse parts of the chemistry curriculum either get poor seconds or third class degrees, or even fail. If they could go into a course somewhat wider in character they would become much more useful people. They would have a full understanding of what they had studied rather than have struggled to understand what was somewhat beyond them. It is for that reason that the Institute has introduced its new grade of Licentiate; this award will be given to men holding pass degrees, with suitable recommendations. Although he may not be able to rise to the heights of the special honours degree such a man may make, for example, a very good teacher. In fact my own view is that sometimes the man who has had to struggle to understand is better able to explain to other people than the man who has not. If more provision could be made either in the universities or in the technical colleges for training, say, the good works chemist, the first class analyst and the teacher, it would be of major advantage to chemistry as a whole.

The other group which we are concerned about are the technicians. The training of technicians is very important, and we should like to see it encouraged as much as possible. Professors in the universities complain,

and quite rightly, of the shortage of technical assistance. If there could be an apprenticeship scheme under which boys and girls went to university departments for two or three years, worked as technical assistants and at the same time attended part-time courses for the National Certificate or other awards, this would provide a source of technicians for industry and the research laboratories, and at the same time would give the universities the additional help they need. This is of course a difficult question because it involves university finance. As some of our members pointed out, the money for such a scheme would have to come out of the university department's budget.

Another point which we have mentioned is that there should be the maximum provision for interchange between the universities and the technical colleges. We think that there is wastage here of valuable people. A man who had been admitted to a university and found he could not manage the honours course should be able to transfer to a more practical kind of course in a technical college. Conversely, the man who started in a technical college and then showed outstanding ability should be able to move across to a university. This is, however, a complicated problem and would be difficult to administer.

A point which follows on this concerns the allocation of students between the universities and the technical colleges. I have discussed with many Vice-Chancellors the difficulties of allocating students as between universities and am well aware of the extent of the problem; I realise it is even more difficult to distribute students between the new Colleges of Advanced Technology and the universities. It would, however, be very valuable if some machinery could be devised to route students in the right way.

Chairman: You have no suggestions as to how it should be done?

Sir William Slater: I wish I had. One of the major factors is the timing of the Advanced Level examinations. The results are not usually out until it is too late to do much. If the results were out earlier it might be possible to have a central register on which students could state a preference and from which they would be allocated if that preference could not be met. In this way the universities would have an idea of the number of students they were going to receive and those who could not get into a university could be offered a place in a technical college.

Chairman: Would it, in fact, be ideal that technical colleges should be regarded, so to speak, as residual legatees?

Sir William Slater: Some applicants would give technical colleges as their first choice because they wanted to be scientists with a definite technical bent. A number of people would do much better in the training of a technical kind, in which they saw the practical application of what they were going to do, rather than in study of the more academic aspects of chemistry. May I now ask Dr. Ellingham if he has anything to add to what I have said?

Dr. Ellingham: The difficulty in producing our memorandum lies in the fact that we have a council composed of chemists who are in universities, technical colleges and schools, industry, government service and private practice. Each is naturally interested in the aspects of the subject which affect his own affairs, and it was not easy to arrive at a statement which was acceptable to all parties. It is for this reason that we found it hard to make clear recommendations and have had to content ourselves with pointing to the subjects which we hoped were relevant to this Committee's thinking. The point which runs all through our statement is the desirability of finding the right niche for those who could be valuable in one or other field of chemistry. In my experience of some twenty-five years at Imperial College I have been struck by the lack of information in schools

as to what alternatives are open to a boy. He knows about chemistry, physics and mathematics, and in these days biology, but he does not know in general what alternative courses he could take or how to set about it. Getting the information over to the schools remains a task of major importance, even though a good deal of effort is being made to do so.

Chairman: Is your Institute satisfied with the standards prevailing at the highest level in chemistry at present? How do our requirements compare with the requirements in other leading countries?

Dr. Ellingham: The product of the universities, and indeed also, so far as they have gone, of the Colleges of Advanced Technology, is very good and at the highest level. We are concerned rather, about those who tackle these advanced courses but do not quite match up to the requirements; those who might have become more useful if they had set their sights rather lower or differently. The fetish of the special honours degree is particularly established in chemistry. All the universities in the United Kingdom provide similar courses for a special honours degree in chemistry; for the best people they are admirable. But the spread of the general honours type of degree is, in our view, desirable. The University of London used to have a three-subject general degree and has now replaced it by a two-subject general honours degree in which the two main subjects are taken to a fairly high level but are not quite so demanding in the more esoteric aspects of the sciences concerned.

Mr. Elvin: Was that a good step? Or do you think that two subjects in a general degree provide too narrow a course?

Dr. Ellingham: We think it is a good step, because although this general honours degree has two main subjects, they are buttressed by ancillaries. A man who has obtained honours in a general degree in, say, chemistry and physics, or chemistry and physiology, is very valuable, and I think industry, as well as the teaching profession, has become interested in this type of graduate.

Chairman: Do professors of chemistry share this view, or is there a tendency to wish their students to take more specialised courses?

Dr. Ellingham: There is very little evidence on this; where these courses exist, professors of chemistry are, I think, pleased, and more universities are tending in this direction.

Sir William Slater: My personal impression is that if a boy studies chemistry he tends to think he is not a success unless he sees a Fellowship of the Royal Society and fundamental research as his target, and that if he does not progress in that direction he thinks he is a failure. A short time ago I saw some figures which Sir Alexander Todd had prepared. He took the total number of graduates in chemistry in the United States, which was of course much greater than our number; then to took the number of graduates from the colleges which are accepted in American scientific circles as being of the standard we would accept, and the comparison with our figures, when due allowance was made for difference of population, was then very close. This means that the United States are producing a very large number of people who are just below our honours degree standard, but who are extremely useful in all branches of industrial work and teaching.

Dame Kitty Anderson: If there were an extension of these general degrees, how much extension of laboratory space and capital expenditure would be involved?

Dr. Ellingham: I think the universities should answer that question. I can only say that when the London special chemistry degree was made more difficult, mainly by making two years of physics and one year of mathematics compulsory, those who were teaching in technical colleges for the external degree found that it was very difficult to manage other than on a full-time basis; they have welcomed the general degree. The numbers who get first or second class honours in the London general honours degree are still quite small.

Sir David Anderson: In Part 6 of your document you refer to the importance

of greater opportunities for exchanges of ideas between universities, Colleges of Advanced Technology and other colleges. Have you considered any machinery by which this could take place, with co-operative planning to avoid unnecessary duplication?

Dr. Ellingham: There is now a Committee of Principals of Colleges of Advanced Technology, which would seem to be a possible basis for consultation with the Committee of Vice-Chancellors.

Sir David Anderson: Do you think voluntary contact at that level would produce results?

Dr. Ellingham: I think it may. The other technical colleges feel that the C.A.T.s are almost closer to the universities than to them.

Sir David Anderson: What do you think the C.A.T.s should become?

Sir William Slater: I am personally in favour of such colleges being associated in some way with a university.

Mr. Elvin: Do you think there might be a relationship analogous to that of the teachers' training colleges with the universities? Should each university take a degree of responsibility for the whole of technical education in its region?

Sir William Slater: That would require a great deal of thought.

Dr. Ellingham: We think the C.A.T.s should remain small in number, but if they are doing work at the level for which they are intended they could well be affiliated to the local university in some way. My impression is that they think they have a new rôle to play, and perhaps they are right.

Chairman: Some of the evidence before us suggests that, although they certainly want to be regarded by the public as having the same status as universities, they would not wish to be cut down to the procrustean bed of existing university procedure.

Sir David Anderson: Do you think their awards should replace the London University external degree?

Dr. Ellingham: We have agreed with the National Council for Technological Awards that they will not

award the Dip. Tech. in pure chemistry; that they will only award it on a course which is recognisable as applied chemistry or technology.

Sir David Anderson: There would be papers involved which would not be offered in a London external degree?

Dr. Ellingham: That is so. In so far as the London external degree is moving towards the two-subject course it has a rather different concept from that of the Dip. Tech. course. We, the Institute, accept first or second-class honours in the field of applied chemistry as a complete exempting qualification, provided we are satisfied that the Dip. Tech. course has a sufficient content of chemistry. The college submits a course to the National Council, which accepts it; then the college submits it to us and we sometimes say that for our purposes it has insufficient content of chemistry. The college may then change the curriculum, and it can happen that the National Council then considers that it has not sufficient technological content. But on the whole the colleges strike a reasonable balance: in fact only one of the Dip. Tech. courses so far submitted has not been accepted by the Institute, and that was one they did not expect to have accepted.

Sir David Anderson: How do you envisage the future of the Higher National Diploma, which is not much below the level of the Dip. Tech.?

Dr. Ellingham: It is a year of full-time study below the Dip. Tech. The Engineers, of course, have used the H.N.D. for a long time, but it is new in our field; it was introduced only a few years ago and I think there are not more than a dozen or twenty chemists who have qualified for it.

Sir David Anderson: Would you equate the Higher National Diploma with your Licentiate and give exemption from the Licentiate examination?

Dr. Ellingham: That is the plan, subject to compliance with requirements as to general education and ancillary subjects, approval of the H.N.D. course and experience in practice.

Sir David Anderson: So that the Licentiate would be about pass degree standard but still professional?

Dr. Ellingham: Yes.

Sir David Anderson: What proportion of your members gain admittance with exemption from examination and what proportion take the examination directly?

Dr. Ellingham: About two-thirds are admitted with complete or partial exemption.

Sir David Anderson: Would you like to see that extended? Would you expect that the rise in the standard of education would enable you to admit more members with full or partial exemptions?

Dr. Ellingham: In recent years the proportion who have come in by taking our own examination has been rising.

Sir David Anderson: In most other Institutions the number has fallen, I believe.

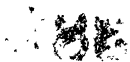
Dr. Ellingham: This is because in our case the number who are qualified to come in by exemption has been less than we would wish. We are concerned that the proportion of honours graduates and other qualified people who elect to come into our Institution is not as great as it used to be.

Sir David Anderson: The absolute numbers are possibly higher but the proportion less?

Dr. Ellingham: That is true to a great extent. It is partly due to our introduction in 1956 of a system whereby the honours graduate can be elected as a graduate member but cannot become a corporate member until he has had a period of approved experience.

Sir David Anderson: Is there a shortage of chemists in industry especially at the technician level?

Sir William Slater: In my view there is a definite shortage of all chemists. We know, for example, that the chemistry students in universities are offered appointments in industry before they have taken their degrees, but it would be difficult to describe the shortage numerically.



Sir David Anderson: Has the Institute collected any figures?

Dr. Ellingham: No. Before the war anyone who was working in a chemical laboratory was either a graduate or a bottle washer. There was no N.C.O. level. It is the filling up of this N.C.O. level, under the pressure of the shortage of graduate chemists, which has transformed the position in industry. Firms which have large control laboratories are now very largely staffed with people who have National Certificate qualifications, supervised by someone who is professionally qualified.

Dame Kitty Anderson: Are women chemists being used fully in industry, or could many of the jobs they do be done by less qualified people and the women be attracted into the schools where they are badly needed?

Dr. Ellingham: The number of women who take degrees in chemistry is not very large. Like the boys, the girls who take science courses do not make up their minds initially what they expect to do. Teaching is attractive or can be made attractive. Industry is not on the whole very attractive, but there is great need for girls, especially at the technician levels, in industrial laboratories such as those connected with food.

Sir William Slater: In my view industry often does not use women to the best advantage because the industrialist has at the back of his mind the thought that a woman may have a period of training, do very well, and then leave to get married; he then has to start again. Conversely, it is difficult for a woman who has married, and perhaps had a family, to go back, except in a junior capacity.

Mr. Elvin: If, as your memorandum suggests, there were more concentration of advanced courses in technical colleges would it be disadvantageous to the part-time student who can only go to the nearby college?

Dr. Ellingham: I think the trend will be to retain part-time courses up to the Higher National Certificate level and to encourage the transfer of students to full-time or sandwich courses for more advanced work.

Under such an arrangement the student becomes more mobile, and is not tied to his particular locality. There are still no less than seventy technical colleges which are training students for our final examination; we tried to cut the number down but found it difficult to do so for the reason you have mentioned.

Sir William Slater: There is one other point in our document which we should mention. We have among our fellows and corporate members a large number of schoolmasters, who have made considerable representations to us about the need to reform the school syllabus in chemistry. They think it is often out of date and that young people have to begin to learn again when they go to the university. One of the difficulties seems to be the lack of co-ordination with the examining boards for the General Certificate at Ordinary and Advanced Level. The boards set the syllabus which, in the view of many chemists, is out of date. There should be some better machinery by which the examining bodies re-assess the syllabus from time to time to bring it into line with modern developments.

Dame Kitty Anderson: There are teachers' representatives on all the examining bodies and teachers are asked after public examinations to submit their comments on the examination papers.

Mr. Elvin: I am reminded of the remarkable effort made recently by M.I.T. and Professor Zacharias in preparing a model textbook of physics. Would it be within the purview of a body like the Institute to initiate the preparation of a new textbook?

Dr. Ellingham: The Science Masters' Association, jointly with the Association of Women Science Teachers, have drawn up a new syllabus. This is a new approach, and it has been done for chemistry, physics and biology. It has reached the stage where some trial runs have been made in certain schools on the new physics syllabus. Many organisations have taken an interest, including the Royal Society and the examining boards. The Science Masters' Association have

been very much interested in what has been happening in America, and think that the Americans have better facilities for tackling the problem. It is, of course, one thing to draw up syllabuses but another to draw up training guides and provide refresher

courses for teachers who are to handle them.

Chairman: Sir William, we are very indebted to you. Our conversation with you and Dr. Ellingham has been most helpful.

MEMORANDUM

submitted by

THE INSTITUTE OF ACTUARIES

6th July, 1961

The Institute is appreciative of the invitation which has been extended to offer Evidence to the Committee and, having regard to the nature of our interests and the scope of the enquiry, we are inclined to feel that the best course open is to base our evidence on the booklet entitled 'The Actuarial Profession'.

This booklet is intended to summarize the training and work of actuaries in England—in Scotland the professional body is The Faculty of Actuaries, 23 St. Andrew Square.

The actuarial profession is relatively small and the majority of our new recruits enter directly from school, but we attach considerable importance to the number of graduates entering the profession, usually in the region of 20 per cent. to 30 per cent. of the total entry, and we thus welcome the opportunity to express views, even though it might perhaps be inappropriate for us to express any very decided views.

We have observed the references in the Press to the problems recently emphasized by Professor Thwaites affecting the teaching of mathematics and, quite independently, we had undertaken a review of the probable requirements of actuaries in the future. The difficulties of precise numerical assessment may prove to be quite severe, but we welcome the references at the end of Section 5 of the Note on the Terms of Reference to the broader implications of higher education.

As to progress through our examinations, we notice a marked difference between university graduates and school-leavers; the former probably qualify in about two-thirds of the time taken by the school-leavers. Recent changes in our Examination Syllabus make it impossible for us to be precise in this matter, though we watch the figures year by year very closely. Whether this difference is to be attributed to the following reasons is a matter for conjecture:—

1. The processes by which university entrants are now-a-days selected.
2. The extent to which university graduates find it easier to tackle professional examinations, as the result of the methods of study to which they have become accustomed.
3. The closer degree of application to professional studies by those in their early 20s rather than in their late teens.

You will notice that we have not included in the foregoing paragraph any reference to the subjects actually studied at universities—our examinations call more for a facility in mathematics, rather than for the skill acquired at a university. We hasten to add, however, that there are many opportunities after qualification for the use of skill in Pure Mathematics.

Of the points which appear on page 2 of the Note entitled 'Scope of the Enquiry', we wish to offer comment only on the four following:—

(a) So far as point (v) is concerned, the main matter of importance, both to the Institute and prospective employers, is not so much the age at entry, as the need for entrants with liberal educations—there is very little scope for the narrow specialist within the actuarial profession.

(b) Arising out of point (vi) attention is drawn to page 21 of the enclosed booklet and, in particular, to the special arrangement with the University of London in respect of the B.Sc.(Econ) degree. This arrangement has been in force for about 12 years and has perhaps proved a little disappointing in terms of aggregate recruitment, though it has provided us with a number of valuable individual recruits.

(c) Under heading (vii) though we have a small number of fully qualified women members the scope for them in the traditional fields of employment of actuaries is rather limited.

(d) Under heading (viii) we have reservations about the practicability of re-educating and re-training older people in so far as the actuarial profession is concerned.

(Signed) G. V. BAYLEY,
Honorary Secretary.

The following supporting document was also submitted :

'The Actuarial Profession'. A short description of the training and work of the actuary. (Institute of Actuaries, 1960.)

ORAL EVIDENCE

given by

Mr. J. H. Gunlake, Mr. G. V. Bayley, Dr. B. Benjamin

and Mr. N. Benz

on behalf of

THE INSTITUTE OF ACTUARIES

Friday, 29th September, 1961

Chairman: We have read with great interest the information which you have furnished. Our chief interest, as you will understand, is in the relation of your activities to the structure of higher education in general. We should like to question you about comparative standards, and also like to enquire about the future of your profession and its relation to higher education.

Turning to the first of these questions, the matter which is of special interest to us is the connection between your examinations and examinations in the universities. You have certain arrangements which permit exemptions of people who have taken certain university degrees, and you have an exemption arrangement with London University. Would you expatiate on the way in which these arrangements have worked, how graduates have entered your scheme, and whether the work of university students seems to be appropriate?

Mr. Gunlake: May I first introduce my colleagues. Mr. Bayley is our Honorary Secretary; Mr. Benz is Chairman of our Recruitment Committee, and also Chairman of the Text-books Committee, which is a joint committee with the Faculty in Scotland; Dr. Benjamin is Chairman of our Education Committee which has charge of the whole of our educational system and our examination arrangements. This Committee has two sub-committees, the entrance sub-committee concerned with admission or exemption at the preliminary level, and the graduates exemption sub-committee. The matter with which you opened the proceedings is one that Dr. Benjamin is best qualified to speak about.

Dr. Benjamin: At present about fifteen or twenty graduates a year enter our profession; they are a valuable

minority, and we should be glad to increase their proportion of our total numbers. We try to help graduates through our examinations by giving them certain exemptions on the grounds of their having learnt one of the preliminary subjects of our examinations, namely mathematics. Although ours is essentially a practical profession, we aim at having an important basic element of mathematics in our training. If a university graduate has acquired this, we give him exemption from our preliminary mathematics examination; and in respect of certain other degrees, mainly those connected with statistics, we give exemptions from the statistical part of our examinations on the basis of the graduate's record in university examinations. Some exemptions are almost automatic. In particular, with your own university, Mr. Chairman, we have an arrangement whereby if a graduate takes a special degree with a bearing on actuarial statistics, we give him more extensive exemptions from the statistical and from some of the actuarial parts of our examination.

Chairman: Am I right in detecting in your memorandum a note of disappointment with that arrangement?

Dr. Benjamin: Yes. A graduate may get exemptions from those parts of our examinations which he has covered in his university degree, but he finds that we have a rather different approach and that he does not necessarily sail easily through the remainder of our examinations.

Chairman: Could you illustrate that?

Dr. Benjamin: Yes. He learns at the university, for example, how to calculate a life table, which is a somewhat mechanical arithmetical process; he learns some part of the practical

aspect underlying the calculation of a life table, that is to say, ascertainment of the number of people who are at risk ; this is sometimes a somewhat difficult problem. But when he comes on to later parts of the examination where he has to make judgments, where it is not a question simply of solving a mathematical equation, he reaches the real test of his ability.

Chairman: 'Judgment'? May I ask what kind of judgment?

Mr. Gunlake: May I illustrate that in another way? A doctor has to have a certain number of years of clinical experience in the wards. We have a counterpart to that, which includes experience in matters involving personal judgment, as distinct from knowledge or intellectual capacity ; personal judgment involving decisions to be taken, for instance, with a pension fund.

Chairman: How do you teach this judgment?

Mr. Gunlake: It is practical experience in the wards, to go back to my illustration. The vast majority of our undergraduates are employed in life assurance companies, and learn as they go along, by watching their elders. One cannot teach the quality of judgment.

Chairman: Would the questions in your examination relate to that sort of matter? Would there be a question, for example, on what in their judgment is likely to be the level of long-term rates of interest in Germany in the year 1975?

Mr. Gunlake: We ask questions of that kind. One of our peculiarities is that we give our Fellowship by examination. Many professions grant associateship by examination and fellowship later, on proof of practical experience for a certain number of years in a certain branch of the profession. We give our Fellowship by examination only, and it is for that reason among others that we include the practical aspects of our subject in our examinations.

Mr. Benz: You asked how we strive to teach this quality of judgment. We have free-for-all discussion classes on these advanced topics, and we set papers

which give candidates the opportunity to show the sort of standard of judgment we are looking for. For that reason we are not unduly sorry when the proportion who pass the advanced examinations is rather low ; it is what we must expect. We are, however, disappointed when we see low percentage passes in other examinations by candidates who have already been tested a number of times.

Chairman: You find that you can elicit this quality by written examinations prepared for by years of experience rather than by purely academic pursuits?

Mr. Gunlake: We have misled you if that is the impression. We also acquire this quality of judgment another way. We are a very small profession, and we are highly concentrated in and around London, with another group concentrated in and around Edinburgh. We know one another, we meet together frequently ; we have discussions in our Hall, and there is a close collegiate atmosphere. Most of our tuition is by correspondence course, and the students are in jobs, in life offices, or somewhere where actuarial techniques are being used, so that, parallel with their reading, they are getting practical tuition from qualified colleagues. In the earlier stages the examination questions are of a problem-solving character. As they progress there are fewer problem-solving questions which can be done simply on the basis of technique, and more questions which confront the student with a practical situation, questions to which the answers cannot be learned directly from a textbook. In the same way the reading for examinations progresses from mathematical textbooks to papers which have been read to the Institute by experienced actuaries, which have been subjected to discussion at the Institute, and have been published in our journal. We emphasise that students reading these papers should read the important discussions which follow them. We confer Fellowship entirely by examination, and we seek to test a man's practical qualities by examination. Nevertheless, a newly-qualified Fellow is not let loose on the world straight away. Most of them are in life offices where there

is a hierarchy of command, and in consulting practice we would not let a newly-qualified Fellow loose on a client on his own until he had been qualified for at least ten years. In other words there is a long period of postgraduate absorption.

Chairman: Would you welcome more graduates if university courses were attuned to your conception of the requirements of the profession?

Dr. Benjamin: I think the answer is unreservedly yes.

Chairman: Have you found the universities recalcitrant in this way? The School of Economics in London has made a special arrangement with you. Have other universities showed themselves indifferent?

Dr. Benjamin: We have not approached any other universities, or asked them to modify their courses in any way.

Chairman: You have no such arrangement with the University of Cambridge?

Dr. Benjamin: Although we do not have with Cambridge quite the same arrangement as with the London School of Economics, we give extensive exemptions to those who take the Diploma in Statistics at Cambridge; we have, however, no arrangements with the Cambridge Department of Economics.

Dame Kitty Anderson: Have any of your graduate entrants degrees in subjects which would not give exemptions from your examinations? Are other graduates likely to be attracted to your profession?

Mr. Benz: We have looked into that question and we are inclined to think that there is no great likelihood of attracting other graduates. Among the present graduate Fellows of the Institute there are certainly very few who took their degree in a non-mathematical subject.

Dame Kitty Anderson: Of the few women who have come into the profession how many have come from the universities?

Mr. Benz: The few women we have almost all come in from the schools; there are one or two from universities.

Mr. Shearman: Where do your students have the opportunity to study for your examinations?

Mr. Benz: Some offices arrange for study to take place on their own premises under supervision. Other offices make use of the facilities offered at the Institute of Actuaries' premises.

Mr. Shearman: They do not make use of the public education system in any way?

Mr. Gunlake: No. I do not think we find any pressing need for this, because we have our own facilities.

Mr. Shearman: And, as far as you can foresee, you will continue this system?

Mr. Benz: Yes.

Miss Gardner: What is covered, in the context of your profession, by the term 'wastage'? How many of those who drop out do so because they fail as compared with the number who give up because they want to do something else? In other words, what sort of proportion have you of failures, and what proportion of deserters?

Mr. Gunlake: Many applicants for admission to the Institute, or for exemption from the Preliminary Examination, never follow up their applications. Of those who do, and who present themselves for one or more of the main examinations, up to one half may withdraw without qualifying as a Fellow of the Institute. The early stages of the main examinations are essentially intended to select candidates who possess qualities which can be developed to make a good actuary, and the bulk of those who withdraw do so at an early stage. Only a relatively small proportion of those who make reasonable progress in the early stages do not subsequently qualify.

Miss Gardner: Are you recruiting enough people to your profession? What are likely to be the needs of the profession in the future?

Mr. Gunlake: We have supplied figures indicating the possible demand for about fifty new Fellows a year in the next ten years; you will appreciate

the difficulty of making such an estimate. We have been admitting about thirty new Fellows a year. We have made a study of candidates now training and it seems that the number of new Fellows in the next three years may be of the order of forty a year. We are thus faced with a situation which is not unduly alarming, and my Council has therefore asked the Recruitment Committee to proceed at approximately its present level of activity. Personally, I view the prospect for the future with some apprehension in view of the insatiable demand of industry for scientists and the fact that the university engineering graduate, for example, can go straight into industry at a salary of £800 a year and need not spend more time on further professional training and examinations. Moreover, there is no particular romance about what we do. We do not split atoms, we do not send up space men. In my view we shall be faced in the years to come with severe and increasing competition in recruitment.

Mr. Benz: We must not abate our efforts but, as you will understand, the structure of the Institute is such that there are clear practical limits to the efforts we can make.

Miss Gardner: Do people feel that, having got their A.I.A., they have failed if they do not go on to F.I.A.?

Mr. Benz: Yes.

Miss Gardner: Does that mean that some who might go on to F.I.A. do not start because they feel it would not be worth achieving the smaller goal?

Mr. Benz: One point I make to the intending candidate is that he must look at the whole set of examinations and decide that he is going to try to pass them all, and do so within a reasonable space of time.

Sir Patrick Linstead: Do you think the evening work is itself likely to become a disincentive? Have you considered any alternative possibilities?

Mr. Gunlake: We have not given it much attention so far. Evening work has been a feature of our activities since we started in 1848.

Sir David Anderson: Are there any changes in the pattern of higher education which would be beneficial to the profession, and through the profession to the country as a whole, or are you entirely satisfied so far as your profession is concerned with the present system?

Chairman: Perhaps you would include sixth form education in your reply?

Mr. Gunlake: We would welcome more sixth form education and welcome more universities if we could secure some recruits through that channel. We look with great favour on university graduates because they pass our examinations more quickly and are of better quality than other entrants.

Mr. Benz: My personal view is that a recognised university course which included a full knowledge of calculus together with statistics, economics, English, and possibly one other subject, would be very welcome.

Sir David Anderson: Is that something a College of Advanced Technology might offer?

Mr. Gunlake: This is a question we have not discussed. We have at present to do the best we can with the situation as it stands. You realise that we are a self-educating body. We write our own textbooks, we do our own research, we tutor our people, we examine them all; this is an enormous burden on our small resources of manpower. There are about 700 non-retired Fellows.

Mr. Shearman: Is there any way in which you can avoid, in a rapidly changing world, the possibility of stereotyping the approach to your profession by, for example, the regular revision of your textbooks?

Mr. Benz: We ask ourselves that question every year. The background to our subject changes, and thinking in relation to the best method of teaching the subject alters. Indeed I interpret it as one of my duties as Chairman of the Joint Textbook Committee of the Institute and the Faculty to restrain those members who want to set about re-writing our textbooks too frequently; re-writing is a very heavy burden on us both in terms of manpower and money.

Mr. Gunlake: Mr. Benz is being over-modest in this matter. Although we cannot constantly re-write our textbooks, we are an intellectually restless group and we are always digging ourselves up by the roots.

Chairman: May I revert to the fundamental question to which I referred at the outset and on which we touched earlier? We should like to know how you would conceive the future evolution of your profession. What is likely to be the demand for trained actuaries? Do you find that the shape which is being assumed by modern industry and finance suggests that there will be a growing demand?

Mr. Gunlake: In the world of life assurance, where the majority of our members are still employed, there have been a number of mergers recently, but there have been many mergers in the last two hundred years and the number of actuaries has nevertheless gone on increasing. I would not regard that future possibility with any great qualms. In the consulting branch the numbers are increasing. Further, a substantial number of actuaries have now gone into non-traditional fields; about seventy are working on the Stock Exchange, in industry and elsewhere. It has been found that our particular type of training is useful in many walks of life. I would envisage that process as increasing.

Chairman: Does not the advent of the computer introduce new complements to your training?

Mr. Gunlake: I think the computer will have a profound effect on our work, not simply in the sense that it will assist us to do things easily and quickly, but it will enable us to do all kinds of things we have not been able to do before. I hope it will lead to considerable developments in all our basic techniques and to many new textbooks.

Dr. Benjamin: We regard it as a post-examination subject at present, but we have written papers on the effect of computers on our work, and there is a study group currently in the Institute which keeps us informed of developments in this field.

Mr. Elvin: Many people attach much prestige to degrees; they want a degree

rather than a diploma from a C.A.T., and they want a degree rather than a professional body's licentiate or fellowship, and so on. Do I take it the actuarial profession on the whole is not in that group, that you are satisfied that the universities should look after pure mathematics and that your profession should provide the rest of the education and training necessary?

Mr. Gunlake: Broadly speaking, yes. We would, however, like to have a larger share of mathematics graduates.

Chairman: If there were an opportunity to establish a university chair devoted to actuarial studies would you be inclined to welcome it?

Mr. Gunlake: We should want to think very carefully about it. Our first step would probably be to make a more intensive study of the position in Scandinavia, where that situation exists.

Mr. Benz: My first reaction would be to welcome it; although there would be many practical difficulties, I am sure we could overcome them.

Dr. Benjamin: I think we would first prefer to have a university research fellowship in actuarial methods so that we could improve our science before we change our methods of teaching.

Sir Patrick Linstead: Would a great expansion of the universities not absorb a large number of those who might otherwise have gone into your profession straight from school?

Mr. Benz: Yes.

Dr. Benjamin: We would expect more graduate entrants.

Mr. Benz: We are at present considering how best to establish more effective liaison with the appointments boards of a larger number of universities than we have hitherto had contact with.

Mr. Shearman: Is your profession organised in any way to help in the training of people in new Commonwealth countries?

Mr. Gunlake: We have for many years had a considerable Indian membership; this is another burden on our manpower. When life assurance in India was nationalised some years ago,

we thought that this demand would die off, and indeed it did for a time ; but in more recent years it has risen again. We have members in South Africa and the Faculty has a number of Fellows in South Africa. In Australia and New Zealand there are about seventy actuaries, mostly Fellows of the Institute, but some Fellows of the Faculty. Canada is of course closely connected with both the Commonwealth and America ; we have Fellows in Canada and also Fellows of the Society of Actuaries, the American professional body. In the newer Commonwealth countries actuarial work has so far been done either by the Government Actuary's Department from London or by some of our members in a consulting capacity. There is no Government Actuary's Department at present in Ghana or Nigeria, but if applicants come to us from the newer Commonwealth countries, our doors are open.

Miss Gardner: Could you make any comparative judgment of the standards of the actuarial profession in other countries, that is, in continental countries and in America?

Mr. Gunlake: The answer to that question is rather complicated. When the English actuarial profession came into existence in the modern sense about two hundred years ago, actuaries were back-room men, concentrating rather more on the mathematical side and less on the side of judgment and management. They gradually pushed their way into the field of management and the field of judgment, and in this country there are a considerable number of actuaries in life offices who are general managers as well. This is not true of the continent ; the actuary on the continent tends to be much more of a back-room man than his English counterpart.

Chairman: Are American actuaries trained in graduate schools?

Dr. Benjamin: I do not think so, but they have a much more closely integrated system of liaison with colleges than we have with our universities.

Miss Gardner: How are they trained on the continent?

Dr. Benjamin: I think generally speaking through special examinations run by the universities, in some cases by the ordinary mathematical examinations of universities, but I speak subject to correction. In some cases a period of practical experience is necessary before they can claim any professional standing.

Chairman: We have put many questions to you and you have been very kind in answering them. Are there any exhortations you would like to leave with us?

Mr. Benz: I would like to return to one point. We may appear to have given a disappointing answer to your question about our future educational plans. When we last re-examined our educational system we accepted the present national educational system as a fact of life ; we did not think there was prospect of flexibility in it. If it would be helpful to you, we would do our best to think further about this question.

Chairman: We would indeed be grateful.

Mr. Gunlake: What time is available?

Chairman: Until March of next year. If you could adjust your reflections to the amount of time available it would be very helpful.

FURTHER MEMORANDUM
submitted by
THE INSTITUTE OF ACTUARIES

24th January, 1962

In your letter of the 28th November, 1961, you reminded us that we undertook to give further thought to the Institute's future educational plans.

We have discussed at some length the possibility of placing some part of the burden of our teaching upon universities. There are a number of subjects within our examination syllabus which, subject to our being satisfied as to how they would be covered, we would be willing to entrust to university teaching, namely:—

- Intermediate Subject (1)—Probability and Finite Differences ;
- Intermediate Subject (2)—Statistics ;
- Intermediate Subject (3)—Compound Interest ;
- Associateship Subject (1)—Life and Other Contingencies ;
- Associateship Subject (2)—Statistics ;
- Associateship Subject (4)—Finance and Investment ;

The detailed syllabus of each of these subjects will be found in our Year Book of which you doubtless have a copy.

We have, however, to take a realistic view. We are a small profession and our present intake from the universities in the United Kingdom is only of the order of twenty a year spread over the country. It is not therefore feasible to suggest any widespread adaptation of university courses, for our specific purposes. We already have, however, a working relationship with London University through the London School of Economics under which we co-operate in the setting of a paper on actuarial statistics in the B.Sc.(Econ.) degree. On the basis of the performance in this paper substantial exemptions from parts of the Institute examinations can be given. We have come to the conclusion that the most practical immediate step we can take is to develop this relationship a little further and to explore the possibility of extending the actuarial subject coverage in the degree course. It is proposed to invite the London School of Economics to discuss this possibility with us in the near future. If these developments are of mutual benefit to the graduates and the Institute, we can then consider extending them to other universities should the demand justify it.

(Signed) G. V. BAYLEY,
Honorary Secretary.

The Institute also submitted replies to Committee questionnaires of 4th July, 1961, and 26th April, 1962, circulated to certain professional institutions.

MEMORANDUM

submitted by

THE MATHEMATICAL ASSOCIATION

28th August, 1961

1. It may be thought that an Association, that is concerned only with the quality of teaching in one subject, will have nothing relevant to say to the Committee on Higher Education that comes within that Committee's terms of reference. The Mathematical Association however, considers that the teaching of mathematics at any level is—or should be—organically related to the teaching at any other level, from primary school to university, in a vital way that is probably unique to this subject. The Association, therefore, ventures to submit to the Committee on Higher Education the following Statement.
2. The Committee may well find itself concerned not only with the provision of adequate mathematical teaching at higher levels but also with ensuring a supply of students able to benefit by that teaching. Those students will not be forthcoming if they are rendered mathematically impotent at an early age; consequently the supply of competent teachers of mathematics at all levels is essential. It is not suggested that the most brilliant mathematicians are the best people to teach the youngest children, but it is suggested that those who teach the rudiments of mathematics in the lower forms and first schools should themselves have learned from others capable of understanding and imparting the fundamental ideas of mathematics.
3. The Association exists for the improvement of mathematical teaching. Ninety years ago it came into being to attack the practice of teaching geometry by means of the logical formalism of Euclid. In its search for better methods of teaching other branches of mathematics it has learnt a good deal about the way in which a child's mind can first be opened to mathematical apprehension. The Association has committed itself to the opinion that mathematics is a normal activity of the human mind. It believes that a major reason why many people avow themselves allergic to mathematics is that, in their earliest encounters with the subject, they have been expected to learn incomprehensible rules and to perform insignificant tricks, instead of being encouraged on a path of discovery. Indeed, the power to learn, understand and use mathematics is exposed to hazards shared by few other subjects; the ability to calculate is not uncommon, but its development can be hindered or stultified at a comparatively early age, and at almost any stage, by teaching that is faulty or otherwise inadequate. It follows that to ensure that a sufficient number of pupils is available to study mathematics at higher levels the most careful preparation must be made for the provision of teachers at all levels.
4. That the country is still badly in need of mathematicians is generally acknowledged. And at the moment the greatest and most dangerous shortage is in the ranks of teachers in the schools and universities. Potential teachers have been lured from teaching by the inducements of industry and the scientific civil service; teachers are being drawn from the grammar schools to technical and technological colleges, not to mention new and expanding universities at home and abroad.
5. One result of this drain of teachers from schools and places of higher education is that in grammar schools a dangerously large proportion of the teaching of mathematics in the upper forms is in the hands of teachers with little or no specialist knowledge of the subject; in the lower forms mathematics may be entrusted to anyone, graduate or non-graduate, who can be spared.
6. If the Association's view of the importance of the teaching of the subjects in its early stages is correct, the much-needed supply of mathematicians, and even of chemists, physicists, engineers and statisticians with reasonable mathematical ability, will not be found simply by cajoling more mathematical students to turn to teaching, nor even by raising the financial rewards and (more important still) the

status of the teaching profession to something comparable with that of the professions which depend on it for their recruitment. In the Association's view, higher education in mathematics in universities, in university departments of education and in teacher training colleges, must be so planned that mathematical education is seen and accepted as a single whole from the beginning of the primary school work to the university chair.

7. If action to this end is taken the secondary modern and technical schools can produce much larger numbers of pupils who may later acquire, in technical colleges, sufficient mathematics for the numerous technical posts they will have to fill. What is needed is that these schools shall have on their staffs men and women who have an understanding both of the nature of mathematical processes and also of the way in which their pupils' minds can share this understanding. Great skill with advanced tricks and processes is not necessary, but the situation cannot be met by handing over lower forms in secondary grammar or modern schools to teachers with no interest in the subject.

8. It follows that provision should be made in training colleges for equipping a much larger proportion of teachers who do not take mathematics as a specialist subject to deal with mathematics in its earlier stages. In university departments of education, specialists in non-scientific subjects could be given sufficient insight into the nature of elementary mathematics, and the way in which the young mind can open to receive it, for them to be able to render valuable assistance to their hard-pressed mathematical colleagues. The Universities themselves might well pay more attention to the essentials of the subject, remembering that simplicity and profound understanding usually go together. Closer co-operation between departments of mathematics and departments of education is urgently needed.

9. To say this is not to encourage any neglect of the acquisition of skills at the right age, nor is it to suggest that such learning and diligent work should be replaced by merely listening to talks about general ideas. The point is that understanding and the acquisition of skill go together. The early development of young minds should not be regarded as a field of operation only for those who have not shown themselves capable of reaching specialist heights in mathematical subjects. Still less should it be regarded as beneath the dignity of specialists, who may have the opportunity, to widen their interest to include studies of the early learning of their subject.

10. There are those who hold the view that mathematics may be regarded entirely as an ancillary subject, and that it may be taught by the chemists and the physicists just as far as, and in the way, their subject needs. This may serve with students who have already attained to 'A' level passes in Chemistry or Physics, but if the practice were continued down to the lower forms in secondary schools—and, worse still, to primary schools—there would eventually be no rising chemists or physicists.

11. Over against this false remedy stands the danger that at university level the mathematical staff are often too heavily employed in teaching mathematics to engineers, or as an ancillary subject for scientists, compared with the amount of work they are doing with candidates for honours in mathematics. The most careful planning and deployment of our resources and potential resources of mathematical ability must be undertaken if the foundation subject for all our scientific, technological and sociological progress is not to disintegrate before the end of the present century.

ORAL EVIDENCE

given by

Mr. J. T. Combridge, Miss W. A. Cooke

and Dr. E. A. Maxwell

on behalf of

THE MATHEMATICAL ASSOCIATION

Friday, 29th September, 1961

Chairman: We have read your paper with interest; I wonder whether you would open the discussion by summarising the points arising from it which, in your view, call for administrative action and improvement in the system of higher education.

Mr. Combridge: May I perhaps indicate certain means which might be employed to that end? Opinion on university teaching in mathematics falls into two broad categories; one view is that the atmosphere in which mathematics should be studied should be of the rarest, that a university should be staffed entirely by pure mathematicians who are carrying out research and giving students the benefit of their highly specialised knowledge. The other view is that universities should be geared by some controlling body only to produce mathematicians for industry. While both extremes are not unhealthy, a university must have cohesion. It is good for students to sit at the feet of distinguished research workers, but a university department should also be able to produce good teachers and should be aware of the applications of mathematics to technology and industry. A balanced university department should contain all these elements, and an interest in the teaching of the subject at all levels.

Chairman: Assuming that we are in harmony on this general principle, that a certain multiplicity of objectives is in order, what is your opinion of the present position in the universities in this respect? Are we to believe that there is a crisis in the position of mathematics in this country, in that the supply of mathematicians for various purposes is defective, or would you regard the alarm about this as artificially engendered?

Mr. Combridge: I think the position is serious.

Chairman: What is the root of the evil?

Mr. Combridge: The root with which our Association is concerned is the insufficiency of people who can teach the subject at the earliest levels in such a way as not to put many children off mathematics completely.

Chairman: What is that due to?

Mr. Combridge: To a lack of interest in children, as distinct from mathematics, at all stages of mathematical education.

Chairman: Do you consider that there is a certain bias in favour of specialisation in the universities, which tends to discourage those who might have these alternative interests?

Mr. Combridge: Yes.

Chairman: Does that spring from the structure of the degree syllabuses, or from something less tangible?

Mr. Combridge: From both, I think. The syllabuses are composed by experts, by people who are almost too expert in their particular line, and often more is expected of a student than he can manage. The first class man can manage anything, but the second class men often fall considerably behind; and the third class men, although they may be intelligent people with some sense of mathematics, can be completely swamped; I doubt whether they take away from a university education as much as they should.

Chairman: Does this apply to all universities in this country, or does it vary?

Mr. Combridge: That is a difficult question. I do not know.

Sir David Anderson: Is it that the mathematical type of mind is rarely interested in teaching? Should we abandon hope that university-trained mathematicians will teach the subject as it ought to be taught? If that is so, might the task be better undertaken by the training colleges?

Mr. Combridge: I think it is primarily a matter for the training colleges. The general climate of opinion is also to blame. Sometimes if a student who wants to go to the university decides to read for the B.A. general degree the local education authority tells him that he cannot have an award for such a course and should go to a training college.

Dame Kitty Anderson: Do you know how many local education authorities would be unwilling to give an award for a general degree course?

Mr. Combridge: No.

Mr. Maxwell-Hyslop:* With the implementation of the Anderson Report any school leaver with two 'A' levels will get an award.

Mr. Combridge: That is cheering news.

Mr. Elvin: We would be grateful if you would outline the practical steps you would recommend.

Mr. Combridge: All three of us recommend an increase in general honours degree courses. London has a science general degree on which honours can be awarded; but the Faculty of Arts in London University does not award honours on its general degree.

Chairman: Can you supply any explanation for that?

Mr. Combridge: No. It may be because the existing syllabus does not warrant honours, and that the syllabus would have to be changed to warrant honours.

Miss Cooke: I can only speak about girls. Girls usually take a less specialised group of subjects at school than boys; they are often not sure whether they want to be mathematicians.

When it comes to university entrance the abler ones are all right; they can manage their 'A' levels, but many who would make good teachers cannot get the 50 or 60 per cent. which is required by the university. Some universities require two subjects at this level and others require three. These girls will not be admitted to a special degree course because they have not got four subjects. If they have mathematics and physics they often have not chemistry, which seems to be required by London University and the Colleges of Technology. I know some who are taking geology only because geology is reckoned to be marked less stiffly at 'A' level. That does not seem a good reason for taking it. I am sure we lose a number of girls of this kind who would make good teachers of mathematics.

Chairman: Because the standard is a little too high?

Miss Cooke: I would not say it is too high. It should however, be easier for those who just fail to reach it nevertheless to obtain a university degree.

Dame Kitty Anderson: I think a general degree would appeal to many girls.

Mr. Chenevix-Trench: I would like some clarification here. Do I understand that it is normal university practice to require four 'A' level subjects for a general degree?

Miss Cooke: Not at all universities, but at some.

Sir Patrick Linstead: I did not know that any university required four 'A' levels.

Miss Cooke: I may be wrong. It may be 'O' levels; the point is that universities require specific subjects.

Miss Gardner: Does any university offer a general degree of standing for which mathematics can be combined with arts subjects?

Miss Cooke: Yes.

Miss Gardner: Is this attractive for girls?

Miss Cooke: In practice, no. Here we come up against difficulties in the school time-table. In my school it

* Deputising for Mr. A. A. Part, Assessor.

would be almost impossible to arrange a suitable time-table unless we had more staff.

Miss Gardner: This seems to me a fundamental problem. Would you say that if we are to have mathematics teachers at the lower levels in primary schools there should be general degree courses which combine the basic subjects of English and mathematics. It should also be possible to combine history and mathematics at pass degree level?

Miss Cooke: I agree. At one time we were able to combine these subjects in the sixth form in my school

Chairman: I do not quite understand why the situation has deteriorated.

Miss Cooke: It is a question of the staff student ratio in sixth forms.

Sir Philip Morris: Are there too few people in the community with a sufficient level of qualification in mathematics to meet the needs of the schools?

Mr. Combridge: Yes.

Sir Philip Morris: Is this due to a deficiency in mathematical ability in the population? Is the level of ability presumed by the syllabuses too high to enable a sufficient number of people successfully to complete a course which gives the qualification?

Mr. Combridge: In a number of universities that must be the case. I understand that, excluding Oxford, Cambridge, London and Manchester, there are four teachers in mathematics to every three honours students. It takes four university teachers to produce three honours graduates.

Dr. Maxwell: They do other things as well.

Sir Philip Morris: In a general degree course the presumed ability would probably be much lower? It would have to be if students were to be successful.

Mr. Combridge: Yes.

Sir Philip Morris: Would you say the level of mathematics to be successfully incorporated in a general degree

course is adequate for the purposes which you have in mind?

Mr. Combridge: Yes.

Sir Philip Morris: Do you think the present level of honours courses together with the effective development of general courses would remedy the present deficiency?

Mr. Combridge: Partially.

Chairman: My impression is that you would hope that universities would reconsider their arrangements for general degrees, giving honours where honours are not given now, and giving due opportunity for the combination of mathematics with subjects which are at present excluded.

Dr. Maxwell: We want a ladder of mathematics, with the specialist at the top. The ladder would also include the Departments of Education, the training colleges, and the successful candidates for our own Diploma. The honours general degree would be valuable, provided the course set a good standard in mathematics. I was brought up in Scotland, where the ordinary degree set a good standard.

Chairman: What is the relation between supply and demand in Scotland? Is the situation less deplorable than it is in South Britain?

Dr. Maxwell: So I am told.

Chairman: Is there any migration of mathematicians over the Border?

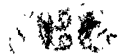
Dr. Maxwell: Only teachers who have been trained in Scotland may teach there. I have not heard of many Scottish teachers coming south, although there are some.

Professor Drever: There is a shortage in Scotland also.

Sir Philip Morris: Is not the shortage of women teachers in Scotland as great as in England?

Dr. Maxwell: In mathematics, yes.

Mr. Elvin: I understood your paper to emphasise that mathematics must be taught in schools by mathematicians. In the face of this critical situation must we not recognise that a great deal of mathematics at the lower levels could and



Mathematical Association

should be taught in schools by people who have some interest in the subject but are not qualified mathematicians?

Mr. Combridge: In a number of schools, when no teacher is available to teach arithmetic or algebra to a particular form, the attitude seems to be to give any teacher who has a spare period the textbook and ask him to teach. That approach is damaging, where the children are at the age where they can easily get the idea that they cannot do sums. We are in favour of non-specialist teaching in mathematics, but we think teachers should be encouraged to have some training in mathematics. It is for this reason that our Association has instituted a Diploma by examination. The interest of teachers is there; many are asking for this kind of opportunity. There were two hundred candidates for our first examination.

Sir Philip Morris: What kind of mathematical education would you want members of the staff of training colleges to have? Would people who had taken mathematics as part of a general degree be adequate?

Dr. Maxwell: In present circumstances it would have to be.

Mr. Combridge: Before the war, as a university lecturer, I regarded the students who were going to be teachers and who were taking the London B.Sc. general degree as some of the most interesting I had.

Sir Philip Morris: I am asking about the staff, not the students.

Mr. Combridge: They were people who were going to teach mathematics in schools. I think the general degree course would be adequate, coupled with experience in schools, and evidence of being good teachers in the schools.

Professor Drever: Are we not in a circle here? The evidence seems to be that qualified and trained mathematicians have in the past discouraged youngsters by being too difficult for them. You seem to be urging us to produce more mathematicians to discourage more students. Should there not be some basic rethinking about the teaching of mathematics in the

primary schools? Is not the multiplication of the article we have experience of, and which has in some ways proved unsatisfactory, the wrong way to handle the problem?

Dr. Maxwell: You have to come out of the circle at some point; I think the general degree level would produce the kind of person needed to train teachers. I would hope the person with a general degree would see the subject in sufficient perspective. Clearly if more highly-trained mathematicians were available it would be all the better.

Professor Drever: That is what I am questioning. Is it not your contention that trained mathematicians have not been able to do in the schools the job they are expected to do?

Dr. Maxwell: This may be because they have been inadequately trained.

Mr. Chenevix-Trench: The problem is by no means only in the primary schools. Not only is it difficult to recruit teachers with qualifications in mathematics for sixth forms in secondary schools, but in my experience mathematics graduates are rarely competent teachers even at sixth form level. Do you think the problem should be approached in a more radical way, perhaps on the lines of what has been done in Russia? The Russians were facing a problem of very rapid expansion of education; they accepted the fact that it was useful to get anyone at all who wanted to teach. They put up with bad teachers and concentrated exclusively on a method, in which even a bad teacher could be drilled for the time being. Their science instructional films and instructional apparatus were first-rate and made the subjects so clear that even a bad teacher could teach tolerably well. Perhaps our problem in mathematics could be tackled in the same way. As I see it, our problem is growing in geometrical progression; the worse the teaching in secondary schools the more boys are put off from taking mathematics. I know some grammar schools where the headmaster was forced to close the mathematics section. In five years I have had only three boys who wanted to read mathematics for a university degree.

Mr. Combridge: We have not considered the Russian experiment.

Chairman: Your Association is fairly representative of mathematics teachers at all levels?

Mr. Combridge: I think it is. It began with a large proportion of university teachers and public school teachers. It gradually widened to include girls' schools. In the last ten years or so it has published reports on the teaching of mathematics in primary and secondary modern schools, and this has resulted in adding to our number a considerable representation from secondary modern schools.

Chairman: Has your Association scrutinised the syllabuses for different examinations?

Mr. Combridge: Some of our members think that we could usefully discuss them at a general meeting.

Dr. Maxwell: Of course we have many examiners among our members.

Dame Kitty Anderson: Has the Mathematical Association considered the possibility of devising sixth form syllabuses and examination papers in mathematics which might be alternative to those of the present Advanced level? Might there not be two streams of mathematicians to be catered for? In my school one stream takes no examinations. The training colleges have been forcing sixth form work into the same pattern as is required for the universities. There are many girls who would like to carry on their study of mathematics, but who could not reach the present Advanced level.

Mr. Combridge: The Oxford and Cambridge examination has the gentle disguise of the subsidiary subject. One of the major threads in the pattern of our paper has not yet been mentioned. We are pleading for an attempt to be made at all levels to imbibe an understanding of the nature of mathematics. There is a danger that, under a specialist, a child, although romping ahead, may not realise the 'why' of what he is doing and what in it is fundamental to mathematics. The purpose of our Diploma in mathematics is that people who do not reach

a high level in mathematics should nevertheless feel that what they are teaching is part of a larger subject and should understand how it relates to the subject as a whole. This is the kind of understanding needed in primary school teachers.

Mr. Elvin: Perhaps, in this connection, you would elaborate on the last sentence of paragraph 6 of your memorandum in which you say: 'Higher education in mathematics in universities, in university departments of education and in teacher training colleges, must be so planned that mathematical education is seen and accepted as a single whole from the beginning of the primary school work to the university chair.' I am not sure what that would imply. If it were done by distinguished professors who are specialists in mathematics would you get the results you want?

Mr. Combridge: I would not give the task to them in the first instance. We are protesting here against the idea that the arithmetic and algebra taught in primary and secondary modern schools is something totally different from the mathematics studied in a university. We think this view is false.

Sir Philip Morris: Have we not more than one objective? You can no doubt remember the old-type primary school where the teaching method was highly efficient and there was an excellent percentage of passes in the various standards and success in what was required for those standards. The objective there was completely different from the objective you are now describing.

Mr. Combridge: The objective then was to produce office boys.

Sir Philip Morris: I think there was a higher motive than that: it was to give the boy or girl competence in the use of numbers, and in that the schools were successful. It is certainly true that the objective was related to particular employments.

Mr. Combridge: It is precisely because of that method that a vast proportion of the population now says: 'I never could do mathematics.'

Sir Philip Morris: But do you think the objective in the last sentence of paragraph 6 is a practical one for all?

Dr. Maxwell: May I take a straightforward example?—2 multiplied by —2 is +4. You can train children to do it by rule of thumb and they will get +4; what we want is that they should understand why you make the decision that it shall be so. That is the kind of thing the experienced teacher has to understand. Personally I would work on the 'I am telling you' principle for a time but I would hope to follow on with the 'why'.

Chairman: I wonder whether you have any other points you would like to put to us.

Mr. Combridge: We have avoided any suggestion that the rewards being offered in industry and in the scientific civil service might be drawing off many mathematicians from the teaching profession. This has been said so often and in so many places, that we did not think this was the place to raise it, nor does our

Association want to deal with it. The fact, however, is that the Colleges of Advanced Technology and other technical colleges recently established or expanded have drawn their staff from the sixth-form teachers in grammar schools.

Chairman: Have you any suggestions to make? Are you asking us to consider some change in the relative rates of remuneration of mathematicians and others?

Mr. Combridge: No; but if you can do anything to make the profession of teaching more comparable with that of the law and medicine it would be a great service to the community.

Chairman: In so far as it falls within our terms of reference, that is a matter we shall have to deliberate upon. Thank you very much indeed. I hope you will bear in mind what Mr. Chenevix-Trench said about Russia.

Mr. Combridge: We will. Thank you for the opportunity of coming here and adding a little to our written evidence.

MEMORANDUM

submitted by

THE CHURCH OF ENGLAND BOARD OF EDUCATION

7th July, 1961

INTRODUCTION

1. The Church of England Board of Education is a Board of the National Assembly of the Church of England. As such it has responsibilities in the whole range of education undertaken by the Church from the Church's share in statutory education in its schools and training colleges to its voluntary educational work for children, young people and adults. These responsibilities are discharged through constituent councils and committees, the Board being responsible, under the Church Assembly, for overall policy, staff and finance. The Council of the Church Training Colleges is a constituent council of the Board of Education.

2. The Church is concerned for education as a whole, and for the wholeness of the person in education: people, and the full development of personality, matter more than institutions. Therefore the important question in higher education is, in the Church's view, how best to meet the educational needs of those young people who in ever increasing numbers are seeking it. This pressure from below, in no small measure the fruit of the 1944 Education Act, is an important and welcome trend in our society and the problems which it raises are the Church's concern and transcend sectional or denominational interests.

3. The evidence we submit falls into three parts:—

Part I, 'principles in the development of higher education'. It has been prepared by a group appointed by the Board, having experience of all forms of higher education and including members of the Free Churches.

Part II approaches in terms of general principle the question of the place of the Teacher Training Colleges in the expansion of higher education.

Part III is the evidence of the Council of the Church Training Colleges.

All three parts are forwarded with the full support of the Board of Education.

PART I. PRINCIPLES IN THE DEVELOPMENT OF HIGHER EDUCATION

1. The objects of higher education

We start from the premise that any recommendations for re-modelling and expansion that may come from the Committee will, however indirectly, depend upon the State for implementation. We are therefore concerned that the State should recognise that higher education is not for the ends of the State alone and that the State should not be the sole judge of its purposes. Our conception of human society involves putting first the importance and uniqueness of the individual person and at the same time stressing the impossibility of full personal development without recognition of the individual's relationship to his neighbour and to God. We believe that many who would not use this language are concerned for the verities behind it.

The first object of higher education must therefore be personal, namely to enable the individual who is capable of receiving it to develop his capacities for good as fully as possible. Higher education cannot achieve this object unless it has also been achieved in primary and secondary education.

Its second object must be to hand on with understanding the inherited culture and equip its students to search out new truth.

Thirdly, it must supply organised society with citizens highly trained in the arts and sciences needed for the development of civilised life: but technical skills and

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Church of England Board of Education

competencies need to be in the possession of persons who are mature morally and spiritually if the right ends of society are to be served.

2. The nature of higher education

The use of the adjective 'higher', as distinct from 'further', must surely imply a distinction of quality rather than quantity. We take it for granted that the following would be widely agreed upon as some of the characteristics of higher education.

(a) On the intellectual plane :—

(i) that every course, however practical or 'applied', should give the student some entry into the body of theoretical knowledge appropriate to it.

(ii) that every course should include some opportunity of independent work, enabling the student to master material for himself and grapple with its special problems.

(iii) that all students should have some contact with those engaged in expanding the frontiers of human knowledge and understanding, and should feel themselves part of a community promoting this expansion.

(b) On the cultural and social plane :—

(i) that the student should see beyond his own subject and acquire some respect for other disciplines.

(ii) that he should have the stimulus and opportunity to learn about and encounter other views than his own on religious, moral and cultural subjects; and to become involved in making up his own mind about them.

(iii) that he should come to accept the moral implications of his own greater opportunities *vis-à-vis* the rest of society at home and abroad.

3. Some present defects in higher education

(i) Wastage, in the sense of students failing to finish their course or acquire a qualification, is an obvious defect.

(ii) A considerable number of students come out of higher education with a bare qualification and little else to show for their time in it. They are at heart bored with their studies, have lost (if they ever had) any intellectual excitement, have played no part in the college or university community.

These defects may be due to a student's unsuitability for higher education, or for the subject or method, or institution to which he is committed. But faulty selection is not the whole story. For some students a change of subject, teacher or residence might make all the difference: higher education needs some flexibility.

We regard the second defect very seriously. Such students are leaving institutions of higher education without developing the personal qualities which make their formal qualifications of real use to themselves and the community. One can see contributory factors perhaps in over-specialisation and too much pressure at school: or in the tendency of students to spend week-ends away. But one must ask whether the five-day week institution, closed on Friday till Monday, is not part of the cause. Is it not true that the institution committed to the seven-day week and the ten-week term does a better educational job?

(iii) In some patterns of higher education not enough care is given in our view to the student as a person. While we would support developments in the skilled care of student health and welfare, we would stress the centrality of the teaching relationship in higher as in all other education. What higher education means to a student depends primarily on this. If the student senses that he is not considered or valued as a person in his relationship to his teachers nothing else will mend the harm done.

The experience of our chaplains in universities confirms this. What they do should not be regarded as ambulance work (although of course they will always

serve students or staff in special need). They are pastors and teachers, their work is most successful when it helps the student to derive the fullest possible benefit from his academic studies and his life in the academic community. Co-operation between chaplains of different denominations and between chaplains and staffs is a common feature in universities today and greatly strengthens their work. Churches give increasing care to the selection of men for this work and provide chaplaincy centres or some other base. Many Universities give increasing recognition to the value of chaplaincy work. We believe that it has a contribution to make to other institutions of higher education besides universities and training colleges.

(iv) Universities in the past have been concerned to help students to think of truth as something to be sought for its own sake and to be found in a wider context of life than a single academic specialism. The organisation of very large specialist departments will in our view still further erode the concept of being 'a university' and have subtler effects on personal development than are immediately calculable.

4. If the objects and nature of higher education are accepted (as in sections 1 and 2) what are the implications for institutions of higher education?

(i) The objects of higher education cannot be pursued separately, some institutions specialising in personal education, others in meeting national needs. This would be self-defeating. Each institution must maintain and develop a balance of aims.

(ii) Specialised institutions are necessary. But they will need to develop ways of broadening the education of their students, and in particular:—

(a) to ensure by the quality of the teaching and its methods that the subject studied is not narrowly or rigidly conceived.

(b) to devote adequate time and money to complementary studies (we prefer this to 'liberal studies'). There must be money enough not only for lectures but for tutorial methods and well-stocked libraries. They must aim to attract first-rate teachers; to handle subjects in a mature way worthy of higher education rather than filling in gaps in schooling, and give depth of study to one rather than a smattering of many.

(c) so to organise residential arrangements that students of different institutions or faculties meet.

(iii) With expansion increasing attention must be paid to the selection of teachers for higher education and to study and discussion of ways of improving teaching methods by those who teach therein. Some institutions and courses have grown up in a tradition of spoonfeeding, and many teachers do not accept the attitude to their subjects and students that we have been stressing. Ability to teach and proof of having devoted time and concern generously to teaching (including in this personal dealings with students as well as lecturing) should count in selection and promotion equally with research, which is often the only criterion for appointments.

(iv) If higher education is to remain 'higher' there must be selection of students. It is not good either for the nation or for the individual that every form of higher education should be regarded as 'just as good as the best'. There are differences of ability and people must be helped to come to terms with their own gifts and limitations and accept the education appropriate to them. But we cannot accept that there are 'levels' of ability which can be assessed and graded by the application of a yardstick of examination achievement. Potential students cannot be broken down *simpliciter* into 'ablest', 'medium able', 'least able'. There are these distinctions but they are cut across by others; students unsuited to purely academic ways of learning can show unsuspected capacities if their learning is practically oriented as in technical education or vocationally oriented as in teacher training. Therefore selection means selection both *by* intelligence and *for* a particular learning process, and both should be embodied in selection procedure.

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(v) The period spent in higher education should help the student to spiritual and moral maturity. This is essential for the individual. We also believe that the nation—and how much more the under-developed countries need knowledge and skills practised by people with wide sympathies, integrity and willingness to serve others even at cost to themselves. People with these qualities have faced some of the ultimate questions of life in admitting the moral claims of others on themselves and holding personal beliefs which have been tested, purged and deepened by their education. Many students receive little or no help in attaining such an attitude in the course of higher education.

But we well understand the problems of institutions. Where is there a possible standing ground in this matter between on the one hand inculcating beliefs and attitudes and demanding certain conformities, thereby restricting the freedom of individuals in what claim to be (in our view rightly) free institutions, or on the other hand taking up a strictly negative attitude to all questions of belief and values? Both extremes are in our view insupportable: but we think that in actual fact some institutions or parts of them are dangerously near the second extreme and do not altogether realise that to adopt a consistently negative attitude towards beliefs and values has the effect of saying that they do not matter.

In the attempt to discover where such a standing ground might be, we have two comments to make:

(i) Clearly, Christian divisions and the suspicion of ecclesiastical authoritarianism have in the past played a part in making institutions of higher education officially secular institutions and have led to a continuing assumption that any mention of religious questions would be an inflammatory and disruptive move. This ignores the growing consensus among Christians on the purposes of higher education, on which much has been written, and the many ways in which they work together.

(ii) We think there is also a widespread assumption that a religious believer is something of an anachronism and a non-believer a proper man of today. When mention is made of challenging existing assumptions and shaking complacent attitudes (proper functions of higher education) it might be noted that (*pace* Crowther) lack of beliefs and standards is the conformity of today.

The freedom of the academic community gives it a responsibility in society. It is free to seek the truth: it is a source of values to its members and beyond. We want to see the questions about life which religion asks, raised and discussed in an informed mature manner by institutions themselves, and students versed in analysis and experiment confronted by a living expression of aspiration, thanksgiving and prayer in religious worship.

PART II. THE TRAINING COLLEGES IN THE DEVELOPMENT OF HIGHER EDUCATION

1. It seems to us not only desirable but essential that there should be a conspectus of higher education, its parts seen in relation to the whole, comparable with that envisaged in the 1944 Education Act in the field of secondary education. It is in this context that we have considered the place of the Training Colleges for Teachers, and more particularly the Church Colleges.

2. These are predominantly residential colleges in which academic and professional training proceed concurrently in the context of a common life and worship. This corporate life of personal relationships we believe to be of the greatest importance and whatever modifications are made should not disrupt it. What matters is the personal development of the student, and in putting a large part of its resources into teacher-training the Church's concern has been for the personal education and vocational training made possible by its residential colleges. In considering, however, what changes or modifications seem to us desirable we have not limited our thinking to Church colleges.

3. If these colleges are to form part of a closely inter-related system of higher education, they should make their proper contribution to meeting the need of some of the greatly increased numbers now seeking it, and their academic courses should be such as to provide a satisfactory form of higher education.

We would emphasise what is said in more detail in Part III, that the syllabus and standard should be such that the course could be accepted by the University as a significant part of a degree course, and that within the colleges, but not necessarily in each college, there should be provision for specialisation, e.g. in science to meet the needs of secondary school education, already provided for or planned in some of our colleges. This also might well form part of a University degree course and be linked to the appropriate University department in other ways.

4. We have stressed in Part I of our evidence the value of concurrent personal education and vocational training. We are convinced that this, together with a residential collegiate life, brings many students to a higher level of development than they would achieve by other means. We do, however, see two developments which might be made in some colleges involving a modification of the pattern of concurrency.

(a) We think that some colleges ought to be increasingly used for the professional training of graduates, especially those who intend to teach in secondary modern schools. We think this would benefit both them and the colleges. We would also like to consider in this connection the return of mature teachers to the colleges for further degree work or study in education.

(b) We can see a case for introducing into some colleges students pursuing a general course of higher education. Not all of them would ultimately become teachers, but some might well find their vocation to teach during their years at the college. We would stress, however, that these courses would be related to the courses being pursued by other students and the emphasis we have laid on standards must apply here also. Further reference to this is made in Part III of our report, section 6.

5. In stressing the importance of the relationship of training colleges to universities we would like to draw the attention of the Committee to the existing close relationship between many theological colleges for the professional training of the ministry, and the universities. A few of these colleges are recognised halls of universities; a large number of members of staff of the colleges are recognised university teachers, at all levels. Most of the colleges have a mixed student body of graduates and non-graduates: those reading for a degree in theology attend lectures and receive tuition concurrently in college and university.*

6. We think the proper relation of higher education demands also a relation of the training colleges for teachers to other colleges of higher education, existent or new. We have in mind for example the possibility for staff to teach in more than one type of college and for students to attend classes or lectures in a college other than their own. Such 'cross-fertilisation' would enable colleges of different types to give conjointly, at least to some of their members, a breadth of outlook which in the past has been the signal contribution of the universities to education. But in addition there should be, we think, a strengthening of the present links between all these colleges and the universities.

7. An integrated approach to higher education raises questions both of finance and of control. As far as the Church training colleges are concerned they are self-governing, each with a widely representative Body of Governors, and we trust that whatever changes may be made, the principle of self-government would be respected, and a proper place retained for a voluntary contribution to be made to the total pattern of higher education.

* The Church of England Board of Education is forwarding as a separate document to the Committee a full factual statement on the study of theology in the universities and its relation to the training of the ministry, Anglican and Free Church, and to religious education in schools.

PART III. EVIDENCE PRESENTED BY THE COUNCIL OF THE CHURCH
TRAINING COLLEGES

Introduction

This paper by the Council of the Church Training Colleges forms the concluding part of the evidence submitted by the Church of England Board of Education. It relates to the training colleges for teachers and to the Church colleges in particular. In one respect it has been very difficult to decide what evidence to place before the Committee, as we have been informed that its main, if not its sole, concern will be with long-term developments in higher education. At first sight this might exclude some of our proposals, but we cannot be certain that some, even of those which we consider the most urgent, will receive adequate consideration without the support of the Committee. For that reason we have felt it necessary to include a certain amount of material which otherwise might not have formed part of our evidence.

2. The Church Training Colleges

There are 26 Church Training Colleges, 24 in England, 2 in Wales. The majority are over a hundred years old and were among the pioneers in their field. They now contain about 25 per cent. of the total number of students in general colleges and 21 per cent. in all colleges, general and specialist. Before expansion their normal complement of students was about 5,300 and this total is likely to rise to nearly 10,000. Planning is well ahead for one new college, to be built at Canterbury, and another, in the north of England, is projected. Brief details of all these colleges are given in the Appendix.

The majority of the Church colleges are diocesan in origin with strong local support, but they draw their students from all over the country as well as a few from overseas and, though members of the Anglican Church predominate, members of other Christian Churches form a strong minority.

The Church regards the colleges as its main present-day contribution to higher education. It is concerned through them to make a major contribution to teaching, sending into Local Authority and Voluntary schools alike teachers who have been educated in colleges whose assumptions are Christian throughout. It has, therefore, a responsibility for the education—academic, social and spiritual—of a large number of young men and women and for the full development of their gifts. To this end it is much concerned about quality of staff, the right physical conditions for a full community life, including the provision of a chapel, and the stability of these communities in the pursuit of an aim which must be first and foremost vocational.

3. Constitution and finance

The colleges are self-governing institutions, each with its own governing body. Naturally these have a strong Church nucleus but they also include representatives of University, Local Authority and other interests, besides co-opted members. All principals attend meetings with full right to speak; to an increasing extent they are ex-officio members and so, in some cases, are other staff representatives; this represents the policy of the Council of the Church Training Colleges.

While the colleges are self-governing institutions, co-ordination of policy and the exchange of views and information are provided by the Council of the Church Training Colleges which is a constituent council of the Church of England Board of Education. Through the Board it is responsible to the Church Assembly for general policy concerning teacher education and for the planning of capital finance. The Council consists of a Chairman (now the Bishop of Blackburn) and 27 members. There are 12 representatives of the English colleges, made up of equal numbers of members of governing bodies and principals, 7 representatives of various Church bodies and 6 co-opted members, of whom at least three must be drawn from Universities or Institutes of Education. There is also a representative of the Governing Body of the Church in Wales and of the two Welsh

colleges. The Council has two officers: a Moderator with special concern for the religious life and teaching of the colleges, and a Secretary with general responsibility for overall policy and finance.

Like other voluntary colleges they are maintained by the State and are a part of the national system of teacher education. But the Church pays a proportion of capital expenditure and by the end of the present expansion programme the Church of England will, since the war, have spent over £3,000,000 and the Church in Wales some £300,000.

4. The present contribution of the Training Colleges to higher education

The training colleges have certain distinctive features. First, they are residential institutions (not halls of residence) with a close staff-student relationship which together ensure the conditions for an effective personal education. Secondly, they provide a course of concurrent academic and professional education over a period of not less than three years. (The word 'academic' is here and elsewhere taken to include subjects such as craft work and physical education, not ordinarily so described.) Thirdly, while providing the normal range of subjects required by the profession in a varied pattern of teaching, to an increasing extent each has its own particular lines of specialisation. Fourthly, by providing degree courses or training graduates a number of colleges already offer work at university level.

We feel that their strongest claim to distinction lies in their concern for the individual student in a mainly residential community and the incentive provided by a professional education.

5. How this contribution can be made more effective

We consider that closer association with the Universities is the key to the future development of the training colleges, but that this association must take a number of different forms. There is much value in diversity and experiment and we have endeavoured to set out some of what we see to be the most promising possibilities in the following sections.

(a) *Qualification after the three-year or basic course of training*

It seems to us to be of outstanding importance that the satisfactory completion of the three-year course of professional training and personal education now provided by all training colleges, equal in length to most first degree courses and with an increasingly high standard of entry, should be given more adequate recognition than qualified teacher status conferred by the Ministry, even though this is based on recommendations made by Institutes of Education.

Whatever qualification is awarded should be flexible enough to leave the institutes and colleges free to experiment within broad academic and professional fields. We have considered various possibilities, but the undoubted authority of the Universities suggests that we should first look to them or their Institutes of Education to award an appropriate professional qualification, though we are not of the opinion that it should take the form of a degree. A licentiate is a possible title.

(b) *Degree work in colleges*

While maintaining our conviction that the three-year college course stands on its own merits as an important section of higher education, the contents of which should not be unduly influenced by degree courses which have been designed for quite different purposes, we recognise the advantage conferred on any teacher by a degree. We should therefore like to see some arrangement by which students reaching a good academic standard should be exempted from at least one year of a degree course. We also have evidence that the outstanding few can reach an academic standard which warrants exemption from two years of a first degree course. This is borne out by experience in colleges which have had supplementary third year courses, and suggests that the additional year now being taken by all students will result in a quite remarkable advance in intellectual

maturity ; indeed the number of two year trained students who have subsequently taken external degrees indicates a fund of ability hitherto insufficiently exploited.

We also consider that a four year degree course of the same type as a classified general or grouped honours degree, with education as one of the main subjects, should be instituted in a number of colleges for students of real ability. We would, indeed, insist that the present is a time for adventure and experiment and that a number of different possibilities should be tried out. For example we can envisage the development of a specialisation in particular colleges right up to degree standard. We can see the conditions already present for this development in that an increasing number of the colleges have, and others are developing, 'subjects' in which they are particularly strong. Such courses could profitably be worked out in association with the appropriate university department.

(c) Degree equivalents

Some disciplines and ways of learning may not be suitable for a degree. This suggests the need for a qualification, equivalent in status to a degree in respect of salary awards, to be granted for advanced work in some of the more important but less 'academic' branches of teacher training. Of these, physical education and advanced craft work are two which suggest themselves most readily. The modern concept of physical education for both men and women, is a recent development of particular interest, and the highly trained and educated physical education specialist plays an important part in secondary schools, often beyond the confines of his subject. Some colleges are also developing advanced courses with a mathematics/science/craft specialisation which could be linked with some of the higher levels of technical education.

(d) Postgraduate work

Though we would reiterate our belief in the value of the three or four-year course of concurrent academic and professional education there will, inevitably, be a number of potential teachers who will not decide on their profession until they have embarked on or nearly finished their first degrees. There will therefore be an increasing need for postgraduate training. In providing this training the Universities have certain advantages. The colleges, for their part, can offer their close association with a wider variety of schools normally used for teaching practice, and their great strength as residential professional colleges. Some graduates, especially those who feel drawn to teaching in primary and secondary modern schools, would, we think, be provided with an excellent year of training in selected colleges.

(e) Additional qualifications

We are firmly of the opinion that more should be done to enable teachers to add to their qualifications after a period of service, either by pursuing one subject to a higher level or by further study of Education as such, possibly leading to a higher degree. The development of specialisations in certain colleges (see paragraph 5 (b)) up to something comparable with university standards will pave the way for this type of advanced work. We consider that there are a number of colleges, in addition to university departments, which are fully capable of providing satisfactory conditions for such men and women.

There is also a case for developing an M.A. in Teaching. It would differ from an M.Ed. or an M.A. in Education as at present conceived, which are primarily research degrees and would continue as before. The M.A. in Teaching would not be a research degree, nor would it contain any considerable element of training in research methods. It would involve studies in Education that necessitated reading and thought about experience already gained in schools, with specialisation possible to some extent in philosophical, historical, psychological and sociological approaches. It would also demand continued work in one or more academic subjects. The course for the degree would be available only to those who had had, say, four years' successful teaching experience. A minimum of one year's residence and full-time study might be required, as well as an additional two-year period of part-time studies.

6. New types of college

We think that there is room for experimentation with two new types of college.

First, we should like to see a small number of colleges providing a course of general education for a period of three years, leading to a pass or general honours degree. Students in such colleges would not necessarily become teachers, but postgraduate professional training would be available in the college for those who wished to take advantage of it.

Secondly, in a small number of colleges we should like to see the training of teachers associated with other forms of professional training in which the aspects of personal service and social obligation, to which the voluntary colleges in particular have always given attention, are recognised as a permanent feature of the work. Youth leadership is the most obvious example, but other forms of social work may suggest themselves. Such colleges would provide a common academic education.

7. The organisation of training

We place first the effective relationship between colleges and universities. The present Institutes of Education have done much to develop such a relationship and we think that they should continue to form the basis of the organisation. But we suggest that the time is now ripe for a careful study of their functions and of their optimum size. There may be a need for some redistribution of colleges between different institutes.

It is to the new universities in particular that we may look for experiment as well as new thinking. Where there is a suitable training college close at hand, we hope that it may become a college of the university. It is worth noting that the University of Wales accepted Part 4 of the McNair proposals relating to Wales, and that a revised Royal Charter was drawn up incorporating the colleges as integral parts of a Faculty of Education in the University and the separate colleges as members of their respective collegiate faculties of education. The Faculty of Education in the University is the administrative and examining authority.

8. Co-ordination of policy

(a) *Professional and academic*

We assume that the professional training of all who enter the profession has been accepted as an objective and will be achieved at the earliest practicable moment. Until this objective has been secured the present gulf between the trained teacher and the untrained graduate (qualified to teach merely by virtue of a degree) will endanger the stability of the profession. This is one of the reasons why we hope for the closest possible association between colleges and universities and a review of their relative functions. The developing interest of the colleges in the training of specialist teachers for secondary schools has been seriously damaged by recent Ministry directives on the balance of training which, apart from certain specialists, would restrict the colleges to training little but primary and infant teachers.

We therefore believe that there is an urgent need for the effective co-ordination of all provision for teacher training, whether in universities or training colleges, and that the whole of this provision should be related to the needs of the schools. We consider also that the voluntary colleges, which have their distinctive contribution to make, ought to be represented on any co-ordinating body which may be established.

(b) *Financial*

There is equal need to unify and co-ordinate finance. Voluntary colleges are under the direct control of the Ministry of Education in respect of all their running expenses. This has some advantages, not least because it makes possible an over-all view of a substantial cross section of the colleges. It also enables the official representatives of the voluntary bodies to discuss broad questions of policy with the Ministry and it would be churlish not to acknowledge that careful consideration is given both to their views and to those of individual colleges. The Churches

make a direct contribution to capital expenditure, as they provide 25 per cent. of the cost of expansion and 50 per cent. of other work. Such expenditure is agreed between the Ministry, the individual college and, in the case of the Church of England, the Council of the Church Training Colleges.

It is difficult to see how there can be any efficient over-all financial oversight in the case of the Local Authority Colleges. Though expenditure is shared between the Ministry and the Authorities the poll system inevitably masks many inequalities and much variation from college to college. Then again there is an entirely different financial system for university institutions. If, as we believe should be the case, the whole of teacher education should be considered as a co-ordinated whole, there is a strong case for a common oversight of the whole field of financial provision.

9. Summary

(i) Through its training colleges the Church of England makes a real contribution to higher education, the distinctive feature of which is to send into both Local Authority and Voluntary schools teachers who have been educated in colleges whose assumptions are Christian throughout (paragraph 2).

(ii) The voluntary sector of teacher education, consisting of colleges sponsored by the Churches, which accounts for some 40 per cent. of the total number of students in training colleges, lays claim to an independence which should be preserved as higher education expands to embrace a larger section of the community. With the relative freedom from stereotype controls which is its fortunate possession, it is willing and should be encouraged, in the ways suggested, to experiment in new forms of personal, academic and professional education (implicit in the whole of our evidence).

(iii) As mainly residential institutions providing a course of concurrent academic and professional education the training colleges make a distinctive contribution to higher education (paragraph 4).

(iv) That a professional qualification of undoubted status should be granted at the end of the three year course (paragraph 5 (a)).

(v) The effectiveness of the colleges would be considerably strengthened by closer association with the universities and as great a diversification as possible of different forms of education and training (para. 5 (b) to (e)).

(vi) Two new kinds of college are suggested. The first would provide a three-year course of general education leading to a degree, with provision for a post-graduate professional course in education. The second would provide academic and professional education for other forms of social work as well as education (para. 6).

(vii) We consider that the time is ripe for a study of the functions and of the optimum size of Institutes of Education. In the case of new universities there is particular scope for new thinking about their relationship to training colleges (para. 7).

(viii) There is need for effective professional, academic and financial co-ordination of all types of teacher education (para. 8).

The following supporting document was also submitted:

Appendix giving brief information on each of the Church Training Colleges.

ORAL EVIDENCE

given by

Rt. Rev. Dr. R. W. Stopford (Bishop of London) Mr. R. J. Harvey and
Dr. Kathleen Bliss

on behalf of

THE CHURCH OF ENGLAND BOARD OF EDUCATION

Friday, 29th September, 1961

Chairman: I see that your written evidence falls into three parts. In the first you indicate various general propositions with regard to higher education; in the second you raise the question of the future place of training colleges; finally, you make detailed recommendations about the Church of England training colleges. May we arrange our discussion in this order? On the first part of your evidence, may I ask you what recommendations you would make to this Committee for administrative action?

Dr. Stopford: We do not, of course, anticipate that anything will be done to take away from the proper autonomy of a university, but we felt we could not write Parts II and III of our memorandum until we had written Part I. Part I determined in our minds certain things, for instance, the importance of residential facilities. We felt that until most undergraduates had the opportunity of a personal relationship with dons, a great many broader objectives could not be secured. This means that the staffing ratio in universities may require to be even more generous than it is now. Again, we would hope that there would be within university life at least as much emphasis on teaching as on research.

Chairman: I do not think you will find disagreement here with these general sentiments. We are, however, confronted with a dilemma. On the one hand we are told that the university population should be rapidly increased. The population as a whole is increasing and, unless more provision is made in a few years, there may be much disappointment among worthy young men and women unable to obtain a university place. It may be that the claims of rapid expansion

are competitive with claims for a better staff/student ratio.

Dr. Stopford: While we appreciate the dilemma, if a choice has to be made here we think it would be better to give the full kind of university education to as many people as possible, rather than to give something less than that to a larger number. Dr. Bliss has been very closely connected with our discussions, and she may have something to add to what I have said.

Dr. Bliss: We were thinking, in our memorandum, in terms of about twenty years hence. We recognise that there will be an acute stage when the 'bulge' leaving school coincides with the enhanced popularity of higher education, and that these two factors together will create a demand for a crash programme which will, in our opinion, have to be put into force. Nevertheless, the full education of the people who will be the staffs of universities in the future would seem to us to be a matter needing constant consideration. Our memorandum suggests the long-term objective; the crash programme will have to be an emergency measure.

Chairman: It could be that there would not be disagreement about the long-term objective. It is the problem of what to do in the next ten years which is causing acute anxieties.

Dr. Stopford: We feel that at all costs the proper personal relationship between staff and students should be provided, that, even in the crash programme it should not be lost sight of, even if thereby the crash programme had to be somewhat curtailed. Our board, in varying degrees perhaps, considers the importance of residence is such that it must not be overlooked even in times of emergency. We have had a great deal of

evidence from our Anglican chaplains, and others in the universities, that in some halls of residence, as at present administered, the qualities we are looking for are not always achieved; that the association of those who teach with the life of the halls seems sometimes to be less than we would think necessary. We are not here necessarily setting our standard as high as the Oxford or Cambridge college system. We have, however, been told of a number of institutions where the hall of residence, if I may speak bluntly, is only a superior lodging house and has little academic quality.

Chairman: You have no doubt considered that aspect in the plans for York?

Dr. Stopford: I did. Everybody, particularly in the newer universities, is striving after this, the goal we have in mind, and I would not want to appear critical of what the redbrick universities are doing. We do, however, feel that residence in the full sense has not always been, and is not always at present, sufficiently allowed for in some of the residential arrangements.

Dr. Bliss: One can understand the reasons for this, and would not want to attach blame. Compared with twenty years ago, remarkable progress has been made.

Chairman: How far would you wish to go? I suppose in the ancient universities the resident percentage of the university population is substantially less than fifty, is it not?

Dr. Bliss: But the percentage of those who have no experience at all of living in is, of course, much less. I would not necessarily think it right for a training college student to spend the whole of the three years in residence, but I would feel it was wrong not to have had considerable experience of living in a residential community.

Chairman: And of course the training colleges have some advantages over many universities in this respect.

Mr. Harvey: During the crash period there will be a danger that the standards we have been talking about may fall considerably.

Chairman: You mean the relation between staff and student?

Mr. Harvey: Yes, that in particular, and especially in residential colleges. Might it be possible to ensure that at least a certain number of the new universities had a higher proportion of residents than the rest, so as to maintain a target for the others at a later stage when they have a chance of further development? That kind of approach has been known to be successful overseas.

Chairman: My guess would be that in the next five years, or perhaps in the next eight or nine years, the approach will have to be empirical and it will not be easy for the individual institution of higher education to conform to a set pattern.

Mr. Harvey: I do not think we would want to see any set pattern.

Sir Philip Morris: Is there not a dilemma here? We do not want to refuse people who want to be educated and that inevitably means having to keep the worst lodgings in use. Now if we are trying to maintain the standards we are after, the worst lodgings must be put out of use, whatever that may entail. It is not practicable artificially to distribute residential accommodation between universities. It would have to be distributed according to the need for accommodating students. Take a university of from 3,000 to 6,000 students. It may now be using 1,800 lodgings. It is not practicable to double its student accommodation in lodgings because the district would not stand it. In the crash period the problem can only be approached from a practical point of view. Put in another way, the price of keeping on a lodging in use in some places is to increase the amount of residential accommodation in others.

Mr. Harvey: That is what has had to be done in other parts of the world.

Chairman: I speak as a London teacher where the practicability of halls of residence in close proximity to the colleges is limited. I think that a great deal can be done to mitigate the impersonality of education of larger numbers without residence. The

important thing in the short run is that young people should feel that, from the moment they enter the portals of the institution, someone is interested in them, and that the classes, if not the lectures, should be small. In that way it is possible in an interim period to foster valuable personal relationships. If I had to choose in London between extension of residence and stepping up of numbers I think I would choose the admission of eligible people.

Dr. Bliss: We would also.

Dame Kitty Anderson: There should, however, be enough rooms in the universities for members of staff to see students.

Chairman: It is also important that the colleges should be used in the evening as well as in the day.

Dr. Bliss: We feel that the ten-week term and the seven-day week is part of the solution of this problem of personal relations: that the university which puts its lights out over the week-end and is dominated by what suits the caretakers is on the wrong path.

Chairman: Do you know of universities which are dead from five o'clock onwards?

Dr. Bliss: We know of universities where significant parts are dead at that time and where students in certain departments cannot make any contact with the staff. I also know of one university where a plan for a place where staff and students could occasionally eat a meal together was turned down. There is almost complete segregation. We do not want to put all our eggs in the residential basket, but rather in the creation of a larger number of possibilities for universities to become what they used to be, communities of scholars.

Sir Philip Morris: Was the proposal turned down on practical grounds or on principle?

Dr. Bliss: On financial grounds.

Mr. Chenevix-Trench: May we suppose that you can choose between the residential places in universities and the present faults and failings of sixth form education, for which there is

much evidence that the shortage of university places is responsible? Which would do the most harm, a continuation of intense pressure on children in the last two years at school, or a failure to reach the highest standards in staff/student relationships in universities?

Dr. Stopford: I would prefer to relieve the pressure on sixth forms, provided that universities kept the residential goal well in mind, and reached it as soon as they were able.

Chairman: My impression is that the majority of university teachers are in favour of residence when it can be obtained, but of course the availability of such accommodation varies with the location of the university. If the university is located in a rural area it is easier than if it is located in a great metropolis. I do not know what you think about the claims of large aggregations of human beings and their eligibility for this sort of privilege?

Dr. Bliss: I would hope that at least some of the new institutions which may be created will not be placed in a large urban setting.

Chairman: You do not hanker after any more accommodation in London?

Dr. Bliss: No; although students seem to benefit greatly from being in London, I meet many lonely students there and it seems to us that London cannot perhaps absorb many more students at present without the chance of loneliness being increased.

Chairman: I know what you mean. However, there remains the question whether, for a population of ten or twelve million, according to where the boundaries are drawn, the existing university provision is proportionately adequate.

Dr. Stopford: I do not know what percentage of men and women in the University of London have their homes inside the metropolis, but I suspect the number who come from outside is high.

Chairman: Are there any other matters to which you think we should give special attention under the general category dealt with in your Part I?



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Dr. Bliss: In Part I, Section 4 (iv), we have said that if there are to be other institutions than universities for general higher education we think that students should not be selected for them on a stratified I.Q. basis, the top level going to the university and the rest farmed out to other institutions. We feel strongly, from training college experience, that difficult though they may be to assess, there are differences of capacity between people which are not merely differences of I.Q. We are impressed by the distance to which a student of moderate ability will go, given not only teaching and training but a goal. We think that the goal is important in influencing both the pace and the depth of learning. We would oppose a new type of general college of higher education if it was confined to a pass degree standard.

Chairman: You are not altogether in harmony with some of the suggestions which have been made for the proliferation of liberal arts colleges as distinct from the universities?

Dr. Bliss: No. The Bishop and I have seen a considerable number of them in the United States. My view is that they grew up for historical reasons, very largely connected with the churches, and there is no reason why we should think that we are in the same historical situation. I would hope that we would not be too much overshadowed by that not too fortunate example. If some American liberal arts colleges had the stiffening of a vocational stream they would be different places.

Chairman: Could you enlarge on this? It is contrary to much we have been told.

Dr. Bliss: I based my remarks on my knowledge of some of the small local ones in the Middle West. I would say that if a liberal arts college is as good as a university it should be a university. Secondly, if we are to have a device for taking up the 'slack', it should be a temporary device and we should plan ahead for something which is not in the nature of a permanent *pis aller*. We should not have institutions which are labelled 'for those who did not quite make it'.

Mr. Elvin: Is this consistent with your recommendation in Part II that some teacher training colleges should become liberal arts colleges? Do you mean they should become universities?

Dr. Bliss: No. They should remain colleges with the stiffening backbone of vocational interest, but they could well take into them a general higher education stream. We do not like the phrase 'liberal arts'.

Mr. Elvin: Would not the people in that stream feel they were people not quite in the university?

Dr. Bliss: No; they would probably be people aiming at some other profession, perhaps in the social services.

Mr. Elvin: I can see the advantage of the college which caters for more than teaching. I understood that the idea of a college which trained others apart from teachers was a distinct conception, and different from the idea of turning teacher training colleges in whole or in part into colleges of general first degree education.

Dr. Bliss: The student who might with advantage go to an enlarged training college would be the student who would do better in a smaller, more highly residential institution. That would be the reason for sending him there. A university is always a hurly-burly where it is not easy to deal with any great number of students who need nursing along a little. A residential institution is much more capable of doing that.

Sir David Anderson: To say to a young man or woman 'You would be rather lost if left on your own; we think you need a lot more pastoral care' would create some resistance would it not, unless they had a vocational drive which would interest them in going to that kind of college?

Dr. Bliss: An important feature in the American liberal arts college is counselling. In some colleges it overshadows the academic work. Counselling in an American college means helping students to find out what they would do best, giving them a widespread general course, and during that time watching them to see whether they should follow it up with

this or that kind of professional training. This is important for some young people. This, it seems to me, is far more suited to the smaller residential college where students are under closer survey. I think that a higher education stream in a training college would essentially be for the young person who wants to study two or three subjects.

Chairman: Are you suggesting that the universities should consist of one-subject honours specialists?

Dr. Bliss: No.

Mr. Elvin: Why should a person who wants to take a general degree not go to the university?

Dr. Bliss: He should, if there is room for him. We are not thinking of large numbers in this connection. We think the training colleges should widen their scope mainly in terms of other professions, but that they should also include general students who want to go there.

Chairman: Would you expect that in the ideal situation of, say, 1980, there would be large teacher training colleges in which students with no special vocational urge were taking courses in some sense equivalent to the general courses at the university, or would you prefer universities enlarged to include those students, and the training colleges concentrating on those who were going to be teachers?

Dr. Bliss: Are you not assuming that the training college would be more separate from the university than we would wish? I have assumed, perhaps wrongly, that the training college would be much closer to the university.

Dame Kitty Anderson: With interchangeability of students?

Dr. Bliss: Yes.

Dr. Stopford: And staff also.

Sir Philip Morris: May I ask what views you have about the possibility of handling in the future what would be, in terms of the present position, very large numbers in higher education? Would you like to see these large numbers in a cluster of institutions, and, if so, how would you

set about establishing them? Or would you like to see them all in universities, leaving the universities to find some method to organise constituent institutions, as many American universities are striving to do?

Dr. Bliss: We have thought about this in terms of certain of our training colleges. We have considered the possibility that they might become colleges of a proliferated, more variegated university, with institutions within it which had a certain life of their own. We have also considered the other alternative, that the training colleges go ahead on their own and the universities on their own, and the universities remain small, with the pressure on them somehow relieved, but we have not reached any definite view on it.

Dr. Stopford: Except that we have assumed that, whichever alternative were chosen, the training college would not lose its vocational sense and purpose.

Chairman: We have had evidence from representatives of teacher training colleges, and I have been struck by the fact that, while they would plead for better status in the hierarchy of higher education, they were at the same time averse to being entirely assimilated into the university complex.

Dr. Bliss: All the twenty-six training colleges with which we are directly concerned feel strongly that they must preserve their vocational position. Anything which we have said about additional vocational streams was based on the understanding that the essential purpose of the training college—to train teachers—would not be destroyed.

Chairman: Would you think there was a danger that if training colleges were under the wing of universities they might be forced into ways of living which were inferior?

Mr. Harvey: This depends on the importance which universities themselves give to Education as a discipline. If due importance is given to that, training colleges can be closer to the universities while retaining their special character. If the training colleges were looked upon as inferior to the subject departments they would suffer

from a closer association. We would welcome closer association, but subject to a rather different atmosphere prevailing in the universities.

Mr. Elvin: Is the distinction not between association with a university and an ultimate responsibility resting with a university? The former would leave all the room necessary for the distinctive character of the training colleges; it is what happens with the institutes now. It has been suggested to us, however, that if the three-year training course were recognised as in part equivalent to a degree qualification there might be a danger that, say, biology would have to be taught in a training college not in the way it was taught to undergraduates but in a watered-down fashion.

Mr. Harvey: We would feel that the course should stand on its own feet as a professional training. We think that the standard of work would be such that the universities should recognise it as part equivalent to a degree. The course is essentially a professional one, but we would hope for sufficient flexibility in university thinking for it not to be necessary for those who had completed it to study for a further three years to obtain a degree.

Chairman: Do you find that flexibility in the university Institutes now?

Mr. Harvey: In two or three cases, but not in general.

Sir Philip Morris: One possible relationship is that in which a training college would attempt to provide, under university supervision, education for all its students in a course recognised by the university as being of university standard. Another possible relationship is that in which the training college would be independent in arranging its courses, but would hope that the courses would make it possible for some of those students subsequently to be recognised by the university as having done something, but not everything, which was of university standard. Which of those two do you look forward to?

Mr. Harvey: The first. It suggests a concurrent four-year course leading to a degree qualification, but having a course tailored to itself and not tied

to normal university degree courses. I think that possibility could only apply at present to a limited number of training college students. The second would apply to the more general run of training college students.

Sir Philip Morris: It might be argued that the consequences of trying an arrangement under which every student took a course which a university would recognise as being of university standard is that the training colleges would be set on a course which inevitably involved them in an attempt to become universities. Would you want that?

Mr. Harvey: No.

Sir Philip Morris: Then you would choose the second, on the ground that it allowed the training colleges to continue as colleges with their own *raison d'être*.

Dr. Bliss: Are you assuming that all training colleges must go the same way? I think we see two different types among our own training colleges of which one type should come much closer to the universities. The appendix to our evidence lists the colleges which have wing courses and these we would regard as suitable for a closer relationship with a university. There are other colleges which are not in the same situation, where some students would follow a course which a university would accept and others would follow autonomous courses. Is this not related to questions of curriculum, into which you do not wish to enter—the difference between physical education, handicrafts and history, for example?

Mr. Elvin: Would not your first group of colleges become institutions like Keele where a student could take a degree over a four-year period with education as one of the constituent parts? They would not be training colleges as we understand the term now.

Mr. Harvey: But we do not want to condemn those in the ordinary three-year colleges to be without further opportunity. Students with the minimum of five 'O' levels, with effective teaching will often do better than those with two or three 'A' levels. Our

fear would be that there might be frustration among many pupils who went to colleges in the second group and despite rapid development had no opportunity to do work of the level of the other colleges.

Dame Kitty Anderson: I think this certainly applies to girls. Is it your view that requirements for entry to training colleges should not be geared too closely to university entrance requirements?

Mr. Harvey: That is so and, as you say, this applies more to women's colleges than to men's.

Sir Philip Morris: Let us assume that the case for combined education and training for teachers is accepted, that the necessity for retaining that particular method for that particular kind of student is established; the question remains: in what kind of institution in the general higher educational system would you embed the training colleges?

Dr. Bliss: Among the staffs and governing bodies of our training colleges a great deal of hard thinking is going on as a result of the setting up of your Committee. The movement of thought is such that we would like to seek your permission to submit further evidence on this later. We have had our report printed, and every member of the governing bodies of our colleges will have a copy; conferences and consultations are being held. The question which Sir Philip Morris has raised needs very careful thought. The church colleges attach great value to their relationship with one another, in which the strong help the weak and the Church tries to help them all. If some of the colleges were to be closely and exclusively linked with universities the battle would go to the strong. They would go from strength to strength, and the weak might go from weakness to weakness. Not only from the point of view of the colleges and the students, but also from the point of view of the schools, this would be undesirable. If our primary school teachers were trained in the lowest level of institution of higher education, what would be the ultimate effect on the education they would later be giving?

The primary schools need teachers of first class, though different, ability. We would not welcome a situation in which recruitment to the staffs of these colleges gradually fell off because the staff would go where the future seems to be leading. This would ultimately weaken not only our colleges but the primary school situation. We are therefore thinking not only of closer grouping with the Institute of Education, as we have said, but we are asking whether there is not something in this grouping of the stronger and the weaker which all training colleges should have, something which nationally or regionally holds them together.

Mr. Elvin: I think this is provided to some considerable extent by the Institutes. I appreciate your reluctance to make a division among your colleges. That is why I question the wisdom of stressing too much the idea of giving some colleges an independent one-to-one relationship to the university instead of keeping them linked with the Institute.

Dr. Bliss: We have not finished our thinking about this; we want to think more.

Mr. Elvin: There is a cognate point here. If you broaden the scope of some of the colleges to cover other activities do those colleges stay in an Institute of Education? Do they stay in respect of only a part of their work or do they, with other similar colleges, form perhaps a new institute of social service training?

Dr. Bliss: Our answer would vary according to how far you want to go, and what you want to include. While we shall give more thought to the question whether theological training and teacher training should come closer together, I think we should have doubts about adding to the training colleges other courses which might be of lower academic content. We would not like to see anything happen which moved us further from the universities than we are at present.

Mr. Elvin: Where do you stand with regard to training of hospital almoners, factory inspectors and psychiatric social workers and so on?

Dr. Bliss: We think that there should be a sufficient common academic core so that all the students would follow some of the courses. We would not like to see our colleges developing into institutions in which some departments had no overlap with others.

Mr. Harvey: May I say something on the question of the organisation of Institutes? We would think that ten or more colleges might very well be too large a group for an Institute, and that with four to six a much closer relationship would be possible. In a sense they might form a federal institution. If they were geographically close there could be interchange of staff and to some extent of students, and each college would be able to retain the value not only of a comparatively small and largely residential institution but also the advantages of a better spread of staff than is possible in a college of three or four hundred students. Such a group might build an effective organisation which would stand on its own while closely linked to the university system.

Dr. Stopford: So far as the relationship between the Institute and the university is concerned, one of the most valuable features of the association is that a number of senior members of the university are in intimate contact with the teachers in the training colleges and exercise a profound influence over the syllabus, not by virtue of any direct control but because they knew more about that particular job than anybody else. I think that the essential here is to keep a personal relationship between some senior members of the university and the groups of professional training Institutes.

Sir David Anderson: Do you think any particular university should have more than one Institute?

Mr. Harvey: No.

Mr. Elvin: Let us suppose that one Institute should have more than one university; if the London Institute is too large, it is because London is too large.

Mr. Harvey: There might be ways of dividing up London.

Sir Philip Morris: Bristol cannot do that.

Mr. Harvey: Bristol has too many colleges, in too wide a geographical area.

Sir Philip Morris: Exactly. Would you solve this kind of problem by detaching some of the colleges and, if so, how do you attach them elsewhere? Or alternatively would you like Bristol to have more than one Institute?

Mr. Harvey: That would depend on the creation of new universities. In some cases new universities might naturally hive off the colleges from existing ones. Where geography made it necessary a group of colleges might be separate from the Institute.

Sir Philip Morris: Might it involve reducing the number of colleges?

Mr. Harvey: The number of universities is increasing. I would be in favour of grouping a smaller number of colleges by one or other means. In a very large group there is the danger that the central Institute may become too dominant. There should be greater equality between the colleges and the centre. At some new universities the training college itself might become the centre.

Sir Philip Morris: Would you agree that there is a limit to which movement in this kind of direction is possible during the next fifty or hundred years?

Mr. Harvey: That may well be. Our contention is that the future of the training colleges should be considered from this point of view.

Chairman: Your aspiration is that there should be facilities for people who are taking the training college course to proceed to university degrees with substantial exemptions?

Mr. Harvey: Yes.

Chairman: Would not your regrouping scheme make that more difficult?

Mr. Harvey: If the colleges are brought into closer relationship with a rather more detached Institute and a closer relationship between themselves, I do not quite see that the position would be weakened.

Chairman: Were you not proposing to have some independent centres?

Mr. Harvey: We do not want to do that, but there might be the geographical dilemma in attaching them effectively to universities.

Mr. Elvin: I would like to ask for an elaboration on the point made at the end of your training college paper: '(viii). There is need for effective professional, academic and financial co-ordination of all types of teacher education'. Does that imply that there should be a similar system of finance for university departments and training colleges? Or does it refer to the fact that training colleges serve three masters at present, the university, the local authority or the council like your own, and the Ministry in respect of many financial matters? What would the proposed new arrangements be?

Mr. Harvey: We think the present arrangement anomalous. We feel that the most difficult factor is the differing attitude of local authorities to their colleges, the system of pooling expenditure, and so on. We would very much like to see a common form of finance for both the university department and all kinds of training college. There is at present a danger of too much detailed control by the Ministry, which does not make for good administration. We would like to get away from that to some sort of grants committee for the whole of teacher education.

Mr. Elvin: Would this be a sub-committee of the University Grants Committee, a separate body, or what?

Mr. Harvey: That would depend to a considerable extent on the overall control structure for the training colleges.

Chairman: Could you make explicit the administrative hierarchy of the future as you see it in this respect?

Mr. Harvey: There should be a body which could look at the whole of teacher training from a single point of view, probably with sub-committees. It is difficult to see ahead. In line with our conception of a more closely-knit and smaller Institute of Education, there might be a body based largely on these Institutes, with other representation on it, which concerned itself with general policy for teacher education.

Chairman: This body would function independently of whatever body makes grants to universities proper?

Mr. Harvey: Yes.

Chairman: Have you given thought to the question whether Parliament will be prepared to go further in increasing the university type of grant without introducing control? If the whole apparatus of teacher training and technical education were added, it is conceivable, is it not, that the fragile apparatus of the U.G.C. could not persist unchanged?

Mr. Harvey: No. But we want to get away from the anomalies of the present situation.

Sir Philip Morris: Do you think to introduce *ad hoc* principles in any part of the higher education system is desirable? What would happen to your training colleges if they did anything which was not teacher training? The *ad hoc* principle you are advocating is likely to confine institutions within the narrow limits of the principle on which the administration of government is built. Would that in the long run be a good thing either for training departments or universities or training colleges?

Mr. Harvey: No.

Chairman: One further point: If some of your training colleges developed into something more like a university, or even into a university, would not there arise a complex of delicate and controversial problems?

Dr. Stopford: I can answer the point I think you have in mind. If some of our institutions were to blossom out and become quasi-universities, for my part I would abhor the idea of a Church of England university. We value the fact that we do not have exclusively Anglican students in our training colleges; we would not wish all the students to be Anglicans. Our training colleges provide us with an opportunity to do the things we want to do in our own particular way for those who want it done in that way. Beyond that we would not wish to go. I think I am also speaking for my colleagues here.

Chairman: We have had a very interesting conversation. We shall be delighted to receive a further submission when your Board has completed its reflections on these matters.

Dr. Stopford: We are grateful for the opportunity to carry our thinking forward.

MEMORANDUM

submitted by

THE CHURCH OF ENGLAND AND FREE CHURCHES THEOLOGICAL GROUP

19th July, 1961

Note

This memorandum has been prepared by a group consisting of seven university professors of theology and representatives of the Church of England and the Free Churches responsible for theological education and nominated to the group by their Church authorities.

THEOLOGICAL EDUCATION IN UNIVERSITIES AND THEOLOGICAL COLLEGES

Two statements accompany this memorandum. The first gives a summary of degree courses in theology in the English universities and the number of students pursuing them. The information was in the first instance prepared by the relevant authorities in the Universities and the method of grouping and description of the courses was submitted to them for comment and correction. It proved impossible to obtain complete figures for the number of applications: since the relation between these and the number of applicants would in any event be impossible to establish it was decided to omit them.

The second statement gives particulars of theological colleges, including the relation of the colleges and of the individual members of their staffs, to universities, and the number of students and the courses they are pursuing. The information relates to the Church of England and the English Free Churches (Baptist, Congregational, Methodist and Presbyterian), and was supplied by the appropriate authority in each. Some colleges in Wales and Scotland are included.

The study of theology has four main aspects (1) It is a learned study in its own right; (2) it is part of the professional training of the ordained ministry of the Church of England and the English Free Churches; (3) it contributes to the teaching of religious knowledge in schools; (4) it provides for students of other faculties a brief but academically competent answer to the question, What is the Bible and what is Christian doctrine?

1. THEOLOGY AS A LEARNED STUDY

Theology as a learned study has a history as long as the university itself, and as complicated. In the medieval universities its only equals were Canon Law, Civil Law and medicine. All were vocational studies, to use the modern jargon, and there is not therefore anything new in regarding theology as in part learned study and in part a form of professional training.

The emergence of a large range of new studies within the university has continually changed the methods and much of the content of theological study. For example the study of the text of the Bible has been transformed by modern scientific methods of textual analysis, by the growth of archaeology, by the study of non-Christian religions and so on. Again, it is no longer satisfactory to isolate Church history from history, or to separate the history of separate Churches from one another or from their social and political context. The latest pressures—noticeable in some of the research theses chosen—demand a closer link between theology on the one hand and sociology and psychology on the other. The long association between theology and philosophy (traditionally stronger in Germany than in England) has been weakened by changes in both disciplines. But recently new efforts have been made to make use of modern philosophical tools in examining the nature of religious language.

There is no lack of activity and variety in the field of theological study. However, there are two questions needing attention. The first relates to the future supply

of theological teachers. The making of a theological scholar and teacher is a long process: unless men (and women) have the fundamental linguistic skills and a knowledge of literature and history, they have not the foundations for advanced work in Biblical scholarship, which is in England at any rate the core of theological study. Heavy specialisation on the science side in schools and the decline in the study of classical languages mean that many of those who have ability and interest lack any knowledge of Greek, Latin or Hebrew and have to acquire it at the university. This means that the process of making a theological scholar and teacher takes longer. Universities have begun to modify their courses in order to meet this need: Oxford, for example has recently created a four-year course for the Honours School of Theology, parallel to Greats, in which Honours Moderations is taken in the fifth term. In branches of theology other than Biblical scholarship distinguished teachers come from other disciplines, including pure science and philosophy. This cross-fertilisation is vitally important.

The second question relates to the content of theology as taught. Like some other disciplines in the university theology is undergoing an internal upheaval, made more acute in its case by the present crisis in belief. With varying degrees of impatience the intelligent outsider to the theological scene asks whether the theologian should not devote his main energies to a more direct answering of such questions as whether Christianity is true; what its central affirmations mean; whether its ethical teaching is dependent on its metaphysical presuppositions and whether that teaching is too much bound up with social conditions of a former age to be relevant today. These are legitimate questions. Their answer depends amongst other things on the recognition that Biblical and historical study, i.e. study of the sources of Christianity, is relevant to these issues. But there are at present growing points of theology made by its contact with and response to other disciplines and with the problems confronting the contemporary Church in the world. These growing points should be regarded as a central, not a peripheral, part of what is to be taught. Scholars in other disciplines interested in theological issues and discussing them with intelligence play an important part in the contemporary development of theology.

2. THEOLOGY AS PART OF THE PROFESSIONAL TRAINING OF THE MINISTRY

Theological colleges may be divided for convenience into two groups:

(i) **Colleges near to universities.** In these are concentrated a high proportion of the graduates in training and all those who are reading theology as a second first degree. At several universities, including Oxford and Cambridge, it is possible for graduates to take a shortened honours degree course in theology (two years).

Two reasons are advanced for the practice of reading theology as a second first degree and not as a first degree. (1) The Churches and the wider community need in the ministry now as in the past men of broad culture and interests: a degree in a subject other than theology contributes to this end. Some Free Church authorities in particular encourage ordinands to take a first degree in a subject other than theology. (2) Decisions on ordination are frequently taken during the time spent at university. The advantage taken of the chance offered by the Cambridge Tripos to change to reading Theology after one or two years spent on another subject gives additional evidence that this is so. We are glad, therefore, that the Anderson Committee recommends (paragraph 50 c) the award of grants for a 'second first degree' in theology for students of sufficient ability. We do question, however, whether the possibilities of reading theology as a first degree are fully explored in the schools: the poor staffing situation in divinity makes this difficult.

The Free Churches have concentrated all their theological colleges in university centres, in some cases combining colleges in order to do so. Some of these colleges—Mansfield, Oxford (Congregational), Wesley House, Cambridge (Methodist), Westminster College, Cambridge (Presbyterian), and Regents Park College, Oxford (Baptist) are wholly or almost wholly colleges for graduates. Others are mixed colleges, some of them with a substantial majority of men

reading for an internal course. The Church of England colleges in Oxford, Cambridge, Birmingham and Durham, eight in number, are with small and varying exceptions colleges of graduates, but their policies vary, some having a number of students reading for a second first degree or a degree in theology while others, although situated in the university, provide their own courses for all their students.

(ii) **Colleges remote from any university**, existing or prospective. These are all Church of England colleges. Three of them are mainly for graduates (Lincoln, Wells and Mirfield): three (Hawarden, Rochester and Worcester) are for men over thirty, almost all non-graduates, coming into the ministry from other walks of life. The rest are mixed colleges of graduates and non-graduates. The General Ordination Examination is the recognised standard for all. Its examining body is composed of men who are or have been university teachers in theology. There are certain recognised equivalents for the whole or part; two of these are the Associateship of King's College, London and the final examination of the London College of Divinity (each following three years of theological study); the rest are university qualifications. There are recognised modifications in the form of examining some older men.

It is not always easy for men in these colleges away from universities to retain or develop a scholarly interest in theology. The colleges do not indeed regard it as their main responsibility to form scholars but to prepare men for their vocation as parish priests in a ministry which is by long tradition and present need largely pastoral. In spite of the decline in the practice of religion 60 per cent. of all children are still baptised in the Church of England and almost 50 per cent. of all marriages take place in parish churches. The calls on the parish priest by the community outside the immediate circle of churchgoers are many and various. The question to be asked of theological education in theological colleges is therefore how well they prepare men for their role in church and community. The chief object in a theological college is to equip men with the spiritual resource of an ordered and disciplined life, a study of the English Bible (with some New Testament Greek), the Prayer Book and Christian doctrine, the pastoral skills and, as far as may be, some knowledge of society.

Grants. The Anderson report comments that 'greater variations of practice as between one local authority and another occur about courses at theological colleges than about other courses' and adds 'in so far as 'comparable' courses in the theology may be available at non-university institutions we recommend that they should be treated for awards purposes on the same basis as 'comparable' courses in other subjects' (paragraph 57). Our evidence confirms that there are variations of practice between Authorities in awarding grants. There is however no theological college which does not have some grant-aided students in it.

Universities and theological colleges: future relationships. There is a reciprocal relationship between some university faculties of theology and the theological colleges in the same university. A considerable proportion of college principals and staffs are professors or lecturers: the relationship has obvious mutual advantages, enlarging the range of subjects taught, providing a community of discourse for staff and students and attracting a variety of students to advanced work and research.

In a time of growing co-operation between Churches in theological study and research, of which the New English Bible is an illustrious example, it is not surprising to find that university degrees and other university qualifications in theology form a common basic element in the training of a considerable proportion of the ministry of the Anglican and English Free Churches. We think there is a case for at any rate exploring the possibility of a closer link between universities and theological colleges, perhaps on a regional basis. We do not believe that all colleges would necessarily have to move into university centres in order to receive some of the advantages of closer association with universities.

3. THEOLOGY AND THE TEACHING OF RELIGIOUS KNOWLEDGE IN SCHOOLS

(i) **Grammar schools.** There has been a slight increase in the last five or six years in the number of grammar schools which have fully qualified Divinity specialists. The proportion is now probably just under a third; then it was about a quarter. More schools have placed the bulk of their Divinity teaching in the hands of one member of the staff.

The proportion of grammar schools which now offer a course in Divinity at Advanced Level is also slowly growing, but it probably does not exceed one quarter. On the other hand, the number of candidates offering Religious Knowledge at 'A' level has increased. In 1950 (the last year of Higher School Certificate) Religious Knowledge accounted for 4 per cent. of the entries in English, 5 per cent. of those in History, 10 per cent. of Latin, 5 per cent. of French and 3 per cent. of Physics. In 1959 the corresponding percentages were 9, 12, 26, 18 and 6. Advanced level teaching requires graduate qualification.

A disturbing aspect of the situation is the increase in the number of grammar schools where some forms or teaching groups are without any religious instruction. Some estimates would put the proportion as high as one-fifth: this may be caused by pressure of other subjects or by shortage of suitably qualified teachers.

Grammar schools seem to need specialists in Divinity who are also competent to teach another subject. On educational grounds it is doubtful whether one specialist teaching Divinity to 500 or 600 can really do justice to the children taught. The tendency therefore is to seek teachers with some qualification in Divinity; but the resultant situation is that many teachers carrying a heavy load of Divinity teaching have their inferior qualification in that subject. Many try to make good the lack by taking an external degree or other qualification, of which there are a considerable number: teachers account for a high proportion of those taking diplomas and certificates.

The shortage of qualified teachers of Divinity in the schools is not a situation to which the theological departments of universities can be indifferent, and some have clearly been influenced by it in making changes in their degree courses. The part of theology selected for inclusion in a 2 or 3 subject general degree is almost always Biblical Studies, i.e. the study of the English text. This is theology shorn of what we have described in Section 1 as the growing points of theology in relation to other disciplines, and of its wider traditional content of doctrine. It will contribute something to the teaching of the older Agreed Syllabus but takes no account of the broader scope of newer syllabuses which include for example modern Church history, the development of the ecumenical movement, a study of the creeds and of Christian worship. Nor will it produce the teachers needed for the excellent proposals of the Crowther Committee to make Religious Instruction one of the joint studies for Arts and Science students in VIth forms (paragraphs 408 and 409) summarised by the report as 'the endeavour to discover and to understand the central affirmations of the Christian faith so that (whether they accept it or not) they at least may know what Christians believe.'

The situation in the grammar schools might be helped by university courses resembling Greats in that the subjects are related to one another. The new universities are raising pertinent questions about the future study of history, language, literature and social studies, and the connection between them. We would like to see theology, as a study of the central ideas of the Christian religion, religious and ethical, as they have formed part of our western civilisation, included in this kind of general degree. We would press this not on grounds of the needs of schools alone, but on the more important ground that a general study of European culture which omits religion is incomplete.

The kind of questions in young people's minds today would indicate a need for much more concentration in the preparation of Divinity teachers on the basic meaning of the word 'theology' (i.e. that it is about God) and on Christian ethics, a neglected subject in the academic world. We would argue that in terms of theological content the ordinand and the teacher need much the same: each

should be given the best available theological knowledge. But the professional training of each is different and the schools need teachers.

(ii) **Secondary modern schools.** The trained teacher, able to meet young people where they are, is even more important in the teaching of Religious Knowledge in the secondary modern school. Untrained graduates, however well qualified, are unlikely to perform well so difficult a teaching task. We therefore hope that the main supply of teachers for Religious Instruction in secondary modern schools will come from the Training Colleges and would stress the importance of advanced qualifications in the subject.

4. THEOLOGY AND THE NON-THEOLOGICAL STUDENT

A number of students are interested in some aspects of theology who have no intention of being either ministers or teachers. King's College, London, has for a number of years run a course for non-theological students consisting of six terms of lectures, some required reading and a brief examination leading to a certificate. The course is as popular with scientists, engineers and medical students as with any others. 317 students are at present working for the certificate and about 500 are attending lectures.

Many students are confused on religious issues: they appreciate a clear exposition to help them to make up their minds. We would strongly commend the King's College course for extension elsewhere. Its effective conduct depends on the staff of the theological faculty. But it is significant that King's College, where the course has grown, is a college with a collegiate life in which members of staff of different departments mix and know one another, and where the theological faculty is not remote from the general life of the college. It is also a Christian foundation where students may perhaps accept that there is a right to put on an official course on the Christian religion. But we would think there is another and wider justification. The 1944 Act enjoins religious worship and instruction in schools as statutory obligations. There are no similar statutory obligations for universities, and it would be quite wrong in our view that they should be expected. But from the point of view of the students, religion should surely be available to those who want it, not only in the form of voluntary activities but on the level of an exposition of a standing comparable with the rest of higher education.

The following supporting document was also submitted :

Statistical information on staff and students in University Departments of Theology and Theological Colleges.

ORAL EVIDENCE

given by

Rev. Canon Alan Richardson,

Rt. Rev. F. W. T. Craske, Rev. E. A. Payne and Dr. Kathleen Bliss

on behalf of

THE CHURCH OF ENGLAND AND FREE CHURCHES
THEOLOGICAL GROUP

Friday, 29th September, 1961

Chairman: We are grateful to you for this interesting document. I think it would perhaps help us most if you could indicate to us the administrative recommendations which you think emerge from these general considerations, that is to say, what you would wish us to say about theology when we come to write our report.

Canon Richardson: I would first like to say that there is a general movement in all places where theology is taught to come together, to draw more closely to one another. This is a very desirable tendency, because, in the past, theological education has been too fragmented. There is a strong tendency on the part of the theological colleges to remove themselves to university centres; even those some distance away seek contact with the universities because it is realised that in the universities, including many of the modern universities, there is a strong theological department or faculty whose resources can be used.

Chairman: This is a spontaneous movement which you unfold before us. Is it something which in your submission needs to be accelerated or reinforced or controlled by action from above?

Canon Richardson: I think that if people could be encouraged from public funds to seek to provide themselves with theological education in the same way as they are in other subjects, it would be very helpful. Some L.E.As. will give grants to students to go to a theological college; other L.E.As. will not. Some will make it possible for a graduate, who has already taken a good degree in history or science and who wants to go on to read theology, to take a second degree in his own, or in some other university, and others will not. If L.E.As.

as a whole could have authority from above for these two types of grant it might be that those L.E.As. which at present refuse to give a grant for theological study would come into line with the rest.

Chairman: Do you feel there is some exceptional disadvantage operating against those who would wish to take a second degree in theological studies?

Canon Richardson: Some L.E.As. will give a grant but others will not.

Mr. Elvin: Do they refuse because it is a second degree or because the subject is theology?

Dr. Bliss: It is a mixture of both. The Anderson Report refers to the fact that in general it is more difficult to get theological education recognised than other types of course and recommends that the second first degree in theology should be regarded on the same basis as any other second first degree. I am linking these two together because they show that the Anderson Report recognises the great variation in L.E.A. practice about grants for theological education.

Chairman: Is it greater in respect of this subject than in respect of other subjects?

Dr. Bliss: Taking the paragraph on page 16 of the Anderson Report—50C—in conjunction with paragraph 57 one does get that impression.

Dame Kitty Anderson: Is not the difference here between a theological college and the theological department of a university?

Dr. Bliss: Not entirely so.

Rt. Rev. Craske: I would confirm that.

Professor Drever: Theology is not a subject like biology, is it? Where an area had a particular bias, the authority would be hard put to it to get the ratepayers to put someone through an institution which represented a very different view.

Rev. Payne: I think there has been a steady change for the better in the last few years.

Rt. Rev. Craske: We would say the same in the Church of England.

Rev. Payne: Some L.E.A.s had a prejudice against making grants to men in certain denominational theological colleges as distinct from university departments; there has been a gradual but noticeable change in that attitude, but there are still areas where it is difficult to get a grant.

Chairman: May we have the Ministry of Education's view on this?

Mr. Maxwell-Hyslop:* In some parts of the kingdom, certain authorities have held strong views about the type of theological course on which they are prepared to use the ratepayers' money. Certain Welsh areas, I believe, were less willing to pay for certain kinds of training than were other authorities. I think that this kind of resistance will break down. The matter is now the subject of a Ministry circular, and as from the beginning of this term a man reading for a first degree in theology at a university should get an award without difficulty. Where a second degree following on a first is concerned, or where the student is not in a university, the matter is left to the discretion of the authority.

Chairman: Which leads me to ask the witnesses whether they think that, after this circular has been digested, it will remain an important problem to which this Committee should address its attention?

Sir Philip Morris: Many theological courses are still private and unrecognised. Will they not continue to be unless the churches can do something to organise them so that they become capable of standing, for example, in the same position in relation to grants as the university department?

* Deputising for Mr. A. A. Part, Assessor.

Mr. Elvin: I think we would all agree that if a man wanted to take a second degree there should be no discrimination against him. The subject does not matter. But if we go beyond that to courses of training which do not qualify for a university award, we are in a difficult area, because ratepayers' and taxpayers' money is involved in a special kind of training. There are ratepayers who not merely have different religious views but different views about religion.

Dr. Bliss: Would what you are saying not make an ideological rift in the principle of giving grants for what are called comparable courses?

Mr. Elvin: How far do we go once we step outside the very clear ground that students wanting to take a recognised subject should be free to do so whatever the subject is?

Dr. Bliss: I do not think there should be a sharp line drawn between the university department and the theological college.

Chairman: I think Mr. Elvin's point was that the young man taking a second degree from a university, whether he was actually studying in that university or preparing himself in a theological college, should be a participant of a public grant, but that if he is engaged on training which is vocational and not directed to the achievement of the university degree there is room for doubt.

Dr. Bliss: But the student would be taking his second first degree as part of his professional training. You are suggesting that if he takes his professional training in the form of a degree then he should have a grant, but if he takes it in the form of a course which is shaped to the needs of his future profession he must not be grant-aided. This seems to me wrong.

Sir Philip Morris: How do you judge the comparability of courses?

Dr. Bliss: I think that L.E.A.s need help on this.

Chairman: Suppose a young man decides his vocation is in the church, wishes to take a further degree, but thinks that his career would be better

forwarded if he studied for that degree in one of the theological colleges? Could he do that and then go to Oxford and take the second degree?

Canon Richardson: He would do it at a college in Oxford.

Chairman: But he must not do it at any base outside the ambit of the university?

Sir Philip Morris: Unless he took a London external degree; there are only internal degrees available. You are asking whether people who are studying at theological institutions not associated with universities should have a similar privilege?

Canon Richardson: That is the point. For instance if a man from Wells Theological College were already a graduate he could not have another first degree anywhere except externally in London.

Sir David Anderson: What qualification in fact would he get from Wells? Would he get the Diploma?

Canon Richardson: He would. It is the General Ordination Examination of the Church of England. It seems a pity that somebody working for it should not qualify for any sort of public grant. Suppose he is a graduate taking an M.A. by writing a thesis in his own university and he has gone to Wells to have two years' study to do this, is this not a form of education which ought to be recognised and supported?

Sir Philip Morris: This is a different issue. This is a postgraduate award for a postgraduate student. He is eligible. He may not get it, but that of course is true of a lot of people in a lot of subjects.

Chairman: There seem to be two separate issues raised in the course of these representations. The first is one of fact, namely the position as regards these grants in relation to different classes of people. The second arises in connection with the larger question of external degrees in general, where there are, so it is said, anomalies in a situation in which people are precluded from taking external degrees unless they have taken an internal degree or an internal first de-

gree. That is a matter which needs examination. Have I stated the issue clearly?

Miss Gardner: Is there not there a third point which has nothing to do with degrees but concerns graduates who choose, say, to go to Wells to work for two years for the General Ordination Examination? Although I may think this person is training for a valuable profession, others, who are also ratepayers, may not. I cannot think that training for the ministry is in this respect on all fours with training to teach or to be a psychiatric social worker. There may be serious dispute among ratepayers as to whether, as ratepayers, they want theological colleges at all. I am thinking of the man who has got his degree and to take the General Ordination Examination chooses to leave his university and go to Wells.

Sir Philip Morris: May I suggest that we ask the delegation to substantiate this contention of the comparability of a course in training for the ministry which is not directed to a university degree or other publicly recognised qualification? That is the nub of your difficulty is it not?

Chairman: If you would let us have the outcome of your further reflections on the comparability of courses, we would be glad to consider them.

Rt. Rev. Craske: We will do so. I think there should not be a rule-of-thumb method by which, according to certain regulations, this or that college receives an award from the local authority, but rather that a certain quality of course, which is comparable to a university course, should be examined and certified to have such quality. May I now say a word about the more general situation, as far as the Church of England is concerned? At the beginning of last year, when the Church of England reorganised its Council, one of the important tasks laid upon it was to raise the standard of theological education. We are in the middle of the policy committee's work. This week we have started a series of conversations with members of theological colleges to promote closer collaboration with the university departments in regard to teaching, and a greater participation by university faculties in our own

theological education. We are concerned both for the enhancement of theological education in the university and for an increase in the number of graduates in theology.

Rev. Payne: On behalf of the Free Churches, may I say that I associate myself with this memorandum? We have talked about the question of grants, which is important, but I think that some of the other points in this memorandum, particularly in regard to teachers taking theological subjects in a general degree and to the teaching of the Christian religion in some form in the new universities also raise important issues.

Dr. Bliss: We would stress this from the point of view of religious instruction in schools under the 1944 Act. We are concerned about the lack in quantity and quality of teachers for this, the only mandatory subject under the Act. We would not like to see the theological situation in the universities weakened and would like to suggest that you could perhaps help us by recommending closer links between theological colleges and the university departments. Theology should be presented in the university to those who want an exposition of the Christian faith at an academic level comparable with that of other subjects.

Professor Drever: There one might run up against difficulties. Biblical studies, something historical and relevant to the teaching in schools, can easily and properly be included in arts degrees, but as soon as you raise the question of something more you will encounter opposition in the universities.

Dr. Bliss: What about Christian ethics? There is a great demand for this in the schools.

Chairman: Would you not agree that the most likely way to consolidate opposition to the spread of any par-

ticular subject is for it to be imposed upon the universities?

Canon Richardson: We would agree with that. But I think the view that theology has to be taught unacademically has more or less disappeared. I think, also, that theology has now been recognised as a properly academic subject with its own body of knowledge. We now have a great deal of recently ascertained historical knowledge about the origin of the Bible. There is a body of knowledge which ought to be communicated to the young children of our land. It matters not, in this, whether a man is Anglican, Presbyterian or Baptist: the point is whether he is a good scholar.

Professor Drever: The position might be made clearer if we drew a sharp distinction between the functions of a university chaplain and a scholar.

Canon Richardson: The job of the university teacher in theology is to teach what is in the Bible in as academic a way as he can, and it is the promotion of this academic study, so that the oncoming generations do not grow up in ignorance, which is really our primary concern. Proper and greater opportunities for this teaching should be created in the universities. I have, for instance, about ten times as many applicants as I can admit.

Chairman: Would you not agree that this is a matter for representations to the governing bodies of universities, which, in your judgment, are delinquent in this respect?

Canon Richardson: I agree. Such representations are going on all the time, but I would hope that this Committee might help also, by calling attention to the situation.

Chairman: We will bear your exhortation in mind. Thank you very much.

FURTHER MEMORANDUM

submitted by

**THE CHURCH OF ENGLAND AND FREE CHURCHES THEOLOGICAL
GROUP**

10th May, 1962

CENTRAL ADVISORY COUNCIL FOR THE MINISTRY GENERAL ORDINATION EXAMINATION

The Examination consists of six papers on the Bible, one on New Testament Greek, two on Christian Doctrine, two on Church History, one on Christian Worship, with optional papers in Latin and Hebrew.

All candidates for ordination in the Church England who are under 40 are required to pass this examination. Candidates who begin their course at 30 or over, are required to take only eight papers.

The comparability of G.O.E. to a university degree or other publicly recognised qualification can be substantiated on the following grounds. Like other similar examinations, it is intended for students over 18 years of age. Full-time study and residence at a Theological College or other recognised institution are required. Non-graduates must study and reside for three years, graduates for two years. The staffs of the Colleges are composed of honours graduates, usually with high honours and sometimes with experience of teaching at the academic level. The printed syllabus as summarised above is comparable in range and content to that of a degree course in theology. The examination is conducted by a panel of external examiners practically all of whom are or have been engaged in university work and examining.

The standard of marking is on a graduate scale, if in some of the papers the vocational aspects have to be given due weight. The examination includes a paper designed to test a knowledge of the basic elements of New Testament Greek. To secure equivalent exemptions from any of the subjects in the G.O.E. syllabus, documentary evidence has to be produced that the candidate has obtained an approved university degree or an academic diploma in theology, thereby suggesting that this is the academic category to which G.O.E. belongs.

Entrance qualifications. Candidates under 30 years, who are not graduates, are normally required to have at least 5 passes at O level in the G.C.E. In certain specially selected cases men of adequate ability who have for some reason not obtained certificate qualifications are admitted to the examination only after a year of pre-theological general education in residence and under tutorial direction, which may fairly be said to be of wider range and deeper quality than 5 passes at O level in G.C.E. The special arrangements in operation in some universities for 'mature matriculation' perhaps go some way in constituting a precedent for the minimum entrance requirements for G.O.E.

THE METHODIST CHURCH MINISTERIAL TRAINING DEPARTMENT

**COMPARABILITY OF COURSES IN METHODIST THEOLOGICAL COLLEGES WITH
THOSE IN UNIVERSITIES**

In the interpretation of the facts here presented it is essential to be aware of our experience of the power which a vocation to the ministry often shows in awakening the minds of some men who up to that point had shown little inclination for study. In making our selection of candidates we have the task of assessing not only what the man is like but what he may become. This is always difficult for any academic institution. It is particularly difficult when the powerful drive of a vocation may change a man mentally, as well as in other ways, almost out of all recognition. For this reason, down the years, we have accepted some men for

training whose academic background was slender, and some of these have fully proved the wisdom of that step. Naturally, with the increasing availability of higher education to all classes of the community there are probably fewer of these men with the passing of every decade. But it still remains true that some do not see the need to avail themselves of facilities for secondary and higher education until their desire has been awakened by a call to the ministry.

Even today, only a quarter of the men we accept are at university level, either as graduates, undergraduates or qualified to enter a university when they make their offer. Our candidates come with an immense range of educational backgrounds. All the teaching done in our six colleges, which is increasingly tutorial rather than being based on lectures, is set in the framework of preparation for the ministry rather than being primarily concerned with academic achievement, though the academic attainments of some men is very high.

Educational qualifications : All candidates are expected to have passed the General Certificate of Education examination at Ordinary Level in English Language and three other subjects or other public examinations regarded by the General Ministerial Training Committee as of suitable standard.

Length of courses : The normal period of college training is four years followed by two years as a probationer minister before ordination. In the final year in college rather more attention is given to pastoralia and for two periods each of one month the man goes out into the Church ; one month in a town, one month in the country, living with a minister and learning the practical side of the work. This period of four years is usually reduced for older men and those who are already graduates when they are accepted.

Content of courses : Each of our colleges is affiliated to the university near which it is situated, and some members of staff are university lecturers. Every man who is able to do so is expected to read for a degree in theology. The rest are taken as near to that standard as they are able to go. All study the Bible, and with very few exceptions they read the New Testament in Greek, whilst many study the Old Testament in Hebrew. The fundamental course still consists of these Biblical studies along with Systematic Theology, Church History, Pastoral Practice, Homiletics and Voice Production. In more recent times Philosophy, Psychology, Social Studies and English Literature have been given their place.

Methods of examination : Those who are able to take a degree at their local university or to read for the External B.D. of London University are given tests at the required level to enable them to know how they are progressing. The others follow a course of study based on lectures, tutorials, essays and examinations, provided in the college by the tutorial staff. Each college annually receives two Visitors, appointed by the Methodist Conference, who hear lectures, attend discussion groups and share the life of the college for two or three days. Their written reports, along with those of the staffs, are submitted annually to the Methodist Conference. At the end of each college year a report is made on each student, and these reports include comments on their academic progress. The General Ministerial Training Committee, which acts in matters of detail for the Conference, appoints a Board of Studies to supervise the curricula and academic life of the Colleges. On it, in addition to the members of the College Staffs, are University Professors and Lecturers in Theology who are not on the staffs of the Colleges, ministers in normal Church work, and the Candidates and Ministerial Training Secretaries. In this way, through the Board of Studies and the General Ministerial Training Committee, the Staffs of the Colleges are responsible to the Methodist Conference for the standard of their work.

MEMORANDUM

submitted by

DR. A. P. ROWE

24th April, 1961

SOME ASPECTS OF HIGHER EDUCATION

SUMMARY AND CONCLUSIONS

Nature of memorandum

This memorandum is intended as a basis for verbal questioning by the Committee.

2. General matters

(a) The traditional view of a university as a self-governing community of scholars is apparently incompatible with the provision of a vital service to a community.

(b) The following are two of the limitations of this memorandum:

(i) It is chiefly concerned with the tens of thousands of young people, intelligent and industrious but not scholar material, who want to take positions in current affairs offering material and social rewards.

(ii) What I have to say is applicable to the pure and applied sciences, rather than to arts subjects.

3. Failings of institutions of higher learning

The following are some general contentions:

(a) Teaching methods and skills are not good enough, particularly in the early years, for the majority of university students.

(b) Post graduate training in the methods and techniques of scientific research, and means for discovering real talent for research, are inadequate.

(c) Departmental research in universities does not provide the conditions necessary for success and is often prejudicial to good teaching.

4. Teaching

Some of the reasons for inadequate teaching are: (a) appointments and promotions are made primarily for research and not for teaching; (b) the discontinuity between skilled teaching in VIth forms and teaching by untrained university staff; (c) the alleged inseparability of teaching and research; (d) the deplorable lack of mechanical, electrical and visual aids in comparison with continental practice; (e) the assumption that nothing can be done to remove or sidetrack ineffective teachers; (f) the lack of supervision of university teachers and their methods; (g) the duration of the academic year and (h) the inadequacy of advanced courses in the post graduate years.

5. Broad education: universities and technical colleges

The following matters are raised:

(a) In derogatory references to technical colleges in relation to universities, there is much snobbery and hypocrisy. To what extent can we distinguish between the products of these two types of institution?

(b) If teaching ought to go beyond fundamental conceptions and facts appropriate to a particular profession, can it be given by staff appointed primarily for research?

(c) Should what most of us mean by cultural knowledge be given to all students? Is it given? Can it be given under present conditions? It is suggested that, in spite of the spate of talk about a broad education, nothing

much will happen without compulsion and a longer course (measured in academic and not necessarily calendar years). It is suggested that culture is associated far more with home background than with anything given by an average university.

6. Training for research work

Post-graduate research in universities should be used (i) to train large numbers of young scientists to take their places in research teams in government service and in industry and (ii) to detect exceptional originality. These objectives are too often defeated by departmentalism. A large number (perhaps a majority) of post-graduate students would benefit more from advanced courses than by engaging in trivial investigations.

7. Departmental research

For reasons which are given, the probability of important and successful research work in university science departments is small in relation to the time and money spent on it. It is contended that keeping abreast of important advances in the fields covered by a science department is a far greater stimulant to teaching than is a part-time concern with research. Few scientists have the physical and mental capacity to do both.

8. Suggestions and conclusions

(a) *Finding the facts*

May I respectfully suggest that the success or failure of the Committee will depend primarily upon the extent to which it seeks and finds the facts? Surveys will be unpopular, both within individual universities and on inter-university bodies. There are three directions in which facts are needed about the students considered in this memorandum:

(i) What kinds of first degree men are emerging from our universities? Do they conform to the idea of a university graduate or not? Do they differ conspicuously from the products of technical colleges? Can they write and talk clearly and intelligently about their chosen profession? What do employers in government service, industry and business think of them? What do the graduates themselves think of their university experiences?

(ii) What do men and women who take research posts on leaving their universities think of the training they were given in research methods and techniques? What do they think after ten years' research experience? What do users of research staff in government service and in industry think of the university trained research worker?

(iii) Apart from its part in training research students, what is the extent of important original work which, during say the last decade, has emerged from university departments of the pure and applied sciences? Most universities talk of half-time being available for research, which means that there should be the equivalent of a full time research effort by at least two thousand staff. How does the quality of original work by university departments compare with that emerging from research institutions associated with universities and from government and industrial research establishments?

Few would think it important to investigate the efficiency of a monastery or of a body of scholars such as those of All Souls College, Oxford. It is another matter to urge an investigation of institutions which cost the taxpayer millions of pounds annually, perform a vital, straightforward service for the nation and are staffed by men no more and no less able than tens of thousands to be found outside the universities.

(b) *Need for experiment*

The Committee may note that great changes and large scale experiments in the world of universities seem seldom to occur in established universities unless advantage is taken of rare circumstances. Keele is an experiment but it had to be tried

in a new university. Brighton is apparently to try a different approach to the curriculum, but it is starting from nothing. Now and again, large scale vacancies of professorial posts enable experiments to be made (e.g. medicine at Western Reserve, Cleveland and engineering in the University of Southern California).

(c) *Patterns of reform*

There appear to be only two ways in which institutions producing professional men and women can be transformed:

(i) Revolutionary changes may be made in the administration of academic affairs. Control by a large academic body is a self-perpetuating system. Such bodies tend to be mutual protection societies and it is but human that their members should seek to retain what, from first principles, is an astonishing state of affairs, i.e. a freedom from supervision and criticism granted to no other body of people engaged in a vital service to the nation. The essence of the matter is that there is a need for a measure of beneficent authority wielded by a small number of wise and experienced academics, who will ensure that staff are used in ways which best serve the purposes of an institution. Some would be appointed and promoted for skill in teaching and in keeping abreast of their subjects; others for research done under conditions which encourage success. Training in teaching may be called for; ineffective staff, particularly heads of departments, may need to be sidetracked and time and chance will call for transfer from teaching to research and vice versa. All this is the commonsense approach used in administering other vital services to the nation. Nothing of this can happen without a measure of real authority which, however gently wielded, will produce cries of 'bureaucracy' from those who find matters comfortable as they are. I hope that the Committee will question me on these matters.

(ii) The alternative seems to be to wait for new institutions of higher learning to be created and gradually to transfer grants to those institutions which best fulfil the needs of the nation.

9. If there are those who believe that no great changes are needed within our universities—and there seem to be many such—let the facts be determined by surveys of the products of the universities, their methods of training research workers and the value of original work done. To say that such surveys cannot be made is nonsense. To undertake them will call for more courage than is commonly found in the world of universities.

MEMORANDUM

NATURE OF MEMORANDUM

This memorandum consists mostly of short statements and contentions and is intended as a basis for verbal questioning by the Committee. Treatment of reservations and exceptions would obscure the main issues and make this memorandum unwieldy.

2. SOME GENERAL MATTERS

(a) In a changing world, two conceptions of a university co-exist, but are incompatible. They are:

(i) The traditional, romantic view of a university as a community of scholars who have renounced the busy world of affairs and at whose feet young scholars sit.

(ii) A university is a vital service to a community, as are hospitals and railways. Its task is to launch men and women on their way to being equipped for the professions, industry, business, the Civil Service and for corporations such as the B.B.C.

Broadly, much of the inefficiency of universities is caused by the insistence of academic staff on having the best (or most comfortable) of the two worlds. Great scholars are few in number. The trouble is that academic staffs want (properly) the rewards and material status of engaging in the hurly-burly of action in the contemporary world and (unproperly) the freedom from supervision and criticism which can be given to the scholar who has chosen to stand apart from the pressing needs of the community.

If it be contended that the second of the two conceptions is too vocational, utilitarian and pragmatic for the idea of a university and if it is desired to retain the more romantic view of a university, then the establishments for meeting the vast and urgent needs of the nation could be called by some other name and it is to such establishments that the bulk of the taxpayers' money allotted to higher education would naturally go.

(b) The existing student body is far from representing a cross section of what most of us mean by the social levels of the community. Students from homes having some tradition of higher education have hitherto been able to gain entry into a university primarily because of their parentage or kind of school attended but this will (perhaps unfortunately) soon not be possible. Before long, if it has not already happened, we shall have a majority of students, mostly from homes with no university traditions, who want, and whose parents want for them, a position in current affairs offering material and social rewards. It is of this majority of young people that I am chiefly concerned to write.

(c) A further limitation of this memorandum is that it is largely confined to problems affecting pure science and the applied sciences, such as engineering and medicine. Many men distinguished in the arts subjects have told me that what I have written elsewhere is true of university arts departments, but for two reasons I prefer to limit the field to the pure and applied sciences.

(i) For most of my life I have earned my bread by doing scientific research or superintending the research work of others. It is for others to judge whether any of my contentions are applicable to the arts.

(ii) Once the leader of the world in scientific and technical innovation and industry, this country is losing ground to many others and only revolutionary changes will stop the process.

3. FAILINGS OF INSTITUTIONS OF HIGHER LEARNING

It is not my contention that everything is wrong with every department of every university and institute for advanced learning. This would be far from true. These are my general contentions:

(a) Teaching methods and skills are not good enough for the majority of university students. Briefly, the minimum aims should be to teach subjects which are directly relevant, and cognate to, the professional objective, with emphasis on the fundamentals so that professional men will be able to adapt themselves to a changing world; to teach the history of professional subjects and show how a particular profession fits into the pattern of society; to inculcate a belief that a degree is but a beginning and that it is vital to keep abreast of advances throughout a professional life. In a nutshell, the aim should be to teach and guide students towards happiness, awareness and competence in their professional fields. It is this that our country desperately needs and it is this that is not being given in adequate measure.

(b) The training of first degree students in the methods and techniques of scientific research and the means for discovering real talent for research are too often woefully inadequate.

(c) The methods (or lack of them) of organising and conducting research in university departments involve too much trivial research at the expense of good teaching, often result in lives of inexcusable ease and do not provide the conditions necessary for worth-while research work.

4. TEACHING

The following are some contentions regarding much of the teaching in universities:

(a) Teaching is not given the importance it deserves. Appointments and promotions are made primarily for achievement (real or apparent) in research work rather than for teaching, which too often is regarded as a chore.

(b) The discontinuity between Vth form teaching by staff who live by teaching without research and the first and second year teaching by university staff not appointed primarily for their interest in teaching, is too great. If this discontinuity were avoided it would not matter much if, in later years, students encountered the teaching limitations of a few men of great achievement in research.

(c) If it were possible to forget the centuries of dedication by the universities to scholarship and to look from first principles at the problem of how to turn tens of thousands of intelligent and industrious, but not outstanding, young people into men and women needed by the professions, industry and business, it is unlikely that research would be regarded as a primary, much less an essential, attribute of a teacher. The two important factors would be (i) skill in teaching and (ii) personal experience of the practical world in which professional judgments and industrial profits need to be made. If it is good that young people concerned with pure scholarship should sit at the feet of great scholars it is also good that students who want to play their part in the complex mechanics of our society should sit at the feet of men who have succeeded in their professions or in industrial activities. Too few academics have had to make decisions which, if in error, might mar their professional reputation, cause newspaper criticism, lead to bankruptcy or help to lose a war. It follows that there should be far greater staff movements between universities, the professions and industry.

(d) The urge to appoint staff primarily for their achievements (or often only a promise of achievement) in research reaches the limit of absurdity when young men in their twenties are appointed direct to chairs, e.g., one university has just appointed a professor of physics who is in his twenties. Such an appointment, where teaching and administrative experience must be small, is an open declaration that research potential comes first.

(e) In general, mechanical, electrical and visual aids in our schools and universities are deplorable compared with those to be found in Russia and in Germany. A fraction of the money spent on trivial research work would transform the position, but this will not happen unless teaching rather than research is regarded as the primary duty of a university.

(f) The following are some matters concerning security of tenure immediately on appointment, the autonomy of heads of departments and the lack of supervision of teaching:

(i) Nothing is sadder in the affairs of universities than to hear it said that a university must expect to carry a few passengers on its staff. Carrying passengers is, in fact, an accepted custom, particularly if they are professorial heads of departments. If, for example, 10 per cent. of engine drivers were incompetent, would they be tolerated? If a medical man is neglectful of his duties, a paid passenger in his profession, public exposure is inevitable; yet the head of a university pre-clinical department may, perhaps through no fault of his own, be a passenger about whom nothing can be done! The hundreds of students passing through such a department in a decade are more important than one member of staff.

(ii) The permanent appointment of a professorial head of department primarily for his research achievements or promise is full of danger, particularly so when appointed at so young an age as to preclude adequate teaching experience, administrative ability and knowledge of the application of his subject to the country's needs. In certain fields of learning it is well known that the best original work is done at a young age and that a drying-up process is common. If highly paid research fellows become passengers, only

money is lost by carrying them for decades. To carry a head of an autonomous department in a red brick university is inexcusable.

(iii) The attitude to teaching in universities is such that academic staff, often inexperienced and usually untrained in teaching, are given no supervision of their teaching. Such supervision is alleged to be an affront to academic freedom. Students may cry to high heaven (or to their Vice-Chancellor) but nothing much can be done.

(g) The use of buildings and expensive equipment for teaching during not much more than half of a calendar year is a form of waste which would not be tolerated in other vital affairs of the nation. There are alternatives, as for example at Chicago University.

(h) Insufficient advanced, post-graduate courses are given. Such courses should replace much of the so-called research for higher degrees, to the advantage of teacher and taught.

5. A BROAD EDUCATION: UNIVERSITIES AND TECHNICAL COLLEGES

There is no little snobbery and hypocrisy about the broadening of education and the differences between an average university and a technical college. The following points seem worthy of discussion:

(a) University men talk in a derogatory sense of technical colleges, yet in many professions it would go hard with any of us to tell whether a man has been to a university or not. Can the average product of the School of Architecture in Russell Square be readily distinguished from the average product of a university department of architecture? Can a solicitor who has attended a university be distinguished from one who has not? In many universities, engineering students are taught science subjects in their first year and then nothing but engineering. Can they really be distinguished from the products of a College of Technology? After crammed courses in pre-clinical medicine, from which the average student delights to escape to a hospital, what university imprint has a university left on an average doctor?

(b) For students of the pure and applied sciences and for students reading for specific but non-scientific professions, e.g., economics, law and accountancy, what they should receive from an institution of higher education may usefully be considered under three headings:

(i) Factual knowledge relating to a chosen profession and a knowledge of where to seek facts. Fundamental conceptions, from which factual knowledge stems, must of course be taught.

(ii) A broader conception of (i), but using the professional centre as the aim, e.g., knowledge of cognate subjects, of the history of the main professional subject and of how it fits into the pattern of society.

(iii) Knowledge of, and interest in, matters which have no direct bearing on the chosen profession: matters which, for most of us, are associated with a cultured person, e.g. literature, music, painting and an intelligent appreciation of home and foreign affairs.

For tens of thousands of students intended for the professions, the giving of factual knowledge is essential. In my view, the broader conception defined under (ii) is vital but is inadequately dealt with in universities. With regard to (iii), cultural knowledge, if acquired at all in a university, largely comes from extra-curricular activities about which there is no compulsion. Talk about a broad, cultural education is never ending but it seems well to face the fact that nothing much will be done without a measure of compulsion and longer courses (in academic, though not necessarily calendar, years).

(c) Is the broader conception of teaching, defined in paragraph (b) (ii) above, important? If so, can it be given by university teachers appointed for, and engaged in, research?

(d) Is the importing of cultural knowledge, referred to under (b) (iii), an essential part of the task of a university? If so, does the average graduate

possess this knowledge *by virtue of his university training and experiences*? If this be a task for a university, is it being fulfilled? Can it be fulfilled in addition to professional training? If such knowledge is essential to the idea of a university, should degrees be given at all to those who do not possess it?

(e) I am convinced that for the students I am considering, the possession, or otherwise, of the kind of cultural knowledge and outlook to which I have referred is associated far more with home background than with anything given by the average university. Universities seem reluctant to undertake surveys to establish a contention which is obvious to most of us. If we limited our friends and acquaintances to university graduates, we should be intellectually the poorer. On the other hand, thousands of graduates leave their universities without even a desire to acquire what we mean by culture.

6. TRAINING FOR RESEARCH WORK

(a) The objects of research work for higher degrees should be:

(i) The training of a large number of men and women who will take their places in research teams in government service and in industry. They need a knowledge of various techniques and equipment used in their fields of learning and should be given some experience in the kind of team work most of them will encounter if they enter the world of research.

(ii) The spotting of young people who possess originality to an exceptional degree, i.e., are first class research material. These may well not have gained the highest honours in examinations.

(b) Departmentalism is an obstacle to training for team work. In all but exceptional departments, it happens too often that research students are given some small investigation which it is known from the outset must have some definite outcome so that a higher degree may be awarded; thus a false idea of research is engendered at the outset.

(c) Research work confined to an average university science department lacks team work and experience of techniques and equipment is inevitably limited. Much of the training of research workers should be done in a department devoted to that purpose. It should provide for experience with a wide range of equipment and research techniques and should, for part of the time, involve team work and advanced studies.

(d) Marked originality in research work is rarer than is sometimes supposed and may easily be missed when the post-graduate years are spent in a department having no particular reputation, or indeed interest, in research.

(e) When all is said and done about research work for higher degrees, a large number of post-graduate students (and perhaps a majority of them) would serve their country and themselves better by taking advanced courses of study rather than engage in trivial investigations.

7. DEPARTMENTAL RESEARCH

Because I have been accused (e.g., in *Nature*) of being opposed to research in universities, let me make it clear that my criticisms have been concerned with departmental research and not with research in institutes associated with universities. Moreover, we all know of science departments, headed by exceptional men, which are doing excellent work and should be left alone. Success in research depends upon people, the nature of the field investigated and the conditions under which it is conducted. For the following reasons, the probability of important and successful research work in university science departments is small in relation to the time and money spent upon it:

(a) The important conditions for successful scientific research are time and singleness of purpose, team work and the availability of adequate staff and equipment. Not one of these conditions can be fulfilled in an average university department.

(b) For good teaching, it is essential to keep abreast of the ever-increasing amount of current literature in a particular scientific field, to synthesise it, ruminate on it and on how best to convey it to students. Research inevitably involves concentration within a narrow field. Were it not for the traditional association of teaching and research (still valid, no doubt, in some fields of learning) no one would today think of combining, in one scientist at one time, both of those time-absorbing occupations.

(c) Departmentalism, i.e. the existence of separate departments jealous of their autonomy, is incompatible with the team work so essential in modern scientific research. Except in rare cases, it is thoroughly bad that a student should spend his undergraduate and graduate days in one and the same department of a university, as commonly happens in this country.

(d) Scientific research is increasingly expensive. Some great advance may yet be made in a corner of a modest laboratory but such an event becomes increasingly improbable. The god of successful scientific research is on the side of costly equipment, used to the full. For a government department, or a big industrial concern, to spend £100,000 on a piece of research equipment is nothing very much. To a university it is an event and one which can only happen to one or two departments. If it be suggested that research in university departments should be supported on the government department or industrial level, the question arises whether the taxpayer's money should be spent on expensive equipment which cannot, in a university department, be used to the full. The truth of the matter is that the majority of science departments conduct research on a shoestring and, while they fritter, science passes them by. If this be doubted, let the results of departmental research in the last decade be analysed.

(e) Although university science departments are likely to cling tenaciously to the idea that research is a vital part of their work, commonsense indicates that the fruits of departmental research will be small. A professorial head of a science department, appointed for his reputation in a field of research, suddenly becomes involved in departmental administration, university committees, teaching and examinations and is properly at the beck and call of his staff and students. Compare this with the singleness of purpose and team work found in research establishments (both within and without universities) and there is no difficulty in understanding why little can be expected from departmental research.

(f) It remains to deal with the argument that research is essential to good teaching. 'Bruce Truscott', an arts professor, said that teaching without research is to drink from a stagnant pool. There is nothing stagnant about the march of science and the head of a science department should endeavour to keep abreast of important advances in all fields appropriate to his department. In this he would find a stimulation and excitement hardly likely to emerge from departmental research done under conditions so inferior to those found to be necessary for successful research.

ORAL EVIDENCE

given by

DR. A. P. ROWE

Wednesday, 4th October 1961

Chairman: It seems to me that the points in your memorandum on which we might most profitably exchange views are: the position of the technical colleges in relation to the universities; the issue of teaching as against research, and the concentration of research in universities or in institutes; and the question of the self-government of universities. Needless to say, this list is not exhaustive. I think we need not spend a great deal of time on the question of the position of the technical colleges because we are already seized of the great importance of the technological education, and I think your intentions on the whole harmonise with the general drift of the evidence before us.

Dr. Rowe: I think that much of the trouble lies in the aura which surrounds the word 'university'. In my experience there is no difference between the life led by an engineering student in the university and the life he would lead in a technical college. So many engineering undergraduates tell me that they do not like to mix with the 'art snobs' in the union. Their life is wholly engineering. I think this technical college/university argument is very largely a question of names.

Chairman: May we come to the issue of the time allotted to teaching as distinct from research in universities? You say that your arguments do not apply specifically to subjects other than natural science.

Dr. Rowe: I do not think they do, although I have had a wealth of correspondence criticising me for not including the arts, and saying that it also applies to them.

Chairman: I wonder if you could expatiate a little on this? In my experience many promotions have been made on teaching ability rather than on ability for research. On the other hand, I do not doubt that it may be

that there is a presumption in some parts of some universities that promotion does depend upon publication.

Dr. Rowe: I think there is a general feeling that most of the appointments in universities are for research. This astonished me when I came into university life in 1948, as I sat in the chair and heard comments on applicants. It seemed to me incredible that there was no thought of the importance of teaching. In my innocence I raised the question of teaching, but it was said: 'No doubt he is all right at that', and no inquiries were made. After two years I toured universities in this country, and talked to many Vice-Chancellors, who told me that they had the same kind of experience. I am heartened to hear that you know of many appointed for teaching. I have perhaps tried to make the pendulum come a little nearer the centre by exaggerating its swing in the other direction.

Chairman: I think some of us would agree with you that, when young people are appointed, they should be told that it is their duty to acquaint themselves with teaching techniques.

Dr. Rowe: Yes. My experience was quite the contrary. It was not done to ask how anybody was getting on as a teacher.

Chairman: It varies from university to university, does it not?

Dr. Rowe: No doubt it does. I have not attempted to look at the whole field of universities. I am concerned here with the people I feel most strongly about as regards the nation's needs—not from any altruistic point of view—that is, the hundreds of thousands of ordinary young people who will come to universities. I do not think the present system can do much harm to the cream; it is the others I am worried about; those in their first year or two, who come from the culturally poorer homes, are the

ones who need special attention. Their lives should be quite different from those of the postgraduates, and yet they are all treated alike in the universities.

Chairman: We have heard much to the effect that not enough has been done for these people in the past, and it is right that you and others should have drawn our attention to the problem. Changes are already taking place in this direction however.

Dr. Rowe: In the school where I am now teaching there are dedicated teachers, people who are paid for teaching, who wake up in the morning thinking about it. They teach all day long, and the burden of it would kill the average professor in a fortnight. But the personal lives of these teachers are too restricted. Now at the other end of the scale, the beginning end of the university, the personal lives of the staff are free, but the dedicated teaching is not there. It seems to me that this is a gap which should be filled. If for political reasons the public schools must go in the next ten or twenty years, they might take some of this load of early part university teaching.

Chairman: I am a little perplexed by the appearance in your memorandum of what seems to be the suggestion that research is a minor university activity on the natural sciences side. I have heard passionate declarations to the contrary by people whom we both would certainly regard as high authorities in the natural sciences. Is it not possible that, while university practice is obviously far from perfect, things are not quite as bad as you suggest?

Dr. Rowe: Having spent most of my life in research I am far from thinking it a minor activity. But to be a great teacher, a dedicated teacher who wakes up in the morning thinking about teaching, is not compatible with research. That is my main contention. When this first dawned on me some years ago in Adelaide, I thought a great truth had come to me that nobody else had discovered. I now know, of course, that most thinking people in the universities are of the same opinion. The mass of corre-

spondence I have had on this subject looms large. I write back and say: 'Why do you not do something about this? Why do you not write about it?'. I get various answers such as: 'loyalty to the university', and 'You cannot do anything because it is self-perpetuating; you do not want to make a nuisance of yourself', and so on. I think the only single voice who has opposed me is that of a man whose vision I respect greatly—Bowden. Now Bowden is a very strong exponent of combining teaching and research. His argument is that you cannot do research all the time; what he means is that we cannot live on that sort of peak all the time. There are two or three comments on that. One is to deplore the assumption that, if you are not feeling very well, you should do some teaching. Another one is to point out the fallacy that you need, in scientific research, to live on the top of the hill all the time. Those who have done research know that the chores of research are endless, and if you are not feeling too good you can do those sorts of thing. Also, the general idea of scientific research has become tied up in many minds with the idea of invention, of great thoughts suddenly coming to you. But it is not like that at all; in general, success in research comes from team work, knowledge of the availability of equipment, and so on. There is a great deal of slack in universities which can be taken up by getting rid of second grade and third grade trivial research. There is too much of it, and that effort should go into skilled teaching and into acquiring knowledge about the frontiers of the subject. How often I have asked people engaged in research: 'Can you tell me about so-and-so?' and received the answer that 'it is not my line'. There are very few people who have a broad conception of the trend of research. I think this has gone too far. At the same time, I strongly believe that if you are doing research you have to live for it, and nothing else matters, and I do not believe you can combine it with the chores of examining students, and so on.

Chairman: In my own department I would not like to feel that there was a presumption that all except a very

privileged few were expected to keep off research. To make a distinction between the tremendous discoveries and the little discoveries would seem to me wrong, because you never know at the outset if a modest idea is going to develop, or whether it is going to remain modest. Is that quite untrue of natural science?

Dr. Rowe: You are suggesting that if A. has an idea, he is relieved of other work so that he can get on with research? That is exactly what I want, but I have found it impossible to do. If universities were to have this sort of approach, it would be excellent. In my experience this approach is defeated by egalitarianism, by the feeling that one man should not be allowed to do something that fifty professors do not do.

Chairman: Is it your experience that the majority of academic boards show reluctance to give people time off? I have found this is not difficult. People will vote for X. going off for a year to refresh his mind or to write a book, because they think this might happen to themselves in a year or two.

Dr. Rowe: This is one of the most encouraging things I have heard for a long time. I had regarded this almost as a lost cause, and I have not touched on it for many years.

Chairman: My experience would certainly suggest the contrary.

Dr. Rowe: Excellent.

Sir Patrick Linstead: There is another way of coping with this general problem. You say that you cannot have a man doing teaching and research at the same time, in the same week. What about allocation of large portions of time? This is a technique which is very widely used in my college. For about fifteen years, I spent half of my year teaching and half doing research. If I did any research during the half-year when I was teaching, it was hole-in-the-corner work at week-ends and evenings, and was not very good. But I then laid fallow and germinated such ideas as came to me, and the rest of the time I was completely free and could do what I liked.

Dr. Rowe: Is this general now in universities?

Chairman: We are asking Vice-Chancellors about this, among a number of questions.

Mr. Elvin: It seems to me that the great difficulty, especially in a fairly small department, is the arrangement of work and not so much the willingness to let the man off.

Sir Patrick Linstead: I was surprised to read in your memorandum that you consider the probability of doing important, successful research work in university science departments small in relation to the time and money spent. I have been recently a member of a committee dealing with government research, and we have come to an entirely opposite conclusion. We have come to the conclusion that the best return for the money invested is the research which is done in universities.

Dr. Rowe: This is a difficult question. I have had experience of the other end of the scale, and I have discussed with Vice-Chancellors the position of members at the other end of the scale. The aspect I would like to stress is the amount of effort put into it. If you assume that half the time of the staff of a department is spent on research, that is an enormous effort. As I have said before, all I think is necessary is to find out the facts, not merely to look at the results but to take account of the vast effort going into research. It is half the time of 10,000 people and, if you could get rid of the dross and idleness that goes on in the name of research, then I would agree with your conclusion. As regards the efficiency of industry, I do not know. All I can relate to university research is the output of government experimental establishments, and if the output of the T.R.E. in the war had been anything like the output of a university, I would have been ashamed. But I do not suggest that we should interfere with much of the research in university departments. Who knows what may come from some little thought? In T.R.E. during the war, anyone who came along with a thought, and who was burning about it, was told by me: 'Get on with it for three months, and then we will look at it, but do not expect to go on with it if your colleagues then feel that it is nonsense'. My complaint about much of the work in universities is that it has been going

on not for years but for decades, without important result. I can quote the case of a man who worked for twenty years on some blight in tomatoes. He was most offended when I said: 'Why do you not try bananas for a change?'

Sir Patrick Linstead: Of the best scientific work I did the seniors in my department said: 'Why do you not drop that? You are never going to get anything out of it. You should keep on with these other things'. If I had been in a research institute, somebody could have said: 'Drop that'. In a university they say: 'We advise you to drop it for your own good'. They did, and then they let me have my head.

Dr. Rowe: I am not worried about the young Linsteads of the world, but about the people who are at least ten times as numerous.

Chairman: In my experience it is not always possible to tell the one from the other. Although one can have too much liberty, one can also have too little.

Dr. Rowe: Of course, and perhaps I have pushed the pendulum too far.

Chairman: I recently saw a statement from the research department of one of the largest industrial groups in this country to the effect that for most general ideas they still depend upon the universities. I should like your comments on that.

Dr. Rowe: It is very encouraging to hear this. As some of the most able scientists are in the universities it is no doubt true. But I am worried about the waste of time in many universities, time which could be applied to teaching these hundreds of thousands of young people who will be coming in. This is where I would put the emphasis.

Chairman: I think that we agree with you that it is very important to make proper provision for people who are not first class. But I am doubtful of the wisdom of imposing too much uniformity on the practice of universities. In Russia they have gone the whole way, and all the research seems to be concentrated in the research

institutions under the Academy, while the universities seem to have been focussed entirely on teaching. I heard about this when I was in Russia earlier in the year, and my impression was that the Russians are beginning to ask if this is healthy for the universities.

Sir Patrick Linstead: The Americans have gone in entirely the opposite direction. Their first class research, apart from that carried out in industry, is done in universities or in laboratories attached to universities.

Mr. Elvin: Are there not two possible distinctions: that between universities and research institutes which are not part of the universities, and between institutes in universities and departments in universities?

Dr. Rowe: I believe research should be carried out in institutes associated with universities and that the people involved should be largely engaged on it full-time.

Chairman: May we now turn to the question of self-government in universities? May I ask how far you would go in this matter? You would not run a university as you would run the research institute of a public corporation, would you?

Dr. Rowe: No.

Chairman: Many of the sincere complaints we have received are to the effect that the contemporary organisation of redbrick universities tends to put too much power in the hands of the senior people. You want to take power out of the hands of some of the senior people and not to give it to the juniors, but to a superior inner circle?

Dr. Rowe: Yes.

Chairman: How would you do that?

Dr. Rowe: I suppose the obvious and democratic way is to appoint a small body by election. I am not putting forward any original contribution here; control from above is how other first class minds in the Civil Service and elsewhere are dealt with and it is university organisation which is the exception. I would have thought the primary role in an organisation is to use people in accordance with their

attributes. If you could do this naturally, without a lot of organisation, so much the better; but this is the end. Now this means a cold-blooded assessment, whether you shout it from the house-tops or not, of people in an organisation. I feel that a small body is needed for the common good of the university.

Chairman: Are you, in fact, proposing that academics should be asked to elect from among themselves people who henceforward shall have the control of their destinies, or do you bring in outside people?

Dr. Rowe: I would start with the election. I do not think that the majority of professors in every big university are good scholars, but they are good, worthy people wanting to do a job, and wanting to do the right thing for the university and the nation it serves. If they were given a secret vote for the election of half a dozen people or so, one representing research interests and so on, I believe that they would provide the right answer. I would have faith enough to try it, anyway. If they were able to vote quietly I think they would vote for the right people.

Miss Gardner: You have in mind an inside election, with five people elected for, say, three years?

Dr. Rowe: Yes.

Sir Patrick Linstead: Are we talking about governing bodies or about academic boards which determine academic policy?

Dr. Rowe: Undoubtedly the latter. Governing bodies do much good and very little harm. In my experience, they will fight shy of anything to do with academic matters. Therefore I am quite happy with them; they are useful in looking after investments, attracting benefactions and so on.

Sir Patrick Linstead: Would you like them to stay more or less as they are now?

Dr. Rowe: I think so.

Mr. Elvin: Are there not two points here? One point is how to get rid of lazy or incompetent teachers or research workers. The second point is

how to get people from particular faculties or departments to look at the universities as a whole. It could be argued that the natural person to see that his department is going well is the head of the department, but if you ask for rather more power for the professor than he at present exercises in any direct way, that would seem to run counter to your feeling that professors have too much independence in relation to the administration of universities would it not?

Dr. Rowe: There is autonomy now; the professor is a dictator within his department. It is beyond the department that organisation breaks down in my opinion. The only kind of head of department I am worried about is the useless one, the passenger who cannot be got rid of and who can render a department ineffectual for decades.

Mr. Elvin: On your second point, are you not in a very sensitive area when you start as a professor to make critical comments about colleagues in other departments and the way they do their work?

Dr. Rowe: Of course.

Chairman: It seems to me that, for the purpose of argument, it is very useful to make a further distinction within the sphere of academic administration. There is a question of promotion and appointment, which involves sensitive considerations where junior staff are concerned, and there is the question of planning the academic future. We have received a great deal of evidence that the younger people do not get enough say in planning the academic future. Often the younger people, between the ages of twenty-five and forty-five, are the more likely to have good ideas about teaching methods, but the university organisation leaves that sort of question to the final decision of a body limited to professors. On the other hand, when it is a question of promotion, it is an extreme embarrassment for a junior person to vote on one of his colleagues. If you had your academic junta—I do not use the word in an offensive sense—would not the main body of the staff be still further removed from the shaping of the life of the institution? And would there

not be a great deal of not unjustified public criticism on that score?

Dr. Rowe: Seventeen of the staff at T.R.E. are Fellows of the Royal Society, men borrowed from the universities; they are not essentially civil servants—far from it. May I refer to my previous experience there? I arranged that the voice of everybody in the establishment, down to the lowest grade of scientific worker, could reach the top. We had what we called a divisional leaders' meeting. They were divisional leaders over three or four groups, and each had group meetings. I made it known to the whole staff that if they had any ideas they should put them up at their group meeting, so that there were always ideas coming from the bottom. One of the troubles is that, when you mention words like organisation and authority, in many people a certain mental barrier goes up. But organisation and authority do not mean rigidity.

Chairman: In an institution of which I have a good deal of knowledge there was no written constitution and no special powers, even for the professoriate, and a great deal depended on the head of the institution, who was a man of genius with strong likes and dislikes. I know of a man who now holds a very senior position in a most distinguished university who left that institution because the head, against the advice of the professors concerned, thought he was doing work which was of no interest. Incidents like that cause considerable upset among a community of sensitive and intelligent people. They waste their time in constitutional agitation. Do considerations like this possibly suggest that it may be important to avoid concentrating too much arbitrary power in a small body?

Dr. Rowe: Certainly. But there is general agreement that many academic bodies are not now capable of altering things.

Chairman: Do you not think that, if an idea has inherently some sort of survival value, among fifty people there will sooner or later be a sufficient number to conduct propaganda until

it gets through? We know that universities have not always been capable of reforming themselves, but a tremendous change has taken place in the universities, even since the war. Revolutionary changes are taking place almost every month now.

Dr. Rowe: I feel sure this is right, but I do not think that they are ready for the vast change that is round the corner. If there were no major problems, this Committee would not be here. I admit that some of the strength of my feelings about this may be due to personal experience. Yet the great volume of correspondence which I have had with well-known people indicates that something needs to be done. So many of these letters say that the present system is self-perpetuating.

Miss Gardner: While I see great difficulties in the idea of a junta and am not inclined to agree to it, I must say that my personal experience gives some support to your views. When I was teaching in a civic university the younger staff in the faculty of arts wanted to create a general honours degree; but the scheme was distorted by the rigid departmental set-up. The proposed general honours degree became instead an impossibly heavy combination of half of three honours degrees.

Chairman: Was there a board of studies on which the staff had equal votes?

Miss Gardner: No. There was an academic board with one or two representatives of the non-professorial staff, but the reform urged from below was stifled from the top by the power of the specialist in each subject.

Sir Patrick Linstead: The kind of problem which Miss Gardner mentioned is a board of studies matter, and can be solved if boards of studies are larger rather than smaller and younger rather than older, or at least have more representation of the younger staff. I think that academic power must rest in the board of studies. Where Dr. Rowe's junta might show up well is in dealing with things which are not purely academic, where the question is: 'Are we going to branch out into such-and-such a field?'. That is not the job of any particular group

or department; that is broad policy. I am not well disposed towards the junta idea as such, but I see that is where it would have its force.

Miss Gardner: A board of studies should be organised in a sort of pyramid structure with meetings of a larger number, and a final small group. In many universities this does not exist and I think that a good deal of enterprise, initiative and intelligence among younger members of university staff is thereby frustrated.

Mr. Elvin: If there were a junta the sort of question to which Miss Gardner referred earlier should, it seems to me, be put to them because the establishment of a general honours degree would be an important matter of general university policy.

Chairman: Would there be any harm in a rather small general purposes committee of an academic board, composed of people from all tiers?

Sir Patrick Linstead: I think there is a paradox here. I have the feeling that, if you want revolutionary changes, you need a highly autocratic system, because you can get things through with three or four determined men, but that from an elaborate pyramid of discussions no revolutionary change would emerge.

Dr. Rowe: The junta is something which works in almost every facet of the national life in which the taxpayer is involved. This is the normal method of procedure. It also exists within the universities. The wise head of a department will talk frequently with his staff, but the decision rests with him. Yet when you extend this principle above the professorial level it is called all sorts of nasty names. Why are there not complaints in other organisations of the country, including the Civil Service, where this kind of thing exists? Is it not largely a question of selection of the heads of departments? The wise thing would be to choose heads of departments who would discuss affairs openly with their staff and who would run a department in a democratic fashion.

Chairman: We come back to Lenin's question: who is to secure that the head is wise in this respect?

Dr. Rowe: My views on this are of course very much based on personal experience, and I might well never have formed them in another university setting. But I cannot help thinking from the letters I have had that something of this sort of position exists in many universities.

Chairman: Do your letters indicate discontent with the rule of the professoriate, because they block change which might be imposed on them by a benevolent autocracy, or do they indicate discontent because they stop good ideas coming up and are a conservative influence?

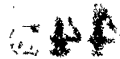
Dr. Rowe: I have had few letters from the sub-professoriate. The most common comment is: 'You were right about teaching and research, but you cannot expect universities as at present organised to make any change. They are by their nature self-perpetuating'; that is an expression which occurs time after time.

Mr. Elvin: What would be your advice to us in this connection? Suppose we agree with you, what should be our technique? How do you cure this, by legislation, by exhortation, or by something else?

Dr. Rowe: Frankly, I do not believe much will happen, whatever you do about it, in the most die-hard of the red-brick universities. I think that the vast numbers of students coming will need new institutions of some kind and new universities, and it is to them that I would look for an entirely different arrangement. Gradually a percentage of the money available for higher education would go to such new institutions, and the older universities would then do something about it.

Miss Gardner: Do you mean new universities or new institutions of another kind?

Dr. Rowe: I mean first the technical institutions. Also, the public schools, for instance, could be used as intermediary institutions for the present first year university work; they have the buildings, the teachers and so on. I mean the universities, too. There should be greater emphasis on post-graduate teaching and the training of



Dr. A. P. Rowe

research workers, without rigid departmental barriers, and more emphasis on postgraduate examinations.

Mr. Shearman: Suppose we felt we should say that universities must retain their academic freedom, and in the last resort decide how they are going to run themselves, but that nevertheless the country must be served; the government ought, therefore, to formulate a general policy of some kind. Would this not move the decision-making to some junta at the national level which would decide what was wanted in the academic sphere for the needs of the nation? What kind of institution would you have for deciding where the money was to go, and where it was most needed?

Dr. Rowe: My contention is that the first year or two of university life belong to the sphere of direction, just as the schools do. That is perhaps the simplest way of putting it; much of the apparent difference of opinion

about authority and so on lies there. There is the vital difference between the need, in their first year or two, of the young people coming in their hundreds of thousands from poor homes, and the romantic conception of scholarship at the other end of the scale. You could well leave the universities to look after the upper end of it scholastically, and urge that money should go into these other institutions, and that existing or other institutions should take over the role of the university for teaching in the first and second years.

Chairman: I feel that your chief message to us, Dr. Rowe, is that the institutions of higher education in this country must be alive to their duty to provide for the increased numbers of people who are not first class by existing standards, and in that I do not think we disagree with you. We have to ponder ways of doing it. Thank you very much.

MEMORANDUM

submitted by

LORD HEYWORTH

10th May, 1961

1. INTRODUCTORY

My remarks will be confined to two aspects of the problem:

- (a) The higher educational requirements of those entering industry and commerce and of their subsequent post-experience needs.
- (b) Organisational and administrative matters affecting institutions of higher education.

2. SCOPE OF UNIVERSITIES AND COLLEGES OF ADVANCED TECHNOLOGY

I assume that the present standards of entry will be maintained and that the 175,000 target for the Universities in the early 1970's is so based. If student quality falls then the figure will be reduced and conversely increased if quality rises. Underlying this is the further assumption that existing teaching quality can be maintained. The point here is the need to maintain the quality of those not proceeding immediately to post-18 education—the reservoir providing technicians of all kinds, the demand for which is likely to increase both absolutely and relatively. More effective machinery than now exists is needed to ensure that all in these categories who develop exceptionally shall have the opportunity of further formal education when it is appropriate. The post experience courses of universities and CAT.s mentioned later are significant in this context.

3. INDUSTRY'S NEEDS

I assume that of the pressures affecting industry and commerce in the years ahead—the most important will continue to be scientific discovery, with the consequence of increasing specialisation in scientific and technological research and development. Effective industrial application will require (a) technological developers and (b) administrators to co-ordinate their work with others. So as researchers (specialists) are produced so must co-ordinators (administrators) be produced too, and it must be accepted that some form of higher education is as necessary for the co-ordinators as for the researchers. It is no longer reasonable for the co-ordinator to rely only on learning on the job.

At the present time industry recruits its administrators from:

- (a) Arts graduates.
- (b) Science and technology graduates who cease the practice of their specialism.
- (c) Non-university entrants.

The third category, hitherto important, must diminish by reason of the increased proportion of the population who are now receiving post-18 education; but is likely to remain a significant proportion of the total—probably not less than 25 per cent.

4. UNIVERSITY UNDERGRADUATE LEVEL

At the present time despite many variations there is a reasonably clearly recognisable end product in both arts and science—the special honours degree graduate.

In addition, in arts particularly, there are some more general degrees covering a wider range of studies and some which include studies of a more vocational nature e.g. commercial subjects.

It seems likely that while industry will continue to expand and employ more people, its rate of growth will be less than the rate of growth in those receiving higher education in some form. Do we want these University/CAT entrants to be made available to the same patterns as now? I think the answer is: for some yes; for others something different.

The scientists and technologists should be split into two streams: special honours as now; and for others introduce a considerable element of social studies, in particular economics, philosophy, psychology (the content of science being reduced accordingly).

Similarly, add to the present pattern of arts degrees one with a considerable science content—directed towards developing an appreciation of scientific method and what it can and cannot do.

Admittedly the second is more difficult than the first; but considerable progress has been made in a number of institutions in thinking out the details. At a number of Universities optional courses along both these lines are or will soon be available.

A further question arises. Should some of the arts courses have their vocational content increased at the expense of the broadening elements—more business administration, accountancy, marketing, works study etc.? I think not at the undergraduate level. In my experience the best products of the American Schools of Business have been those with a good liberal arts degree foundation. I do not however suggest that courses of this type already established should be abolished. They should continue and indeed expand if demand warrants. They fit more easily into the pattern of courses of CATs than of Universities.

5. POST GRADUATE LEVEL

I would like to see a considerable development in the Universities and in CATs of post graduate and post experience courses in business administration and like subjects.

The standard of entry for immediate post graduate courses should be as high as for other post graduate schools. There should however be this difference—that a heavy emphasis be given to 'character'; but not at the expense of academic ability. The minimum qualification might be: for character—in the top third of his final year as an undergraduate; for academic ability—a minimum 112. I stress this need for character in the post graduate student because unless he has some mark of natural leadership, he may not be given the kind of position on entry to industry that the extra time spent on education would warrant.

Courses should be for one year or a two year sandwich, leading to a Diploma or Masters Degree. Later on a longer course leading to a Ph.D. might develop.

6. POST EXPERIENCE

Even more important at the present time than post graduate courses, are post experience courses. It is part of the very nature of industry and commerce that experience—doing the job—plays a large part in developing expertise. There is therefore a lot to be said for delaying theoretical studies until some experience has been acquired. The post experience course meets this need and the demand is growing.

The content of the courses has to be tailored to the requirements of the students—some may be narrowly vocational—others of a broader kind. The younger the age group, the more instructional should it be. The sandwich method may be appropriate in some cases. At the top of the range there could be a course of a year's duration leading to a Diploma for students aged 25–26—i.e. for University graduates after three years experience in industry. The qualification for entry should be at least as high as that for the immediate post graduate master's course.

The courses should be open to all—those with University/CAT degrees and those without. The test for entry should be likelihood of profiting by the course and ability to keep pace with the other students.

Post graduate and post experience courses pose one problem for the Universities—the attraction of specialist staff of the right calibre to supplement the resources of their social studies faculties. Industry can help by secondment.

Its co-operation is equally essential to secure the flow of students of the right calibre for post experience courses and to help in defining their content. These tasks are of vital importance and demand participation at the highest level from both industry and the universities.

7. ORGANISATION AND ADMINISTRATION—THE U.G.C.

I believe that the U.G.C. is as good an instrument as can be devised to reconcile control of public money with the autonomy of the Universities. Less autonomy would, I believe, reduce their vitality with the consequence of poorer value for money spent.

It is important that the Chairman should himself be an academic—not just an administrator however experienced. The head of the Committee should be able to talk easily and informally with dons of all ages and to have been one of themselves is a great asset. The maintenance of these communications is vital; indeed with the growth of the University community, the appointment of a second full-time academic is needed to maintain the present standard.

An effective solution would be the appointment of a vice-chairman who might relieve the chairman of detailed supervision of the specialist fields of medicine, dentistry and agriculture.

8. C.A.T.S

It seems likely that the CAT.s will find it desirable to develop social studies and languages beyond the stage of 'service teaching' of technologists. It would therefore seem desirable for them to be responsible to the U.G.C. rather than through L.E.A.s to the Ministry of Education. I believe that they might gain in liveliness.

9. SIZE OF UNIVERSITIES

The problem of communications is a difficult one in an academic society. But in a time of expansion and change it is particularly important. The burden in Redbrick falls on the Vice-Chancellor and makes a heavy demand on his powers of leadership. It is difficult to see how to devolve it; so it would seem important at this stage to set a limit to the size of an individual institution. I think the presently envisaged 7,000–7,500 is as high as should be contemplated—at any rate until experience of effectiveness at that level has been established. In general, I think it is better to establish more new units than to risk damage to the quality of existing ones.

Excessive size makes the determination of degree structures and curricula slow and difficult—a serious defect in a time of more than normal change. The time is ripe for every institution of reasonable size to have freedom to determine its own academic destiny.

ORAL EVIDENCE

given by

LORD HEYWORTH

Wednesday, 4th October, 1961

Chairman: May we first, Lord Heyworth, address ourselves to paragraph 1 (a) of your observations, the higher educational requirements of industry and commerce. Perhaps there are two points which we might discuss: first, the extent to which the products of the present different institutions of higher education are adapted to the requirements of industry and commerce, and second, this interesting suggestion of yours for post-experience courses; I would relate with this the general question of the status of university studies in management. Coming to the first question, what ought we to feel about the suitability of young men who, after taking their first degree, are recruited by industry at the present time? Would you say that on the whole things are getting better and the disharmonies one used to hear about twenty years ago are disappearing?

Lord Heyworth: Of course there is now compulsion on industry and commerce. The cream of the pool which they drew on before is increasingly being skimmed off, so it is obvious that any intelligent industrialist must say: 'I must take some graduates'; on the other hand there are a great many people in industry who approach recruitment more positively than that.

Chairman: It is a sellers' market?

Lord Heyworth: Yes.

Chairman: But when the young men are engaged, does it seem that the training they have had is attuned to the needs of twentieth century industry and commerce?

Lord Heyworth: I think on the whole as to general education the answer must be 'Yes'. As I have said in my note, I am not a great believer in more vocational training at an early stage.

Chairman: But what about the lower grades? We have to enquire into higher education as a whole, and I am conscious that our enquiries must take

account of training at the fringes or even below the margin of higher education. I am not as yet acquainted with the output of people from technical schools, nor am I in a position to appraise whether they compare well with the output of similar schools on the continent and in the United States of America. I should like to know how industry is served here. Some people have said that one of the greatest needs in British industry is for well trained technicians, as distinct from the technologists. What do you feel about that?

Lord Heyworth: I believe that it would be a great mistake to reduce the quality of the people who follow those pursuits; in other words, you should not push more people into the university system at the bottom, because you would be taking away probably some of the best elements that will form the technician group. I believe they are not now as well taught as in other countries.

Mr. Shearman: In paragraph 4, you say: 'It seems likely that while industry will continue to expand and employ more people, its rate of growth will be less than the rate of growth in those receiving higher education'. I wonder if you could clarify this a little?

Lord Heyworth: My point there is the one I have just been making, that it would be unwise to push up too fast the number of people filling jobs in industry who previously came up the hard way and will now have to come from people in the universities. But what we must do is to make sure that for those who do not go to the universities there should be opportunities to get more formal education at various appropriate stages.

Chairman: It has been said to us that the tradition of craftsmanship is dying here, and that we have no institutions providing a substitute at that level.

Lord Heyworth: With full employment and the wages which are available to very young people, the craftsman is in a much less favourable position than he used to be. It is very important to make sure that the craftsman's lot is looked after. But I think we are going in the right direction with day releases and so on.

Chairman: You think we ought to go a good deal further?

Lord Heyworth: I think so. Of course, we still have a sneaking belief, I suppose, that those who want to become qualified should be willing to make some sacrifice. I believe that, but the sacrifice must not be made too great.

Chairman: Thank you. May we move on to the well-trodden field of graduate and post-experience courses? I gather from your memorandum that you do not think much of teaching management and business administration at the undergraduate level?

Lord Heyworth: I do not.

Chairman: But what is your judgment about the possibility of teaching it at the graduate stage, that is, before your post-experience courses?

Lord Heyworth: As I have said, I would like to see more of it. I do not think the movement is likely to be very fast, but it is gaining some momentum at the present time, and that encourages me. I believe the subject can be taught at that age. The selection of the student is extremely important. Unless he has some element of leadership in him such a course is more inclined to lead to his being frustrated rather than being an advantage to him.

Chairman: What is your conception of such a course at the graduate stage?

Lord Heyworth: I would have thought it would have quite a large content: applied economics of various kinds, social studies; relationships with people, and so on.

Chairman: That is to say, you would be in favour of teaching certain specific techniques, rather than making the centre of gravity management as such? It could be argued that universities have certain specific things to

offer which can be of some positive advantage in business. They can teach statistical techniques, they can teach operation analysis, commercial law and advanced accounting. If this line of approach were adopted, management would come in by a side door rather than being right in the centre of the picture. Would you think that would be easier to organise because specialists could teach the techniques, whereas it might be difficult to get good managers to come and teach even by secondment from industry?

Lord Heyworth: Actually, what some of the C.A.T.s have done is not too bad. It is easier for them to get people from industry to come and talk, and that is a pretty successful part of their work.

Chairman: Yes, but it is an auxiliary, is it not?

Lord Heyworth: Yes, indeed.

Chairman: Experience suggests that it is difficult to run a graduate course in management or business administration on the basis of casual lectures. Is it going to be possible to get people with experience of business who are prepared to accept the comparatively modest emoluments of university teaching?

Lord Heyworth: It is a vicious circle at the moment. Once this class of work has acquired status, I imagine this sort of pattern will emerge; some of the brighter people who take the course will stay on as junior lecturers, for a while, or else go out for a couple of years to work in industry. The way this works in America is a sort of mixture: some people staying on at the business schools and teaching for a short while; all the good people are taken by the management consultants as a rule; they get two years of management consultancy and then sometimes they go back and teach again, perhaps for a short period. They have all got a business career, not academic teaching, in their minds, but in the meantime they do quite a service to teaching. Of course there are very high remunerations in management consultancy, and teachers in business schools do a lot on a part-time basis. A Dean of a business school once told me that 15 per cent. of his income came from his emoluments, and 85 per cent. from fees.

And you have no status as a professor, or even associate professor, unless your consultant fees are at least equal to your academic emoluments.

Chairman: But you think American business schools acquire the sort of teacher who is useful because of their training in industry?

Lord Heyworth: Yes.

Mr. Shearman: I wonder whether, as industry is organised in England and with the pressure on qualified staff at the moment, there is a prospect that industry would release staff at the appropriate stage in their career to such places as the Administrative Staff College? I am also interested to know whether you think the people themselves would feel they were getting out of the line of promotion if they went off on a course.

Lord Heyworth: I think you can do something, because management consultancy has become respectable in this country now. A management consultant is someone who has a definite background, generally that of an engineer or an accountant, but has required a good comparative view. As a rule it is a wearing kind of business, because he has six weeks in one place and four weeks in another, and so on; as a rule he wants to settle after a while, and either goes back into industry or teaches for a couple of years.

Sir Patrick Linstead: May I ask a question in the field of engineering? Would you extend what you have been saying into the field of post-experience courses or postgraduate courses for engineers?

Lord Heyworth: I believe they are equally important.

Sir Patrick Linstead: Do you think there is a need for courses filling a whole academic year?

Lord Heyworth: Various courses are needed: for example if there were a break-through in a new branch of technology; there is also a need for topping-up courses; I think that is likely to be increasingly important. We know we cannot teach an engineer the whole subject, or it would be many years before he got started. The main thing is to make sure that the people

who take the courses are of the intellectual calibre to benefit.

Sir Patrick Linstead: How would you select students for these postgraduate or post-experience courses? Do they select themselves, or do the firms select them? What is the best method?

Lord Heyworth: I am familiar with what we have done at Henley, and there everything depends on the quality and the nature of the people who go. That College attracts people at thirty-five or forty, and if they are not suitable the course is a flop, because in effect they teach each other. The selection is done by the Henley staff. The employer can nominate, but whether the nomination is accepted depends on selection by the institution itself. When it started, the course had about one third of misfits, merely because it was not clear enough what was needed. Now the number of misfits is minimal, but it takes a long time to establish what you are really after. It is no use sending people as a reward for faithful service. What is needed are people with the potential to go further.

Chairman: You had a selection committee composed of the staff and outside business advisers?

Lord Heyworth: No. The Principal selected; it is a small institution; a preliminary screening is done. Occasionally of course we get let down by the foreigners—we take 10 per cent. of people from abroad—but now we are like a business school; we have a number of people in each of the countries concerned and we get them to help, to say whether a particular man is suitable.

Sir Patrick Linstead: We are running a number of postgraduate courses at Imperial College, and we find that the number of worthwhile people taking them has gone up. There is, however, a great resistance on the part of some industries, or some branches of industry, for the reasons which Mr. Shearman hinted at, that when they have a good man they do not want to let him go. Have you any ideas as to how that could be overcome?

Lord Heyworth: This is what we are all working at. We will soon wear this resistance down; we are just about at

the break-through. Some of the people who have had this kind of training are nearly bosses now. I have always argued that if you are going to lose a man when you send him on such a course, he has already something in his mind, and if you cannot satisfy him, a dissatisfied man is no good to you anyway. Most of the sort of men who are good enough to be sent on such a course are good enough to think for themselves; they would not be wanted in higher positions unless they were.

Chairman: May we turn now to the second part of your submission, to the University Grants Committee? I see you recommend the appointment of a second full-time academic member. I am tempted to ask whether you think that, if your recommendation about the C.A.T.s were to be acted on, the appointment of a second full-time academic would be enough?

Lord Heyworth: I think it probably would. This is also a matter of personalities; it is much easier for two people to work together than for three, and I think that, for the time being at any rate, two people could do this work. I think it would also be worth considering making a condition that the academic members of the committee should perhaps spend some time visiting institutions by themselves. I also think that the number of sub-committees of the U.G.C. would have to be expanded.

Chairman: But, even thus reinforced, if ten C.A.T.s were added, would not the organisation begin to be in difficulties over visitations?

Lord Heyworth: I do not think so, because the technological sub-committee would expand and spread over that part of the work, and visitation could be done by the technological sub-committee, with perhaps two members of the main committee.

Mr. Shearman: Now that the C.A.T.s have become direct grant institutions, do you think it is necessary to link them up with the University Grants Committee?

Lord Heyworth: The University Grants Committee has to spend quite a lot of time on liaison with the Ministry of

Education over technological education already. I hope that in ten years' time the C.A.T.s will be indistinguishable from universities.

Sir Patrick Linstead: How do you see the future organisation of C.A.T.s? Do you see them federating together as one great college; do you see them grouped, or do you see them singly?

Lord Heyworth: I should have thought they could build up to a decent size; and if an institution is going to have 1,500 or so students, I do not see why it should not determine its own destiny.

Sir Patrick Linstead: How about the London C.A.T.s and London University?

Lord Heyworth: That is a very big subject; my view is that, once it reaches a certain size, there is everything to be gained by making an institution responsible for its own degree structure.

Chairman: May we now come to the last and biggest question? Suppose that the new universities and the C.A.T.s are all under the wing of the University Grants Committee; what would be your judgment about the present position of the University Grants Committee in the machinery of government? Are you happy with the attachment to the Treasury, or do you think the changes you envisage would involve other arrangements?

Lord Heyworth: I think the present situation is too hard on the Treasury because they are the watchdog of expenditure; but it has hitherto worked pretty well. I suppose it would be better to put the universities and the C.A.T.s under, say, the Lord President or make some similar arrangement. The Treasury would then, I suppose, exercise their control functions.

Chairman: What about accountability? How long do you think that can be withheld?

Lord Heyworth: This is something which I believe to be most important. As the sums involved get bigger, Parliament tends to feel that a very dangerous state of affairs may develop unless they

probe around. I think nothing could be worse than direct accountability, with the Public Accounts Committee looking into the way the universities are run. I would say that the standard of administration in the universities today is quite high, that everybody knows the weak spots and that they are being looked at. University administrators have reasonable competence and status and on the whole they are a pretty good type of person. I think it is particularly inappropriate to approach accountability by looking backwards, which is inevitably the only avenue which is open to a committee of Parliament. Therefore the best approach is to see that the members of the University Grants Committee are people of character and independence of mind. As an outsider, I have been greatly impressed with the work of the members—in the way that academic people will express within the committee completely objective views about things which are very close to them, and often on matters which impinge on friends. It is most impressive to an outsider like myself who has had to

spend a good deal of time at committees, not only listening to what somebody has said but wondering why he has said it. In the University Grants Committee I have never experienced that; they are people of standing. But how to convey that to Parliament I do not know. Moreover the University Grants Committee never gives an explanation for anything; I think this is an admirable rule. Sometimes I do think that the U.G.C. is not understood in university circles as well as it should be.

Chairman: The Treasury has done remarkable things for the University Grants Committee so far. I think the question is how long they can go on if the volume of expenditure becomes greater.

Lord Heyworth: As I go round the world I talk a good deal with people about this; frankly the U.G.C. is the envy of most countries; there is no doubt about that.

Chairman: Lord Heyworth, thank you very much.

MEMORANDUM

submitted by

THE NATIONAL INSTITUTE OF ADULT EDUCATION
(ENGLAND AND WALES)

14th September, 1961

STATUS OF THE INSTITUTE IN RELATION TO THE SCOPE OF THE ENQUIRY

The National Institute of Adult Education is an independent and consultative organisation established by the voluntary decision of the providing bodies, public and private, to advise on the liberal education of adults; to serve as a centre of information and to promote co-operation on matters of common interest. The term 'adult education' has no statutory definition but it is commonly taken to describe educational activities, engaged in voluntarily and without direct regard to vocational preparation or training, by people above normal age of full-time education in schools, colleges and universities.

Prima facie, the Institute has only a limited concern with the short terms of reference of the Committee which are directed to reviewing 'the pattern of *full-time* higher education in Great Britain' etc. We are glad to know, however, from its 'Note on the Terms of Reference', that the Committee intends 'to take cognisance of other forms of education and training provided for people over 18'. It is our profound conviction that no satisfactory pattern of full-time higher education can be evolved that does not have regard to opportunities for continued education throughout adult life, the greater part of which will necessarily be on a part-time basis. We think it has been regrettable that, in recent Reports, e.g. Crowther and Albemarle, proposals for action have virtually ignored the educational potentialities of adult life. We accept the dictum of the Vice-Chancellor of Leeds University: 'If we deny ourselves adult education, we deny ourselves a great part of education absolutely, for much of it is only open to the grown man and woman'.

Our principal concern, therefore, in submitting this memorandum, is to call attention to ways in which part-time adult education is the indispensable complement of full-time higher education, but at the outset we should like to call special attention to the one area of adult education which comprises 'full-time' activity—the work of the small number of Residential Colleges offering a one or two year course of liberal education.

LONG-TERM RESIDENTIAL COLLEGES FOR ADULT EDUCATION

We are aware of the submissions made independently by the Colleges and we should like to support as strongly as possible the claims made for their unique contribution to the pattern of full-time higher education. We hope, however, that the Committee will not merely record its general belief in the value of this small area of specialised provision but that it will very seriously consider the relevance of the experience of the Colleges to the education needed by mature entrants to a variety of public service professions, notably teaching, youth work and social service. The Colleges are, in a peculiar degree, strongholds of liberal education. The record of their students over a long period of years is their best validation. There is a danger that, because they are small in size and numbers, universities and other large institutions may be reluctant to accept their 'graduates' for extended education or training without standardised evidence of attainment of a kind quite inappropriate to the character and purposes of the Colleges and to the actual educational experience of their students. The advice tendered by Sir Philip Morris at the re-opening of Fircroft College is appropriate. 'Never apologise for being small'. Small as this section may be, we hope that the relevance of its experience will attract more than marginal attention from the Committee.

BALANCE BETWEEN FULL-TIME AND PART-TIME STUDY INCLUDING
CORRESPONDENCE COURSES

The Committee will be aware of the extraordinary paucity of information about correspondence education in this country. Its defects are assumed; its potentialities neglected. There is evidence that it remains and is likely to remain a major form

of educational preparation by adults for academic and professional qualifications. It is largely provided by commercial institutions, many of them highly reputable, but examples come to light, from time to time, that cast doubts on the *bona fides* of certain agencies. We comment later on possibilities of linking correspondence courses with provision for residential adult education. If the Committee does not investigate this field in detail, we hope that it will at least recommend that this should be done with a view to the registration of all correspondence schools, colleges, etc. and the issue of certificates of efficiency.

The Committee will, no doubt, consider another area in which information is peculiarly scanty, and which is in part related to correspondence education. We refer to what we may describe as abnormal entry to University Degree and Diploma courses on a part-time basis, and we have in mind, in particular, the Arts rather than the Sciences. So far as we are aware, apart from the faculties of Education, only one faculty of one university outside London provides evening courses leading to a first degree and only London University has developed any substantial scheme of extension diploma courses. Very large numbers are registered as external degree students of London University, many of them taking correspondence courses and this may almost be considered the safety-valve in the whole university system. If it did not exist, we think there would be much heavier pressure, particularly on the provincial universities, to provide 'Extension' opportunities on the American model. There is an obvious conflict between the concept of a University as an examining and certifying body (which is certainly a widespread public image) and 'the idea of a university'. Yet, given the projections of population figures on the one hand and the maximum known plans for University development on the other, together with the personal and social factors detailed in the paper submitted to the Committee by Ruskin College, it seems inevitable that, for the rest of this century, people in later life will be anxious to secure 'university qualifications' in greater numbers than will be accommodated by late entry as full-time students.

It is not unreasonable to ask whether the opportunities presented by Birkbeck College and the Manchester University evening degree courses in Commerce and Administration, which are clearly preferable alternatives to unguided correspondence preparation for London External degrees, might not be more widely spread. There are presumably three limiting factors in the expansion of university education—potentially qualified students, available accommodation and adequate teachers. We believe that there is a reserve, likely to increase, of potential part-time students who would be attracted to suitable courses. Their maturity would enable them to obtain great benefit from even a restricted contact with university life: the creation of more such opportunities would not depend greatly on additional building. We recognise that additional teaching load presents the greatest difficulty and that there are special problems of approach to mature students but we believe that there is an accumulated experience in the field of liberal adult education that could be brought to bear on these problems. Despite all the differences of circumstance and environment we have noted with interest the attempts being made in the United States—at Syracuse University; the University of Oklahoma; Brooklyn College—to devise part-time degree programmes that respect the maturity and variously acquired educational experience of adult students.

We know that this whole question bristles with difficulties, as we have properly been reminded by our own university members. But there are both present actualities and future problems that should be examined and we would be doing less than our duty if we did not call attention to them.

LIBERAL EDUCATION IN RELATION TO PROFESSIONAL REQUIREMENTS, ETC.

In 1952 the Institute, with the co-operation of the Associations of Technical Institutions and their Principals, initiated and financed an enquiry which resulted in the publication of *Liberal Education in a Technical Age*—(Max Parrish, 1955). The general argument of this book, a copy of which is enclosed, remains valid, and we should like to direct the attention of the Committee to it. As an extension of this enquiry, a working party was established to consider the contribution of residence as a liberal element in technical education. The resulting publication, *Residence and Technical Education* (Max Parrish, 1960) is also submitted.

In both these works, reference is made to a distinctive development in adult education in the post-war years, i.e. the establishment of some thirty Colleges for short residential courses. They have proved to be of the greatest value in supplementing and complementing other forms of education. Small in scale and relatively inexpensive, we attach great importance to their further development. Major industrial and commercial enterprises regularly release and pay for employees to attend short courses of an essentially liberal character. On limited information, at least five hundred firms are known to have done so and of these thirty have made use of three or more of the Colleges. Evidence is produced, in the reports referred to earlier, of the use of these Colleges for short general courses for both staff and students of Technical Colleges and we would hope to see this much further developed. This work proceeds against a background of general liberal education offered to the adult population at large as is clearly indicated in the half-yearly Calendars of courses published by this Institute, the most recent of which is annexed. We consider that the experience already gained is suggestive of many ways in which short periods of residential education could greatly enrich other forms of education and training. They could well be related to correspondence courses and to any developments in educational broadcasting and television, all of which suffer from lack of personal contact between student and student and student and teacher. It is perhaps not an unfair criticism to suggest that they could add something of value to the education of many University undergraduates living at home and in lodgings.

We would also call attention to developments in non-resident forms of adult education that bear on a number of the 'Heads of Enquiry'. Many Extra-Mural Departments now provide courses for particular vocational groups in which the aim is to relate working practice to fundamental study of underlying principles—courses in criminology for the police, in sociology, psychology and administration for Hospital and Assistance Board Administrators, School Welfare Officers, etc. The Universities of Nottingham, Sheffield and Leeds, through their Extra-Mural Departments, have established 'day-release' courses, in the first instance for miners and more recently at Nottingham, for employees of private undertakings. Related to contemporary economic and social aspects of industrial society, these courses admit of academic study in depth while being firmly geared to the fundamental principal that respect for the student's experience of life itself is an essential part of adult education.

In the London region the traditional collaboration of the Workers' Educational Association and the University has been brought to bear on special courses for industrial apprentices with support from both sides of industry. This work has already proved capable of carrying young people over into a sustained educational interest.

These examples are clearly related to the question raised in the 'Heads of Enquiry' regarding opportunities for the re-education and re-training of older people. Acceleration in the speed of change is a cliché of all educational discussion. Its actual impact on individual lives create frustration and bewilderment with many possibilities of unfortunate consequences. The traditional concern of adult education with the 'Why' questions is obviously relevant. A senior executive in middle life considering the introduction of electronic computers or automative machinery is faced, not only with new technical devices, but with theoretical concepts that were not formulated in his student period. But over and above this he is also faced with the human consequences of redundancy and redeployment of labour. It is in the climate of liberal adult education rather than of technical instruction that he is most likely to reconcile these intricately related problems. We are not for a moment suggesting that this climate is not being created and developed in institutions of higher technical education but we can see great advantages in encouraging widespread opportunities for the consideration of such issues on settings that respect the particular need of adults and we hope that the Committee will support this view.

DIFFICULTIES IMPEDING THE HIGHER EDUCATION OF WOMEN

We know that the Committee will receive evidence on this topic from many sources. We therefore confine ourselves to noting that in the field of adult education there has been a persistent growth in the proportion of women to the point where they constitute a majority, and often a large majority taking advantage of whatever facilities are offered. We have no doubt that demographic and social changes allied to continuing full employment are radically altering the assumptions on which young women are planning their lives. Unless and until a much higher proportion of girls pursue full-time education to its proper conclusion, having regard to their abilities, 'released' middle-aged women will represent the largest reserve of potentially skilled but inadequately trained labour. If a substantial number of them are to return to active work outside the home with satisfaction to themselves and value to the community as a whole, imaginative efforts will be needed in the 'house-bound' phase of their lives to help them to retain confidence in their ability to profit from specific training when circumstances permit them to engage in it. At present, adult education as provided and promoted by women's voluntary movements in co-operation with other agencies makes the major contribution to this end.

THE FUTURE

We have restricted our particular comments to matters arising out of our own terms of reference but we would like to add some brief general remarks. Adult education has been much concerned with the 'higher education of working men and women' and in the earlier part of this century it was certainly compensatory for basic deficiencies of education in childhood and youth. This is today less obvious because a greater proportion of the ablest young people have for some time proceeded directly to higher education as a natural continuation of school life. But there is no diminution in the overall demand for adult education. Recent enquiries suggest that it is now most sought after by those who have derived more than the minimum benefit from education in earlier years—that it is 'reinforcing' rather than 'remedial'. In the sense that no terminal education, whether at 15, 18 or 23 will now suffice to carry a man or woman effectively and happily through a working life-time, this is not to be regretted but it may lead in the direction of an acutely divided society if sustained efforts are not made to attract to adult education people with less fortunate experience in childhood and youth.

Management-sponsored short courses, whether resident or non-resident, undoubtedly introduce some people in this category to adult education who would be unmoved by any generally directed publicity. For the minority who are more apt to respond, limits are set to expansion by lack of suitable accommodation and finance reflected in turn in insufficiencies of staff and inadequate publicity. Our evidence suggests that one, and perhaps the best measure of success attending on the Committee's deliberations would be expansion of demand for adult education the cost of which, by comparison with any other sector of public education, is minimal. We do not believe that lengthened individual lives can be enjoyed to the full, that productivity can be raised or that a genuine and stable democracy can be achieved on the basis of full-time education in childhood and youth alone, however much it may be extended and improved. We do not think that it would be other than appropriate to its terms of reference for the Committee to endorse this view.

The following supporting documents were also submitted:

- 'Liberal Education in a Technical Age' (Max Parrish, 1955).
- 'Residence and Technical Education' (Max Parrish, 1960).

ORAL EVIDENCE

given by

Dr. Mabel Tylecote (Chairman), Mrs. C. Dyson (Principal, Hillcroft College),
Dr. B. E. Lawrence (Treasurer) and Mr. E. M. Hutchinson (Secretary)

on behalf of

THE NATIONAL INSTITUTE OF ADULT EDUCATION
(ENGLAND AND WALES)

Wednesday, 4th October, 1961

Chairman: I want to thank you for the excellent memoranda with which you have furnished us, both for the general document and the subsidiary documents dealing with the affairs of the colleges. I wonder whether, to start the discussion, you would care to say what you would hope we should do for the various interests you represent.

Dr. Tylecote: I wonder whether I may suggest some points on which our experience might relate to your terms of reference, and then perhaps you would like to ask us questions; afterwards if any of my colleagues felt they had points they wished to add they might have an opportunity to speak?

Chairman: Certainly.

Dr. Tylecote: I would like simply to raise six points which may be relevant to your inquiry. First, it is our contention that there can be no satisfactory pattern of full-time higher education which does not have regard to opportunities for continued education throughout adult life. I do not think that is a point I need express at great length. Second, with regard to the long-term residential colleges, we want to support the memoranda which you have received from the residential colleges by saying that we feel their need has been fully established by their experience, and we think they have an approach to mature students which is of great importance. Third, we are concerned about the inadequacy of opportunities for part-time university education. We know it is a sticky problem, and we are conscious that work through correspondence and evening courses has severe limitations; but we feel there will be an enormous demand for this type of education and consequently

we are concerned with the need for some personal relationship and for tutorial work in relation to it. We think that perhaps we could make some contribution through our colleges. Fourth, there is the question of the intermediate institutions. We know this is complex and we do not want to hazard any particular suggestions; we are, however, very conscious that there is a field of training required which is not university training but is advanced work, and the sort of training which leads to the social occupations; some of it is retraining, some of it is primary training. We know something of this kind is needed and we feel that the experience of the approach to mature students that we have in the long-term colleges is valid in this connection. Fifth, we feel that short-term colleges are needed and must in fact be increased, because the pressure on them is enormous, and they are fulfilling many functions. We feel that they can be used to supplement part-time university education and intermediate forms of training, and that they have shown themselves to be very flexible. They are already being used in many ways in many sides of the national life, particularly by industry recently, and we feel support for them might be of assistance to your inquiry. Finally, on the subject of women, you have already had Mrs. Dyson's evidence on behalf of Hillcroft. We are very conscious of the need and we know this is a subject which will require a lot of attention in what would seem to be the impending national emergency about the supply of trained women. We would suggest that Mrs. Dyson is one of the most important contributors of experience under this head, and we know from her that in particular fields there is a great need, not only for courses to be established, but for

advice to be given as to how to reach institutions and how to obtain that experience.

Chairman: I wonder if you would state a little more precisely the nature of the support which you think ought to be forthcoming for the long-term residential colleges?

Mrs. Dyson: I speak for my colleagues at Hillcroft. I also understand from my colleagues in the other colleges that there is a demand for places which exceeds the accommodation available; I know it is the wish of some of the colleges to extend. The problem is that they have little money of their own by endowment and no expansion of the residential centres is possible without some direct assistance from the Ministry of Education. We understand there is provision for that in the regulations, but that so far it has not been implemented and none of us has enjoyed any grant for capital expansion. I believe some of the colleges would like to make applications, and I hope they will receive sympathetic support. Some think there is need for more long-term residential colleges.

Mr. Hutchinson: Provision for such grants exists in the Further Education Grant Regulations as they are now framed, but none have been made.

Miss Gardner: Of what order of magnitude should the expansion of your colleges be?

Mrs. Dyson: Each college has its own views. I would not feel I could commit my colleagues about this. For instance, in Hillcroft we should like to expand gradually; it is not worth putting up a building unless it can accommodate about twenty or thirty people, which I think is the immediate objective. I believe Ruskin has its own objective. I think I am right in saying that Fircroft is not at the moment contemplating expansion; the Welsh college is and I think it would like to double its numbers because its present accommodation is very inadequate. Most of the colleges have too many students in shared rooms, and some of them have as many as five or six people in a room. We have not reached that point at Hillcroft; we have mostly single rooms but we have to double them at the

moment; we are so tied down that we are doubling where we do not want to double.

Mr. Hutchinson: Fircroft, of which I am a governor, would like some additional rooms.

Mr. Elvin: Would you like the capital grants to come from the Ministry of Education as well as recurrent grants or would you hope for capital and perhaps recurrent grants to come under some different auspices?

Mrs. Dyson: I am so unsophisticated as not to care where the money comes from as long as we get it. My other colleagues may have different views.

Mr. Elvin: You are inspected by the Ministry of Education now because you get grants?

Mrs. Dyson: We and the Ministry are the most delightful of friends; I have no desire but to see more of their inspectors and more of the Ministry. I do not know what Ruskin's view is on that. I am all for more of a good thing.

Sir Patrick Linstead: Could we have some clearer picture of the order of magnitude involved here? How many people are at present involved, and roughly how many people would there be in the expansion?

Mrs. Dyson: In the short-term it might mean doubling the present numbers if no new college were started. Most of the residential colleges would not want to become too big because the work would be poorer in quality.

Sir Patrick Linstead: What is the total number at present?

Mrs. Dyson: There are four hundred places in the country as a whole.

Sir Patrick Linstead: Which might go up to eight hundred?

Mrs. Dyson: Yes. The other part of the financial side of this is not directly related to capital grants, but to students' fees. There is a great element of chance as far as they are concerned. One would need to have statistics for a number of years to give precise information, but every year students come to the college who are

not given any money from their local education authority and money has to be raised for them from private sources. This is in spite of the fact that they have been very carefully looked at and all their claims authenticated and that we are willing to give them a place. In some cases we find the money, and in some cases people have to be turned away and other people, people lower down on our list, are admitted. That is a great difficulty. Most local education authorities are admirable, but there are a number who do not do this, who have made up their minds not to do it.

Mr. Elvin: You spoke of the need for the long-term residential colleges. How far is their work becoming less remedial, for people who have only had primary education, and becoming instead more supplementary? How far do you think the nature of the courses, or at least the length of them, might change?

Mrs. Dyson: As a matter of fact, and not as a speculation, three of the colleges are now initiating, and two colleges have already done so, preliminary course work. I understand that the Welsh college is thinking of this: in other words their full purpose would be to continue for a two-year course for some students anyway. Fircroft and Hillcroft feel at the moment that they have a function to fill with a one-year course and have no plans for an extension of this. A good many of the students in all the colleges, irrespective of diploma work and so on, prepare themselves for vocational training afterwards.

Mr. Hutchinson: Mr. Elvin has raised the possibility of a slackening of the remedial aspect. Curiously enough, there is not a great deal of evidence of a real change in the kind of student being admitted to the colleges. The difference is in the possibility of outlet from the colleges rather than a difference in the kind of person coming in. I recently looked at the records of Fircroft for a good many years back, and I found that the type of entrant, the extent of educational background, age, and social circumstances, are practically unchanged over the whole fifty years the college has been extant.

But there are now different outlets, and this is conditioning students' minds in a different way.

Chairman: I wonder if you could help us in this respect. Our statistics in your field are few. Could you perhaps compile some supplement to your submission of evidence on the lines of the statistical material from Ruskin College and let us have it?

Mrs. Dyson: I have provided statistical material for the last fourteen years for Hillcroft, the number of students who have gone on to vocational training, the backgrounds they have come from, the percentage that left school according to age, and so on.

Mr. Hutchinson: The basic statistics that exist are Ministry statistics and are extremely difficult to interpret; one could make all kinds of things out of them. Within the limitations of what we know I would be delighted to give you that information.

Chairman: You could possibly consult with the Ministry on the form in which they should be put in. It would be a great help to us to have a little more information.

Mr. Shearman: I have a question arising out of the statistics. The impression I get is that to a great extent Hillcroft serves as a pre-training institution. Is its main purpose to prepare for social or vocational training?

Mrs. Dyson: No; we do not admit students to the college with a view as to what they will do. We admit them for a year's liberal education because they have not had that opportunity previously and they want it. That is the only ground on which we admit them; we do not make any conditions at all about their future.

Chairman: Do you claim a future role for your college in that direction quite apart from any social or vocational motive?

Mrs. Dyson: Yes, there is no other place where this can be done.

Chairman: In your memorandum you begin by saying that this Committee is concerned mainly with full-time



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education, that you regard the present provision as unsatisfactory, and that part-time work cannot be isolated from full-time work. You also indicate clearly at the end that you do not see this as competitive with the satisfaction of full-time university education. Are you saying that a great body of people in the general population ought to have, and need, part-time education?

Mr. Hutchinson: Yes, emphatically.

Chairman: And that part-time adult education has a place in relation to the future pattern of studies?

Mr. Hutchinson: Yes. Indeed we put it even more strongly, to the point of saying that the more you develop full-time higher education the more you will increase the demand for adult education.

Sir Patrick Linstead: This may seem slightly paradoxical. Are there any statistics to support it? We have had a considerable growth of full-time education in the last few years.

Mr. Hutchinson: Fairly recent inquiries bring out strongly that the highest proportion of people who are seeking adult education in a great variety of forms are those who had more than the minimum of normal education, that they are drawn in a sense disproportionately from the categories which have had the longest continued education in childhood. There seems to be little doubt that the higher the proportion of the population enjoying a longer continued basic education, the bigger will be the general demand for continuing it throughout life. This will still leave us with the bedrock problem of education that, however effective selection may be, there will still be people left who, in adult life, will want to make up for opportunities they did not secure at the right time.

Chairman: I am a little puzzled by the statistical picture. Is it not the case that there has been a substantial falling-off in the demand for registration of evening students in colleges?

Dr. Lawrence: The position about evening education is difficult. Local education authorities seem to want to encourage more people to do part-time education to-day. Our experience

is that in some places there has been an increase and in some places there has been a decrease. But there has been a very great transfer from evening work to day work in a great many courses.

Mr. Shearman: Accepting what has been said by Mr. Hutchinson about the continued demand for part-time adult education, I would like to raise another point in relation to our particular purpose here. Universities in this country have for half a century played a very great part in providing this. I wonder whether you think the universities should be the appropriate bodies to carry out this kind of work in future?

Mr. Hutchinson: I had taken this for granted; we should have made the point more strongly.

Dr. Tylecote: We should say that is an axiom; we have regarded it as such. May we emphasise it?

Mrs. Dyson: May I in connection with universities mention an important point which we would be grateful to be able to make? Whereas some universities, particularly the older ones, have a very liberal attitude to the admission of adult students of calibre to their colleges, there is a majority who have no such attitude. It is really a battle—and I think one can use the word advisedly—for adult students to get a university education unless they are fortunate enough to obtain one of the few State Scholarships which give a cachet to their application, or go to the older universities, or to Manchester University.

Chairman: Do you mean the qualifications demanded are too rigid or that the places are limited?

Mrs. Dyson: Both; the qualifications demanded are not always suitable for adult students, and the preparation for the qualifications is not always the best qualification for what they are going to be or the kind of people they are. The places, of course, are extremely restricted. We refer to this not only in relation to our own colleges—we would not be so narrow as that—but generally speaking in relation to all adults who have some useful part to play. This is so in

teachers' training colleges in some areas. Others have an extremely liberal policy. The real trouble is that, although there are areas of liberality where adult students get a remarkably generous reception, there are others which take a different view and show an almost complete blindness to the claims of these people.

Mr. Shearman: The evidence has referred to another matter; the place of correspondence colleges. I noticed with interest your recommendation that we should suggest correspondence colleges should be registered. Would you like to elaborate on that?

Mr. Hutchinson: Perhaps I might speak briefly to this. I have experience both as a student and tutor of correspondence courses. I have thought for a long time that correspondence education is a sizeable factor in our society but yet there is no literature about it. The total literature amounts to three or four newspaper articles and one or two small pieces we have included in our own publications from time to time. To the best of my knowledge no serious study has been made of correspondence education in this country. There never have been less than something of the order of 150,000 students involved. This is guesswork up to a point, but when we made some inquiries a few years ago two colleges had 4,000 students registered for London external degrees alone; these were two entirely reputable colleges. This is the order of its importance in our society and I see no likelihood whatever that it is going to cease to have that kind of order of importance. Major commercial professions are almost solidly backing correspondence as the major method of preparation. The Institute of Chartered Accountants are on record as saying that they cannot imagine any more suitable method. Professions are controlled by senior members who have come up through this particular route. It seems high time this was seriously looked at. The Ministry takes no responsibility for it; there is no inspection, no registration, no certification, no central council. Particular local authority offices have come to know, in the course of experience, something about the different courses, but it is not possible to say much more about it,

because the facts are not there. I think it is something which should be considered by your Committee.

Chairman: It would seem that some correspondence colleges must have given very valuable assistance, otherwise they would not have existed for so long. It is the field about which we know least, and if you could collaborate at all with the secretariat in helping us to compile statistics or even in formulating the questions we ought to ask about it, we would be very grateful indeed.

Mr. Shearman: There are two sides to the general question; one is professional training and the other is the university degree course. On the university side, supposing the university expansion were carried further, do you envisage that in the long-term the people who want university education should go to universities without needing to call on correspondence colleges, or would you envisage correspondence colleges in the long-term playing any important part in this field?

Mr. Hutchinson: I am in a statistical trap here. I have seen various figures as to the possible maximum expansion of universities over the rest of this century; I have seen projections for population over that period also, and the two do not seem to match. I would assume over the rest of the century there would be people capable of profiting from a university education who will not get it as internal students. Some proportion of them will continue to demand what they believe to be the nearest thing to it and as long as anything like the London external degree remains there will be an opening for them to do so. If that is so, one of the modes of preparation they will seek will be correspondence preparation. I would like to see this recognised as a fact, though I would add that no one should be allowed to proceed to university qualification merely by correspondence. There should be some requirement for some short periods of consultation and residence, which we know now to be possible on the basis of the short-term residential college. Most people can get a break for two or three weeks, and even this very

modest direct contact with the real source of university teaching would be a great source of strength.

Chairman: You suggest that residence should be compulsory?

Mr. Hutchinson: I would prefer to see a wider recognition by all universities of the need to serve part-time students in one way or another. This would be difficult but I think it would be a better mode of approach. I think this could be linked with correspondence education. It could be conceived as a thing of value in itself and not merely as an unfortunate necessity to be tolerated and ignored as much as possible.

Mr. Elvin: Would you wish the university to make it compulsory for overseas candidates?

Mr. Hutchinson: No. Overseas candidates present a special problem. I am thinking now of candidates in this country.

Dr. Tylecote: In evening courses for degrees, like the one at Manchester for which I have lectured, the contact is classroom contact. It is frustrating because there is no opportunity for tutorial conversation with the students. They are conscious, and the tutor is conscious, that they are seriously deprived students. A short period of residential course which was tutorial in character could mean a great deal to most students.

Mr. Elvin: Would your advice to this Committee be to keep the number of students taking degrees in this way as low as possible by making the expansion of universities as large as possible?

Dr. Tylecote: That would be my personal view; there should be as much higher education on a full-time basis as possible. I deplore the necessity for the correspondence type of course. Like Mr. Hutchinson, however, looking at the figures as far as we know them, it would seem that there will be an increased rather than a reduced demand for it in future, and we should try to meet it.

Dr. Lawrence: I hear of students taking a correspondence course who ask the local authority for assistance with

their fees. It is difficult for the authority to know whether the course concerned is any good. There are a few well recognised ones; but on the great majority there is no information. Others come to the authority wanting to take a course in a particular subject which is not covered by the technical college. They ask us what we can recommend. It is very difficult without much more knowledge of correspondence colleges to know which course to recommend. There is a demand; I would agree that it is not a defined demand, and I do not think university expansion would affect the problem much. I also had experience of lecturing many years ago and contact with students merely by lecturing. It is not the same thing, although it is a good deal better than reaching the students through the post. As I see it, there will continue to be people who at some stage in their lives want to take a correspondence course and for whom no other forms of education will be available.

Mr. Elvin: How far do the delegation feel the situation might be improved by the use of television courses?

Dr. Tylecote: We are experimenting in that field but are not ready to give an opinion.

Mr. Hutchinson: I think there is no experience in this country yet on which one can formulate an opinion.

Mr. Elvin: What about the United States?

Mr. Hutchinson: In the United States, indeed. My own inclination is to say that it is obviously a possible tool of great importance, although I would hesitate as to the value of it unless it is related to contact teaching situations and unless it makes some demand on the student. I can imagine instruction by television, provided the student is working to tests, to prepared work which has to be returned. Even then it will be limited by lack of direct personal connection. I conceive television at the moment to be providing an immense stimulus, to be enlarging the terms of reference. It thereby presents a great challenge to us to take advantage of that fact. It is at that point we are attempting to

develop some work in terms of special instruction or what would be labelled E.T.V., an organisation setting out to create education on the United States model.

Dr. Tylecote: There is one further point I should make, if I may. I am intimately connected with Holly Royde in Manchester. I would hope that the short-term colleges would be looked at carefully for what they are able to do, by supplementation of instruction in default of better provision for long-term institutions. I think this comes under the heading both of the great need for liberal study opportunities for various kinds of people and studies for industrial workers. It also probably has an important part to play in the efforts we are making now to pick out and educate people to undertake various social obligations, by training or retraining people in the perhaps rather low-grade professions. I remember the rapturous excitement of the police in Manchester about the courses on their work, which are so over-subscribed that we cannot provide for more than a very small proportion of the policemen who want to come to study their job. This kind of provision should be made somewhere. The universities have been providing it, but they will not go on.

Mr. Shearman: You said the universities are not likely to go on with this. Do you think the local education authorities may accept more responsibility?

Dr. Tylecote: They have not said anything yet.

Dr. Lawrence: When we started our college we were hoping for more long-term people than we have been getting. The impetus for this sort of course probably started in the war, and experience of the years since then has shown that the demand is growing substantially. We are trying to assess the changes which have taken place recently in the various types of occupation represented. We have had local government officers taking a course over a period of time, health visitors and other similar groups. We have had two theological societies on a three-day course, many teachers of various subjects, and also administrators. The college is very booked up now. This is in an area just outside London, in Essex, and I would say there is evidence of the need for three colleges there instead of one. This kind of provision does not involve a great amount of expenditure; it hinges on offering a certain amount of not very expensive forms of education.

Dr. Tylecote: In view of what has been said, I wonder if you would look at the short-term colleges to see if they can provide opportunities for this type of education.

Chairman: We shall certainly bear it in mind. Thank you very much indeed.

MEMORANDUM

submitted by

SIR SYDNEY CAINE

3rd August, 1961

I should make clear that this memorandum is submitted by me in a personal capacity. While it is based primarily on my experience as Director of the London School of Economics and Political Science, and while certain of the proposals made would in my view assist in the development of that School, this memorandum is not submitted on behalf of the School, but represents my personal view on certain matters which I believe to be of importance for university development generally and which fall within the terms of reference of the Committee on Higher Education.

INTRODUCTORY SUMMARY

I apologise for the length of this document. I have attempted, however, to set out in it some ideas of wide application which need some elaboration for a full exposition. This preliminary note is intended only to indicate the main lines.

In the first place, taking it to be implicit in the appointment of the Committee that we need to take a completely fresh look at 'higher education' and its various divisions, I argue that it ought to be looked at not as something different from or superimposed on school education, but as part of an essentially continuous process, the division of which between 'primary schools', 'secondary schools' and universities, colleges, etc., is fundamentally a matter of administrative convenience rather than of essential differences in the process. In particular the universities are not something sacrosanct and standing apart from the rest of education, possessing permanently fixed standards unrelated to current social and economic conditions. I suggest the following conclusions:

(1) The basic approach should not be to attempt to assess how many individuals can attain some pre-determined absolute standard, but, on the assumption that the vast majority of young people can benefit from the extension of their education into the age range now associated with 'higher education', to argue how much such higher education it is economic to provide having regard to the resources and needs of our existing society.

(2) It is customary to think of higher education as synonymous with post-school education. I suggest that it would be more fruitful to treat as a single problem divided into a number of sections the whole issue of education beyond the stage of G.C.E. Ordinary Level, accepting that as a standard which the majority of boys and girls will before long be reaching. It is only on such a basis of comprehensive examination that an appropriate relationship can be worked out between, e.g. sixth form and university work.

(3) The existing differences between universities and other institutions of full-time higher education, including colleges of advanced technology and teacher training colleges, need to be very much reduced.

(4) As a long-run objective I suggest the following system—obviously not capable of being brought into operation in any short period of time:

(a) Boys and girls from the age of 17 and upwards receiving full-time education (who should represent a much greater proportion of their age groups than at present) should normally be working for a bachelor's degree to be taken after a three-year course, whether taken in the junior years of existing universities, in newly-established liberal arts colleges, in teacher training colleges, or in technical colleges. Such degrees would, of course, cover the natural and social sciences as well as arts in the more restricted sense, but would be of a less advanced and for most students less specialised character than the existing university honours courses. This would involve a curtailment of the time spent in Sixth Forms, but should also—in the

long run—imply that substantially the numbers now taking G.C.E. Advanced Level would be going on to this type of first degree.

(b) The Universities and the colleges of advanced technology (and other institutions if they felt able to do so) would offer postgraduate courses of more specialised character which would take students well beyond the existing honours level in their chosen specialisms. This could best be done by developing the practice of treating the master's degree as a degree to be taken wholly by examination and following a much more set course than is normally done at present for most master's degrees. Universities would, of course, admit to such degrees students from their own undergraduate divisions and from liberal arts colleges, etc. The broad intention would be that substantially the numbers of students who now graduate with good honours degrees would spend a year or two longer in full-time higher education and end with a much more adequate knowledge of their special subjects, symbolised by a master's degree. Research would begin thereafter.

(c) It would be essential for any such system that grants should be available for students taking masters' degrees on the same basis as for those taking bachelors' degrees, i.e. the basic principle should be that anybody admitted to the course would be eligible for a grant.

As already indicated the establishment of a radically new system of this kind must take a considerable time. Nor should there be any question of imposing such a pattern on the Universities, whose freedom to plan their own courses must be preserved. Government policy can, however, provide influences and incentives, such would be decisions to extend more widely the degree-awarding power and to provide grants for students working for masters' degrees at least as fully as for first degrees. Other immediate changes are also necessary in the administrative machinery. I proceed, therefore, to look particularly at the existing machinery for dealing with the general problems, including financial needs, of the university institutions of the country and to make suggestions both as to the principal functions of the University Grants Committee and the Vice-Chancellors' Committee and as to the need for machinery of co-ordination with other bodies concerned with other aspects of higher education with which the Universities will be brought more closely into association on the above basis. Among other things I conclude that whatever the objections may have been in the past it would for the future be on balance advantageous if the Universities were brought within the sphere of the Ministry of Education.

Thirdly, I examine in closer detail the existing method of financing the Universities and suggest substantial modifications in the present quinquennial procedure with the object of ensuring, first, a much better basis for a five-year plan and, secondly, more prompt and satisfactory adjustment to changes in wages and prices. Although the proposals actually put forward are related to the Universities they may well be relevant to a consideration of any comparable system for the financing of liberal arts colleges, etc. Alternatively, and more radically, I suggest that there would be substantial net advantages in raising fees to a level at which they would cover a large part of recurrent costs, with a consequential increase in students' grants and an equal reduction in direct state grants.

Fourthly, I venture to make some suggestions for examination of means of economising in academic man-power, since the task of finding teachers for the much greater total number of higher-education students implicit in these suggestions is a formidable one.

Finally, while recognising that the Committee will not wish to examine in detail the particular problems of individual university institutions, it seems to me that some of the special problems of London University and its constituent Schools and Colleges need to be taken into cognisance by the Committee if only because of the large proportion of university education in the country which is provided by London. I have accordingly appended a note on some of these problems as

seen from the point of view of a particular institution in London, with a suggestion that the Committee might as a minimum make a definite recommendation that there should be an independent investigation of the future of university education in the London area.

PART I—BASIC ISSUES

There has in recent years been a great increase in public discussion of the future of university education, reflecting an interest now crystallised in the Committee's own appointment. But in that discussion the questions that are being asked are not at all necessarily the right ones. They take far too much for granted about the existing structure of the British educational system (and, incidentally, neglect completely any comparison going more deeply than the exchanging of very general—and often misleading—statistics into the differences between our educational system and those of our near neighbours in Europe). Discussion goes on, for example, about the number of young people who may be expected to attain the standard at present required for admission to a University and there are counter-arguments designed to suggest that an increase in the number of young people admitted to Universities will mean a reduction in the present conventional standard of achievement represented by a first-class degree. These standards are, however, not relevant to the question which we really ought to be discussing. We ought rather to be asking how much higher education it is profitable for the country to give to its young people, and what are the best forms for it to take. But can we look even at higher education in complete abstraction from the earlier stages of the educational process? Must we in fact take for granted the present structure of the later stages of school education and the standards attained in them? Should not policies for higher education take much more cognisance of the possibility of change in the upper levels of school education? For the really vital purposes we need to treat as a single subject for re-examination the whole field of education beyond the compulsory school-leaving age, or perhaps, taking a slightly different criterion, above the G.C.E. Ordinary Level of attainment.

Turning back to the preliminary question how much higher education it is reasonable for the country to provide, there are three clear reasons for greatly increased provision in a modern society as compared with previous generations.

First of all, much more is known, with the result that 'subjects' have had to be sub-divided to make them manageable and yet their content is still increasing. Secondly, the ever increasing complexity both of production and of social organisation, and therefore of administration, makes it technically necessary, if maximum efficiency is to be approached, for a much larger proportion of the population to receive education to a more advanced age. Thirdly, we can in a modern society afford the increased cost involved both in dispensing with the labour of young people until a later age and in providing teachers and educational facilities.

As to the first point, I need not labour the facts about the ever increasing mass of factual material and theory which requires study. We are faced at the same time with a constant widening of the field which needs to be covered to produce men and women with adequate general education, and with a parallel increase in the depth of study which must be undertaken if men and women of adequate specialised knowledge are to be produced. Together the growing breadth of what is needed for general education and the growing depth needed for specialisation point unmistakably to the need for a longer period for the whole process required to produce men and women of the highest level of education. As to the second point, the whole development of modern industry, in which the so-called revolutionary implications of automation are in fact merely a high-light in a continuing and perhaps accelerating process, requires a constant increase in the proportion of highly educated as opposed to unskilled workers. This is true not only of manufacturing industries, but also of the public services and the exploitation of natural resources in agriculture or mining. The complexity of the processes involved calls for constantly increasing technical expertise in the ranks of a constantly increasing number

of managerial staff and technologists ; at the same time the complexity of social life and the general determination to attempt planned solutions of social problems through community action increase the need for administrators of all kinds.

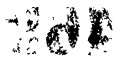
The need to produce highly trained men and women for these functions in turn results in an ever increasing demand for teachers at all levels. Indeed, in teaching, as in science, technology, management, and administration, there is a double need—for more trained men and women and for a higher proportion of them capable of undertaking work at the higher levels.

As to the third point, the ability of the community to pay for much more higher education is one of the fortunate results of affluence. This country appears today to be devoting to higher education a lower proportion of its resources than a good many other countries, including some whose general material prosperity is below ours.

How then are the needs to be met? By increasing the number of University students? Can this be done without reducing standards? Have they perhaps been reduced already? I suggest that in fact, the University being regarded as the type and model of post-secondary education, and the honours course the type and model of University work, it has too readily been assumed that the post-war expansion of higher education should largely be carried out by a large increase in the number of students taking honours courses. In fact many of them would have been more interested in a broader course, and would have profited more from it than from the hard grind terminating in a third-class specialist degree. Before this waste is extended we must examine our assumptions more critically.

If our educational system is to be capable, moreover, of satisfying our present need, which I should define simply as that of taking as many as possible of our young people to as high a standard as possible, it needs to be broken up into more stages. If we wanted to take as many people as possible as far along a railway line as possible, but knew that some of them could not survive a journey of more than 25 miles, some not more than 40 or 50, some not more than 65 or 70, and so on, a train that stopped every ten miles would clearly get more people further than one that stopped every fifty. In just the same way, a system of University education designed to carry students to a high honours degree standard will not suit those who need not to go so far, and yet to go further than G.C.E. 'A' level—either they must fail to continue their journey, or they must be carried past their ideal stopping point.

Again, education increases in variety as it proceeds. This is already apparent at the secondary level, where after the single-type primary school we have the threefold development of grammar school, technical school and secondary modern school. The diversity of these types of educational provision is not reduced when they are combined in a bilateral or comprehensive school: what that achieves is not a reduction of the differences between them so much as a most desirable reduction of the difficulty of transfer between them when that is necessary in the interests of a child. A similar but even greater diversity exists at the post-secondary level: we have the Universities, the Colleges of Advanced Technology, the Technical Colleges, and the Teachers' Training College (which is in fact rather less vocational than its name suggests, so that one is tempted to describe it as the tertiary equivalent of the secondary modern school, as the University is of the grammar school and the technical college of the technical school). Just as, however, the differences at the secondary level were at first over-emphasised, so that the secondary modern child was regarded as divided by a gulf from his grammar school contemporary, so the University is regarded as poles apart from the teachers' training college or the technical college: this distinction has been accentuated by the fact that it is under the ægis of the Treasury and the University Grants Committee, they under the Ministry of Education. In fact, however, I wonder whether the distinction should be regarded as marking permanent and unbridgeable differences, or whether we should not seek to see the equivalent at tertiary level of the secondary comprehensive school.



Equally exempt from immutability should I suggest be another division—that between sixth form at school and the first year at University or other institution of higher education—even though that boundary at present coincides with a number of important administrative boundaries within the Ministry of Education, or between it and other bodies. The sixth form pattern as it now prevails in British schools is a comparatively modern growth which is still likely to undergo considerable modification, especially in view of the great increase in the number of boys and girls who continue to receive full-time education for two or three years after taking the 'O' level examinations of the General Certificate of Education. New as the present pattern is, there is a strong tendency to accept it as eternal. The Universities seem very apt to say 'we must shape our courses according to what the Sixth Forms produce'; while the Sixth Form teachers say 'we must shape our teaching on what the Universities require'; and the two sides never examine the issues jointly.

If we can regard this boundary as subject to adjustment we shall have more room to manoeuvre in dealing with a number of pressing problems affecting the content and duration of University courses. I have already indicated that in my view we are making a mistake in subjecting to the discipline of the customary honours course so high a proportion of the extra students who have been drawn into our Universities since the War; for many of them, I am sure, a broader curriculum would be not only more attractive but more suitable. How much better for them to do a course of study that they might be good at than to earn by much toil the mark of inferiority which a third-class degree represents.*

Their transfer to other courses of study would, moreover, enable the teaching of honours degree courses, or of much more closely organised postgraduate courses, to be more specifically related to the higher abilities of the students who would remain in them. The constant advance of the frontiers of knowledge means that the pressure to increase the content of the honours degree course to an unreasonable extent is unremitting. It is hard to resist the argument that a man who is to be turned out as a trained economist with first-class honours in his subject must be fully informed of recent work in that subject. The pressure for an extension of the three-year course to four years is therefore very great, especially when account is taken of the length (comparable to that of the medical course in this country) of courses of study leading to first degrees in some other European countries. As matters stand at present, we at L.S.E. are seeking to relieve the pressure by letting it be understood that a good student who intends to embark on an academic or professional career in, for example, economics should take a Master's degree by examination one year after his first degree, and we are seeking accordingly to develop the provision of postgraduate teaching (which is not, of course, the same thing as the customary supervision of postgraduate research).

A further factor to be taken into account in re-examining our scheme of higher education is the need to make the fullest use of the limited supply of teaching talent. I doubt whether it would be possible to maintain, let alone improve, present staff-student ratios in face of a very great prospective increase in student numbers. I think, therefore, that it may be necessary to give some reconsideration to current presumptions about the right basis of staff-student relationships. I suspect that the traditional ideal of close personal contact between teacher and student, and the consequent need for a very low ratio of students to teachers, is really applicable to-day much more to graduate than to undergraduate work. Much, I suspect, of

* Sir Geoffrey Crowther in his Oration *Schools and Universities* delivered at the London School of Economics in December 1960 asked 'Why must we always deliberately set about creating inferiority complexes?'. How thoroughly we do in fact set about that creation in our educational system, not only at 11+ or at 18+, but in our honours degree terminology. A second class honours degree, for example, is an achievement of high standard. Why must it bear on its face—since 'second' clearly implies the possibility of 'first'—the mark of failure to achieve the rare honour of a first class? Could we not have avoided this result and yet achieved all that is good in our present arrangements by awarding, instead of first class, second class and third class honours degrees as at present, degrees with distinction, degrees with honours, and degrees *tout court*?

the present demand for increased tutorial supervision at the undergraduate level arises from the need of the less able students for personal help in meeting the difficulties of the specialist honours course for which I have suggested above they are not suited and from whose pressure they might well be relieved. In a broader course more directly suited to their needs I suspect that they would be adequately catered for by a staff-student ratio more closely approximating to that of the upper forms of a grammar school than to that of a well-staffed University.

With these considerations in mind, might we not find room for the development of a junior college or liberal arts college between sixth form and University as now understood, and absorbing a substantial part of the work now undertaken at the highest level in sixth forms and the lowest level of work for first degrees? Such an institution might provide courses of study of a fairly general level for students of, say, the ages of 18–20. I should see no reason why those students who successfully completed a course of study at such an institution should not be recompensed for their pains by the award of a degree (those to whom it was a matter of practical importance would soon learn to distinguish between one degree and another—just as at present they may have to recognise that there is something more than one letter that divides an F.R.G.S. from an F.R.S.). It would, I think, be possible and would certainly be in line with what has happened in America if certain of the teachers' training colleges were transformed into the type of institution that I have suggested; indeed, it is very possible that their curriculum may already be so similar to what is required that the transformation would be much smaller in substance than in form.

The better students on completing a course in such an institution would then take a 'university' course, finishing at the age of 23 or thereabouts, and reaching a standard of attainment equal to or even beyond the present level of the Master's degree as we know it at present in England and Wales outside Oxbridge.

I have framed this arrangement in terms of those academic subjects with whose needs and institutions I am more familiar—the arts and the social sciences—and cannot speak with reasonable confidence of the way in which provision for technical and technological education might be brought into the scheme. With the greatest hesitation, however, I would suggest that the role of the junior college might be filled by many of the technical colleges, while the colleges of advanced technology would approximate to the position of the Universities. I would, however, add that the distinction between University and college of advanced technology seems to me to be one whose validity will be even more doubtful in such a scheme than it is under present arrangements, and that I should hope that the separate existence of colleges of advanced technology might come to an end, those colleges being transformed into the technological faculties of Universities.

The achievement of such arrangements cannot be brought about by a single direction or set of directions to the institutions concerned. The Universities must, on every ground, be left with their present freedom to plan their own courses. But Government policy and administrative arrangements can powerfully aid and encourage developments in such a direction if they are accepted as desirable. The most obvious steps are:

- (1) either the grant to the non-university institutions (Colleges of Advanced Technology, Teachers' Training Colleges, possible new Liberal Arts Colleges, etc.) of independent degree-awarding powers, or their association with existing Universities;
- (2) the assurance of financial assistance to students taking more advanced honours or postgraduate courses on the same terms as now apply to first degrees, i.e. provision in many cases for four or five rather than three years as a normal period of assisted full-time higher education;
- (3) revision of the existing arrangements for supervision of State help to higher education; this is dealt with at greater length in Part II of this memorandum.

PART II—THE MACHINERY FOR THE FORMATION OF UNIVERSITY POLICY AND THE
RELATIONSHIP OF THE UNIVERSITIES TO THE STATE EDUCATIONAL SYSTEM

I now turn to a group of questions about consultation between the Universities and also between the Universities on the one hand and the Government on the other. These are based on the assumption that in a democratic society public institutions should be, and be seen to be, responsible to public needs as apprehended by informed public opinion. That could be achieved by their subjection to detailed control by Ministers responsible to Parliament, but I believe the preservation of a high degree of independence in the Universities to be not only the best way of getting good, progressive and intellectually lively Universities, but one of the positive values of a free society. Accordingly a far preferable alternative to direct control is the provision of as full information to the public as possible about their activities so that they may be exposed to, and take adequate account of, informed public criticism and discussion. Not only should full information about the Universities be available to the public; in addition there should be adequate discussion by a well-informed public of major questions of policy—as, for example, at the present time such questions as what proportion of the relevant age groups should go to a University; how many Universities we should have; where they should be; what courses of study they should offer to their students, and how they should select those students for admission. I understand very fully, and sympathise with, the reluctance of academics to take notice of ill-informed criticism on such important subjects; but that does not justify ignoring all outside criticism and the right course is to try to see that criticism is well-informed.

A University cannot contract out of society and out of the twentieth century; just as a free man is also a responsible citizen, so our Universities, while jealously preserving their freedom, must act as organs of our society and must share in its development and its general characteristics. While their existence may be an end in itself, there are other public ends to which the Universities should seek to provide the means, alongside and consistent with their main activities.

In fact, of course, there is no doubt that our Universities do seek to respond to public need; but I suspect that they have sometimes in the past unhappily been left to judge the public need for themselves, with the result that on occasion they may have wrongly estimated their duties and have taken on themselves burdens which they have not wished to bear and which it has not been good that they should bear. If I am right in thinking that this has happened, it has been the result of some exaggeration of our sense of the importance of the independence of the Universities; because it has been thought sometimes wrong to tell a University clearly and plainly what the public interest requires of it, it has been impossible for it to be told as clearly and plainly what the public interest does not require. I would add that all too often the lack of any adequately authoritative channel of advice to the Universities on the requirements of the public interest has carried with it as an inevitable corollary the lack of any adequate means of securing to the Universities the share of public resources that is necessary if they are to satisfy that need.

At present the channel of communication between the Universities and the State is the University Grants Committee, acting to an indeterminate extent in consultation with the Committee of Vice-Chancellors and Principals which is assumed to represent the Universities themselves.

I want to pose four questions about this machinery:

- (1) Does it cover the right field?
- (2) Does it have the ideal Ministerial contact?
- (3) Does it provide for adequate public discussion of policy?
- (4) Does it provide for adequate consultation within and between the Universities?

First, as to the field, it will be apparent from what I have said in Part I that I think it essential that policy should take much more account than at present of the processes of higher education outside as well as inside the Universities and of the relationship of higher education to school education. Accordingly, while there may be ample need for some continuing machinery of consultation on the needs and problems of the Universities, there is clearly a need to fill the present gap by creating some machinery of consultation on the needs and problems of higher education as a whole. I do not venture to say whether that should take the form of a new and separate advisory body or whether the University Grants Committee should be strengthened so as to cover a wider field. The problems of relationship between schools and higher education institutions seem clearly to require separate treatment, in the form perhaps of some standing advisory body representing both the Universities and other higher institutions and the secondary schools of all types. Only then can the arms length approach of the two sides be brought to an end.

Next there is the question of the organ of Government with which any body speaking on behalf of the Universities should deal. That may be importantly affected if it is agreed that University matters need to be dealt with through an organ concerned also with other issues of higher education but I want first to examine it on the present basis of the University Grants Committee concerned solely with University affairs in their narrower sense.

The University grants Committee is a body which has established a world-wide reputation for the wisdom with which it has acted as an intermediary between the Universities and the Government, and has been widely praised as a happy device for enabling the Universities to receive very great sums of public money without any other interference (and I use the word "other" deliberately, for we need to be more frequently reminded that a gift of money, however welcome and however free from conditions, may in some sense be an even greater 'interference' in the affairs of an institution than a gift of advice, however unwelcome). So far I should agree, and, indeed, I should be sorry if the University Grants Committee, or something like it, did not long remain part of our machinery of government. There is, however, another side to the medal, and I should wish to express some doubts in particular as to the question of ministerial responsibility for the work of the Committee, and its place in relation to higher education generally; in these respects I think what was adequate to the circumstances of the thirties may not be sufficient to meet the needs of the sixties.

The University Grants Committee is formally advisory to H.M. Government, but it is by the Chancellor of the Exchequer that its members are appointed, and through him—and in practice to him—that its advice is tendered. To those who are unacquainted with the practical working of the British Constitution this may sound an admirable arrangement from the point of view of the Universities—what, as it were, could be better than to be part of the Chancellor's household? Unfortunately, a good example has to be set to the spending departments, and the Chancellor's own household can expect their housekeeping allowance to be measured out with a meagre hand. One can well imagine the Chancellor of the Exchequer being anxious to avoid any possible criticism by Ministers in charge of spending departments that he is being unduly tender to those spending functions for which he is personally responsible. In the ordinary way the determination of public expenditure is achieved by a resolution of the opposing forces of the Minister responsible for the spending department on the one hand and the Chancellor of the Exchequer as responsible for economy in the proper use of public funds on the other. If, as in University matters, the Chancellor has to exercise both functions it will be a remarkable achievement if a fair balance is struck: the error is in fact likely to be on the side of under-expenditure; so it has been. In his last Annual Report the Principal of the University of London sums up the history of recent years by saying 'There has been no dearth of ministerial pronouncements about the importance of extending the facilities for higher education but, when the crucial point is reached of providing Universities with the necessary finance,

there is an unfortunate difference between what is said and what is done'. Of this difference he gives interesting examples. I have a very strong suspicion indeed that affairs might have worked out differently if the approach to the Chancellor for funds for the Universities had been made by a strong and determined Minister, whose resignation, if he failed to obtain satisfaction, would be a possibility to be reckoned with. I recognise that to many prominent figures in academic circles the notion of a Minister responsible for university matters would be abhorrent and would be regarded as dangerous to the independence of the Universities. I should endeavour to allay such qualms by making four points: first, the Minister would, as I envisage it, exercise no more authority in relation to the Universities than is at present exercised by the Chancellor of the Exchequer; second, as I have indicated elsewhere in this memorandum, there is, I think, a real danger that the Universities may sometimes be too severe with themselves in estimating the burdens placed upon them by the public interest, and that the existence of an authoritative spokesman for that interest might well mean that they would no longer need to drive themselves to do things that they do not want to do. Third, I would urge that the foundation on which academic freedom rests is, in the last resort, the support of informed public opinion and, given that support, constitutional forms make far less difference than might have been supposed. My fourth point would be to quote, by way of reminder, the extreme reluctance of the Ministry of Education to interfere in the smallest degree in the curriculum of schools even within the State educational system.

I believe, therefore, that the narrower interests of the Universities themselves would be served by transferring responsibility for them to the Minister of Education, acting as the Chancellor has done, after considering the advice of the University Grants Committee. The case is, of course, stronger still if the need for considering the Universities as part of the wider problems of higher education as defined in this memorandum is accepted. I believe that the adoption of this course would secure to the needs of the Universities appropriate Ministerial help, at present lacking, and would at the same time increase the status of that Ministry with excellent results for the educational system generally.

Thirdly, I turn to the matter of public discussion of policy. At present the only State publications on University problems (with the exception of occasional special reports such as that of the Anderson Committee on Scholarships) are the statistics published annually by the University Grants Committee and the quinquennial Reports on University Development of the same body. Parliament has debated these documents rarely, if ever. Major decisions of policy may be referred to in them, may be announced separately, or may not be announced at all, and are equally rarely the subject of public debate. Such decisions include, for example, those on the siting of new Universities; how is it in fact decided where there should be new Universities, or how many there should be? Do purely local considerations weigh too heavily in the determination of a question which, now that so high a proportion of students go to Universities well away from their homes, is of national importance? Another decision taken without public debate is that there should, in effect, be no further provision for increase of undergraduate numbers at certain University institutions in central London. The grounds on which it is based are not known, but so far as I am able to guess at them I doubt whether they are valid; would it really, for example, be more expensive to add another 1,000 undergraduates each to the population of one or two existing institutions in central London, where, although some new facilities would need to be provided, others will merely be more fully used, than it would be to set up a completely new institution? These questions ought at least to be examined and discussed in public. Again, it has been decided, and the School of which I am Director has been adversely affected by the decision, that public funds should not be made available to assist in the establishment of Halls of Residence for 'single-faculty' institutions, without regard to other factors that should be taken into account, such as the size and academic repute of the institution concerned, the needs and desires of its students, or the mixture, if not of faculties, then—surely no less important?—of races and nationalities that they represent; to say nothing also of the importance of Halls of Residence to a University institution as a means of attracting its share of the better students; for

this in fact is rapidly becoming one of the most important aspects to a university of its hostel provision.*

Such topics as these ought, I think, to be the subject of full and frank informal discussion between the University Grants Committee and the Universities concerned, and the more important of them should be the subject of public discussion. It may be that in fact there is fuller discussion between the University Grants Committee and individual Universities than I appreciate; the L.S.E. has no direct access to the University Grants Committee, but deals with it through the Court of the University of London. This tends in practice very much to reduce the possibility of informal discussion; it is as if we were in a backwater through which the main current of discussion does not flow. Whatever may be the case in that respect, I take the view that the University Grants Committee should make considerably more information available to the public about such matters of policy. At the present rate of development of the Universities—to say nothing of the rate at which they ought before long to be developing—five years is a long time and quinquennial reports are insufficient. I should hope that it might be found possible for the University Grants Committee to begin the practice of reporting annually, and I should hope that their annual reports might be such as to attract public discussion and on occasion discussion in Parliament.

Fourthly, there is the question of consultation with and between the Universities themselves, which I fear I must deal with at greater length. It is the responsibility of the University Grants Committee 'to assist, in consultation with the Universities and other bodies concerned, the preparation and execution of such plans for the development of the universities as may from time to time be required in order to ensure that they are fully adequate to national needs'. I interpret these words, and I am glad to see increasing evidence that the University Grants Committee interpret them also, as imposing a responsibility on them to consider more than the development of each separate University, more even than the development of the Universities collectively as the mere total of the development of each separately, but to consider a planned development of the whole society of Universities of this country. In speaking of such a plan I do not in the least mean that every University must do the same things. On the contrary, there must be differences, not only by the omission in some Universities of faculties and departments which are contained in others, but also in the adoption of different approaches to accepted tasks and different approaches to different tasks, as, for example, the younger and the embryonic University institutions—North Staffordshire, Brighton and York—are experimenting with courses of study which cut right across the traditional departmental and subject boundaries.

Nonetheless, there is room for more common action to ensure that emerging needs are met and met economically. As an example there is a field of special interest to the L.S.E., the field of education for business management, where there is clearly widespread interest on the side of business and a variety of small-scale experiments on the University side, as well as a variety of provision by non-University institutions of higher education, but no clearly defined channel for mutual consultation or means of considering whether and how any special public support should be given to such developments. Many other such examples must occur to those familiar with the wider field of higher education, and there seems clearly to be a need for some comprehensive though very flexible plan which ought to be prepared with the assistance of all those concerned with higher education. The University Grants Committee is in no position to achieve this by consultation with each existing University separately; it is essential that there should be consultation with the Universities and other bodies collectively.

* I suspect that the importance which parents and schoolmasters attach to such provision may be a little more than is justified, but it is undoubtedly very great; boys and girls from City A go to the University at B in order that they may live in hostels, and boys and girls from the City of B go to the University at A so that they may live in hostels. Schoolmasters and schoolmistresses urge their pupils to go to a University where they can be sure of a hostel place. Is this criterion for selecting a University sometimes clutched as a straw by some teachers who know little of important differences in courses of study and methods of teaching—differences between Universities which might provide more valuable criteria?

For the Universities, the nearest present equivalent to a body which can speak authoritatively on their behalf and where they can consult with one another is the Committee of Vice-Chancellors and Principals. It is, however, a body of somewhat equivocal status. Referring to its creation, an American observer writes 'Although this Committee was another of those phantom British organisations with neither constitution (until 1930) nor formal power to commit the represented institutions, it nevertheless provided an important means of drawing them closer together and was widely used by the Government as a medium through which it could consult collectively with the Universities on matters of mutual concern' (R.O. Berdahl, *British Universities and the State*, University of California Press, 1959, p. 47). The records show that it was originally conceived as a mechanism for *consultation* between the Universities, but it has, over the years, come more and more to be treated as a body *representative* of the Universities. While the Committee publishes no annual report, a simple list of headings of the subjects discussed during the year is contained in the Annual Report of the Association of Universities of the British Commonwealth. Many of those subjects are of the very greatest importance to the Universities; their range constantly increases as, perhaps even more significantly, does the detailed nature of the consideration given to them. The official theory is that the Committee commits no one but its own members as individuals, but it is increasingly difficult to hold to that theory. While it permits the individual members of the Committee to speak without consultation with their Universities, their pronouncements undoubtedly derive their weight from the fact that they are widely taken as committing the Universities, and they do in practice go a long way towards such commitment. Part of the reason for this is obvious: the Committee of Vice-Chancellors is the only body of persons in authority in the Universities that can effectively discuss subjects of common interest and concern. Moreover, in pursuance of the custom that future legislation and other governmental action of importance are discussed with representative bodies concerned, government departments, dealing with questions which may affect the Universities, turn naturally to the Committee of Vice-Chancellors as the nearest approach to a representative body in the University field.

A particular case of some interest illustrates very clearly how in practice the Committee commits the Universities, whatever may be the theory. Increases in the salaries of university teaching staffs are from time to time sought by the Association of University Teachers, which submits proposals to the University Grants Committee. The University Grants Committee in turn consults the Committee of Vice-Chancellors and Principals, and in due course makes a recommendation to the Chancellor of the Exchequer. The salary scales then announced by the Chancellor, and any conditions or explanations that he may attach to them, do in fact represent a limitation on the freedom of action of the governing bodies of Universities as employers, a limitation none the less real because the financial cost of implementing the increases is derived in the first instance from a special Treasury grant. The status of the Association of University Teachers in these discussions is clear; it speaks for the university teachers. The University Grants Committee acts very much as the agent of the Treasury. For whom does the Committee of Vice-Chancellors and Principals speak but for the Universities as employers, whom they commit to acceptance of the settlement agreed? Were this not so, we should have here the interesting spectacle of salary negotiations in which the workers' representatives took part, but not those of the employers. I do not know whether it is the practice of individual members of the Committee of Vice-Chancellors to consult their governing bodies in the course of these discussions; there is no indication that they do, and there is certainly no requirement upon them to do so. As certainly, the governing bodies of the major London colleges are not consulted; indeed, as those colleges are not directly represented on the Committee of Vice-Chancellors, they have effectively no share whatever in the determination of the salary scales of the principal categories of their staff, a characteristic which I suspect they share with the governing bodies of most Universities.

It is clear then that in practice the Committee of Vice-Chancellors and Principals can go a long way towards committing the Universities on matters of common concern. In principle I do not regret this; as I have made clear, I believe it to be

important that there should be a body which is able to do so. What I do regret, however, is that the theory should not accord with the practice, with the result that no consideration is given either to the question whether the constitution of the Committee is adequate to the responsibilities which in fact it exercises, or to the question whether on major topics there ought to be a constitutional requirement of consultation with the Universities before a commitment is entered into.

Moreover, I suggest that the membership of the Committee requires careful examination in view of its responsibilities. So far as I am aware, its membership includes the Vice-Chancellor or Principal of each University institution that is in direct receipt of Treasury grant. Certain institutions have two representatives in consequence of the fact that their Vice-Chancellorships are not permanent offices and that representation by the Vice-Chancellor alone would not therefore provide adequate continuity. It is to be noted, however, that those colleges of the University of Wales whose heads are not included in the pair of representatives of that University on the Committee have no direct representation. No more have the major colleges of the University of London, which is represented solely by its Vice-Chancellor and its Principal. This may well mean in practice that the views of its constituent institutions—which include some of the major University institutions of this country—and the views, indeed, of London generally have less weight than they should. This is the more so because 'London' has as often as not a multitude of views; the adequate expression of that diversity is almost impossible through a joint representation, while the very fact of diversity may under present arrangements force the two London representatives into a neutral rather than a positive position in discussion. Lack of direct representation also means that the major London institutions have less of a voice in the determination of general issues of policy for the Universities collectively than do the youngest and smallest of the independent institutions, including, I believe, some institutions which, while they have as yet no students and hardly any academic staff, nevertheless have a voice in the deliberations of the Vice-Chancellors' Committee. For these reasons I think that consideration should be given to the inclusion amongst the membership of the Committee of the heads of the major London institutions (which might perhaps be defined for this purpose as those which have 1,000 or more registered students). I should suppose that similar considerations would apply to the colleges of the University of Wales. I recognise that it may be argued that this would represent so substantial an increase in numbers amongst the members of the Committee as to change its nature. To that I would reply, in the first place, that I think that such a change is inevitably being brought about by the gradual growth in the number of University institutions, and, furthermore, that if difficulties of this kind make it necessary to impose a numerical limitation I wonder whether it is right that the limit should be so exercised as to exclude, for example, the Rector of the Imperial College of Science and Technology while admitting the heads of institutions which have hardly passed beyond the embryonic stage.

In brief it is suggested that the Committee of Vice-Chancellors needs both reconstitution in membership and more precise definition in function and powers if it is to play a fully useful part in the future foundation and administration of policy.

PART III—THE FINANCING OF THE UNIVERSITIES

1. **Quinquennial planning and University Grants Committee grants**

As the Committee are aware, Government grants to the Universities are made by the Treasury, on the advice of the University Grants Committee, out of monies voted by Parliament and are of two kinds—non-recurrent grants made for capital expenditure on sites, buildings, and their equipment, and recurrent grants made in aid of the general expenditure of the Universities. It is with the latter that I am here concerned.

The recurrent grant to each University is announced for five years at a time in order to make planned development possible. It is assessed after estimates and a full statement of proposed new developments have been submitted by the University,



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and no doubt in the light of information and impressions gained during the most recent visit to it by the University Grants Committee. Such visits are also arranged approximately at five-yearly intervals, generally in the third or fourth years of the quinquennium.

Recent grants have not been at a flat rate throughout the quinquennial period, but on a rising scale, presumably in order to spread over the whole quinquennium the impact of expected new developments and expansion of activities. The grants so fixed are accepted as a firm minimum, but have in the past been increased on various occasions in two different ways.

First, additional special or 'earmarked' grants have been provided to cover (i) the extra cost of academic salaries when new scales have from time to time been approved by the Chancellor of the Exchequer; and (ii) the extra costs of maintaining new buildings brought into use during a quinquennium. These earmarked grants are at a convenient time (generally the commencement of the next quinquennium) absorbed into the ordinary recurrent grant; and they may be regarded as no more than necessary corrections to meet unavoidable increases of expenditure arising after the quinquennial assessment has been made.

Secondly, the ordinary or un-earmarked grants may be increased during a quinquennium. This has happened twice during the quinquennium 1957-62. Following general representations about the inadequacy of the grants first announced substantial increases were approved early in 1959 for the last three years of the quinquennium. Later (about the end of 1960) the University Grants Committee, which had not initially distributed all the sums which had been placed at its disposal, used the reserve so held in hand to provide another round of additional grants for the last two years of the quinquennium. This distribution was made known after the beginning of the period for which it was granted, and, while the additional funds have been welcome, their planned use would have been much easier if the fact that they were to be received had been known much earlier.

These intra-quinquennial adjustments, and especially the second group, reflect the impossibility of adhering strictly to a rigid quinquennial regime; but they fall far short of meeting all the disadvantages of the present arrangements. These include:

(a) The idea that the quinquennial system allows Universities 'to plan five years ahead' is an illusion. The only time when they have a definite picture of their income for a five-year period is during the interval between the announcement of the grants for a quinquennium and its commencement. That interval is never more than a few months and may for practical purposes be non-existent. For the London Colleges, whose allocation of grants involves the additional (and complex) process of the division of the London University grant amongst them by the Court of the University, the interval in 1957 was just over a month, the allocations for the period beginning 1st August 1957 being announced at the end of June. No effective planning for, e.g., new appointments to be made in October 1957, could then be made, especially bearing in mind that it commonly takes six to twelve months to get a senior post filled once the decision to create it has been taken. In practice, therefore, the first year of the new quinquennium had to be treated largely as a continuation of the previous quinquennium and in the L.S.E. decisions as to new developments only became effective in the Session 1958-59. The two subsequent revisions of the general recurrent grant during the quinquennium have, of course, further eroded the five-year planning concept and the second of them was announced so late as to make it only just possible to take it into account for the very last year of the quinquennium.

Moreover, many of the really important planning decisions are taken not in connexion with quinquennial recurrent grants but in connexion with capital grants. Decisions whether to embark on a large expansion of total numbers (or, still more, whether to create a new University) depend primarily on capital for new buildings. Equally, major developments in particular fields

of study, especially in the natural sciences, depend on provision for buildings and equipment. These decisions, however, are not, except by accidental coincidence, related to the ordinary quinquennial discussions; and the period over which the total capital grants for any University are announced is normally different from the recurrent grant quinquennium. The importance for planning of discussions on capital grants is well exemplified by the recent experience of the L.S.E. What was unquestionably the major explicit planning decision of recent years—a decision to avoid any increase in undergraduate numbers and to look to growth in post-graduate and special courses—emerged from discussions with the University and the University Grants Committee in 1959 about the possibility of acquiring a neighbouring site with an eye to future building.

(b) The real value of the grants has been in the past, and is likely to be in the future, reduced by continuing inflation. This effect is all the more serious because grants are related to estimates which are required to be prepared on the basis of price and wage levels ruling on a date more than a year before the beginning of the quinquennium; e.g., if no adjustment is made the grant receivable for the year ending in July, 1967, will be related to the price and wage levels of the first half of 1961. Few economists now expect that the most successful of policies for controlling inflation can do more than prevent an increase of general wage-levels higher than the increase in industrial productivity; but as wages in productive industry rise, whether by two or three or five per cent. per annum, there will be a parallel rise in the wage-bill of the Universities, resulting in expenditure under many heads much higher than that provided for in the estimates on which the grant is based. The effect on that large part of the 'wage-bill' constituted by academic salaries has been recognised and provided for through the earmarked grants already mentioned, but there remain large expenditures not similarly provided for. Suggestions have already been made that the cost of increases in the salaries of technicians should be similarly met by special additions to the block grant, but the need for adjustment arises in just the same way in respect of clerical staffs, maintenance staffs and the like, to say nothing of increases in contractors' charges for the maintenance and decoration of buildings etc.

If the control of inflation is less successful, so that wages rise more rapidly than productivity and the general price level rises, Universities will find all their costs rising and not merely their direct wage and salary costs. In that event more comprehensive adjustments in the grants may be imperative.

(c) The work of the University Grants Committee is under the present system conducted on a five-year cycle with heavy peaks at certain times; the most important such peak occurs in the first few months of the last year of the quinquennium, when the proposals of Universities for the following quinquennium have to be received and examined, recommendations have to be made to the Chancellor of the Exchequer about the total sum to be distributed, and, when he announces what sum will in fact be provided, its distribution between the Universities has to be determined. Moreover, for a very great part of the third and fourth years of the quinquennium the University Grants Committee and its principal officers are out of their office, and for a great part of the time out of London, for several days in each of many weeks conducting their quinquennial visitation of the Universities. Their day-to-day work, however, continues unabated and has to be fitted into what is left of their time. In staffing an organisation which is subject to such heavy peak loads on a quinquennial cycle it must be very difficult both to avoid gravely over-working senior staff at the peak periods, and to avoid over-staffing at the troughs. In practice, the former horn of the dilemma is likely to be seized. Any measure which could spread the load would therefore be desirable in the interests of economy and efficiency, especially in view of the continued increase in the number of institutions for whose support the Committee must provide. Furthermore, as things are arranged at present, there must be a real possibility that at the time of a critical quinquennial operation (e.g. the calculation of grant for the new quinquennium) the Committee may some day find itself with

few if any, senior members of its secretariat in post who were in post on the last occasion when the same operation was conducted.

(d) The quinquennial visit of the University Grants Committee to a University is a valuable occasion for informal and general discussion, but lacks the effectiveness and full value that it could have if it could take place in the few months between the submission of a University's quinquennial estimates and statement of development policy and the announcement of its new quinquennial grant; but it is clearly impossible to fit into those few months a programme of visits to Universities that now takes two years and may in the future take longer as the number of separate Universities increases.

It seems to me that all these disadvantages could be removed by the adoption of new arrangements, which should not be too difficult to devise, designed to secure that:

(1) Each University should *at any time* know its basic grant for a period of several years ahead; there is no reason, I think, why that period should not be five years, and I believe that it is now a general objective of the Treasury to secure from departments each year a forecast of expenditure for five years ahead (see the report of the Plowden Committee, Cmd. 1432, paras. 13-24).

(2) Every University should continue to be subject to a specially careful examination of its affairs by the University Grants Committee every five years, when, as at present, it would submit its statement of development policy; the work of the University Grants Committee should, however, be phased so that instead of scrutinizing, as at present, the affairs of all Universities at the same time, it examined them in constant succession—i.e., one-fifth of the Universities should be reviewed every year.

These objectives could be achieved by changes in procedure as follows:

(1) Assuming quinquennial grants to be fixed as usual for 1962-67, Universities would be entitled to apply to have them increased for any year from 1963-64 onwards to take account of either proved increases of costs or agreed major developments which could not have been foreseen at the time of fixing the quinquennial figures. Such applications would be required to be made, say, before the end of the calendar year preceding the academic year, i.e. by December, 1962, for the year 1963-64. They would naturally absorb the adjustments now made in respect of approved salary increases and similar special adjustments; and in so far as they arose out of general wage or price changes would no doubt be dealt with on a uniform basis for all Universities.

(2) At the same time as any such annual revision was made the University Grants Committee (acting of course after consultation with, and on the authority of, the Chancellor of the Exchequer) would give to each University an indication of the grant which might be expected in the *fifth* year ahead, so maintaining a five-year basis for planning continuously and not merely intermittently. That is, during 1962-63 revised figures would be laid down for the four years from 1963-64 to 1966-67 and a provisional figure given for 1967-68; and so in each successive year.

(3) Once every five years each University would be required to submit a review of its position and development programme on the same lines as at present, but instead of requiring these statements from all Universities simultaneously once in five years, the University Grants Committee would call for them from one-fifth of the Universities in each year. After preliminary examination of such a statement from a University the University Grants Committee would make its quinquennial visit to that University. In any one year, therefore, the new figures of grant approved for the future would, as regards about one-fifth of the field, be based on a comprehensive review and as regards the rest would be based on either cost changes, mainly of a general character, or new developments of a specially urgent kind.

(4) The major or five-year reviews of individual Universities would no doubt be timed to fit in with the less comprehensive annual adjustments, and if the

latter are made, as suggested, about the end of a calendar year the appropriate major reviews would no doubt be in process during the preceding summer and autumn. Obviously individual Universities could not be expected to undertake a five-year review very soon after completing that for the current quinquennium, and perhaps the first batch of reviews under such a new system might be timed to start early in 1963.

(5) If any such change were adopted, opportunity might be taken to make the Universities' financial year (now ending on 31st July) coincide with the usual academic year (ending on 30th September). The present disparity seems to have nothing to commend it.

I can well imagine that objections may be seen to any such new system. The more obvious ones seem to be as follows:

(a) It would increase the work of the University Grants Committee by introducing annual as well as quinquennial adjustments. Since, however, many of the adjustments in view would almost certainly need consideration in any event, but now receive it in a less orderly fashion, the increase might be only nominal; and the total work involved would be much more evenly spread.

(b) There would be a risk of unevenness of treatment as between one University and another because a University whose quinquennial review was completed at a moment of expansive budgetary policy might seem to fare better than one whose major review fell during a time of economy. Such unevenness could, however, be partly corrected by the annual adjustments, and in any event, as already indicated, it is the capital programme which is the major determinant of the pace of development in different institutions.

(c) The more frequent adjustments of general grant might lead to closer control by the University Grants Committee of academic developments. This is a real possibility, but it has to be said on the other hand that the influence of the University Grants Committee on individual academic developments is already, through the capital grants, much greater than is commonly admitted and that there is a very real case, as suggested elsewhere in this memorandum, for more conscious central influence over such developments.

2. Increase of fee income

I suggest that consideration should also be given to a more far-reaching change in the method of financing the recurrent expenditure of the Universities, i.e. by an increase of tuition fees to a level which would represent something approaching full cost than their present level and at which they would constitute the major source of University income, coupled with a corresponding decrease in the Treasury non-recurrent grant to the Universities. The total size of the governmental contribution to University finance would be unaffected, but more of it would be channelled through the scholarship system. Average recurrent costs of the Universities are of the order of £500 per student; fees might be increased to £300 or even £400 per head. It would of course follow from such a change that assistance to cover fees would be available to virtually all U.K.-based students, undergraduate and graduate. Amongst the advantages of such an arrangement would be the following:

(a) the real cost and value of the facilities to which they are buying access would be brought home to scholarship-awarding authorities, students, and the public;

(b) the Universities would be much less dependent on the Treasury for recurrent finance, though still looking to it both for the essential nucleus of their recurrent costs and for capital expenditure; their freedom to manage their own affairs would be increased to a reasonable—but not an unreasonable—extent;

(c) the task of assessing the much smaller recurrent University Grants Committee grants would be greatly reduced, with valuable savings in administrative costs;



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(d) the substantial subsidy now provided by the British tax-payer to all students from overseas, irrespective of need, would be much reduced, while help to particular categories of overseas students could be provided by an extended system of bursaries (it is often forgotten that a large proportion of the overseas students here are not from particularly poor countries or are at least personally in a position to pay);

(e) large industrial firms are increasingly adopting the practice of awarding university scholarships to likely recruits to their staff; apart from the maintenance element, their contribution is at present a small fraction of the real cost of their scholars' tuition; it would be appropriate that they should bear the full cost of the facilities that they are buying.

A further elaboration could be added, particularly if there is reluctance to add so considerably to the apparent free grants to individual students. Such grants are justified by the belief that it is in the public interest that students should receive University teaching, but it is also in the interest of the students themselves. The possessor of a University degree tends to receive throughout at least the greater part, and very possibly the whole, of his working life distinctly higher remuneration than he would have had without that training of which his degree is the mark. If he is to profit financially, ought he not to make a financial contribution to the cost? Might it not be justifiable to substitute for part of our scholarship provision loans to students repayable over a term of years after graduation? Such a system would greatly reduce the problem of the means test, since there would be less public reluctance to meet the fees of children from higher-income families by repayable loans than by outright grants.

Apart from its novelty, the main objection to such a change may be that it approaches to a system of capitation grants and may lead Universities to seek an increase of student numbers beyond their teaching resources. I would regard this as a small risk to run because—without presenting it as a positive advantage—I should regard it as no bad thing for Universities to be constantly reminded in a very practical way of their basic duty to teach.

The proposed system would be capable, if desired, of sundry refinements; for example, part of a student's loan could be written off if he entered, and remained for a prescribed period in, an occupation of national importance—e.g. teaching mathematics in a school. Again, if commercial and industrial employers seeking to recruit specially talented young graduates offered as an inducement to pay off the loans of their recruits, they would, as it were, be making an appropriate capital payment for the talent by which they hoped to profit.

I should envisage such a system of loans as applying to undergraduates only; in the graduate school I should hope to see scholarships in the full sense provided.

PART IV—EXPANSION AND THE SUPPLY OF TEACHERS

It is very widely accepted that a substantial growth in the number of University students is to be expected. Even if there are doubts about the need to expand very greatly the number at Universities of the present conventional type, few will doubt the need to give more young people in the age groups over 18 a higher education of some kind. If the thesis argued in the first part of the memorandum is valid there is still greater need of more provision.

In any such expansion one of the hardest tasks must be to provide the teachers. Giving a higher education of anything approaching current University standards to several times the present University population will, assuming present methods of teaching, entail an approximately equal increase of teachers of high intellectual calibre and education. It must, indeed, be a serious question whether there exists any adequate reservoir of talent of the quality required, bearing in mind the certainty of increase in the many other demands on the same categories of intelligence and knowledge. One of the underlying dangers in any such expansion is that the demands of the Universities and other institutions of higher education

will be satisfied only by drawing off the best of the teachers from the schools, lowering both the numbers and the quality available for school-teaching.

In these circumstances it seems essential to give much more systematic thought than has ever been given before to the economisation of high-grade manpower in the academic profession as a whole. As has already been suggested, it may be that traditional ideas of the best staff-student ratio will be found to be applicable in future to the more advanced or 'postgraduate' instruction rather than to basic undergraduate work. Various aspects of undergraduate teaching may come under review by the Committee under Sir Edward Hale recently set up by the University Grants Committee, but I should expect there to be room for a great deal more continuing research into teaching and examining methods in higher education. I mention two aspects as examples:

(1) Can mechanical aids be used to a greater extent in University teaching? Is it, for instance, quite ludicrous to think of using closed-circuit television or tape-recordings for lectures to large class-groups in the bigger institutions, or even in groups of institutions?

(2) Prevailing examination practices in this country, at all levels from G.C.E. upwards, make enormous demands on the time and exhausting demands on the mental energy of the academic community. Clearly those demands will increase. Faced with a parallel situation the American academic world has turned extensively to alternative examination techniques which require higher skill in the setters of papers, but need much lower mental equipment in those who mark the papers. Little attention has yet been paid to the possible use of similar methods here. Even if they served no better as tests of achievement, or indeed if they were a little inferior, their adoption might well be justified if it economised in the use of that pool of high academic ability which may prove in the end to be the scarcest of all the resources needed for the expansion of higher education. It seems to me a matter of urgency, therefore, to initiate studies of the type of examination techniques developed by the Educational Testing Service centred at Princeton, which it might well prove advantageous to adopt not only in formal examinations but in partial (certainly not complete) substitution for the essay which is still the basic routine teaching exercise in the 'arts' subjects.

ADDENDUM—SOME SPECIAL CONSIDERATIONS AFFECTING SOME MAJOR UNIVERSITY INSTITUTIONS WHICH ARE SITUATED IN LONDON

While I recognise that the Committee on Higher Education will be reluctant to consider matters which are internal to one University (and perhaps one only) I think it right to draw their attention to the special problem of the University of London. If that problem is a parochial problem, the parish is so extensive that it can certainly not be dismissed as trivial; in terms of the size of its recurrent grant, the University of London represents some 30 per cent. of the University effort of Great Britain. Moreover, the status of School of the University of London is in fact the status of a number of the principal university institutions of this country. In academic reputation, in seniority, and in size University College London, King's College London, the Imperial College of Science and Technology, and the London School of Economics and Political Science, for example, are of high rank amongst our academic institutions, and any special limitations to which their development may be subject is of national rather than local interest.

The principal limitations are of two kinds:

(a) Financial: under the Statutes of the University of London no School of the University may, without the consent of the Court, apply for or receive any money from any public body otherwise than through the Court, or make any public appeal for money. The principal effect of this provision is that the Treasury grant is made to the University and it is the University Court that divides it up amongst the various Schools and central activities of the University; those Schools therefore have no direct dealings with the University Grants Committee.

(b) Academic: broadly speaking, it is for the degrees of the University of London that the Schools of the University prepare their students.

Of recent years these limitations have been more keenly felt by some of the principal Schools of the University especially in contrast with the independence that is nowadays so rapidly enjoyed by newly-established institutions in the provinces. They regret the lack of any opportunity (other than that presented by the quinquennial visitation) for informal discussion with the University Grants Committee and its officers such as is, I believe, enjoyed by other University administrations. While the Principal of the University and the officers of the University Court are at all times very ready—despite the great burden which they carry—to discuss problems with the officers of individual Schools and to advise them informally, we do not feel that this is an adequate substitute; we feel that we are, as it were, treated as a second order of university institutions, a little off the main stream. Moreover, it is not easy to feel the same confidence in the University Court itself as it now is—either in its capacity as our advocate for more funds, or its capacity as divider amongst us of the funds that are obtained—as the Universities themselves may have in the University Grants Committee. Apart from its membership—to which, for example, it is clear that no age-limit, formal or informal, applies—the total remoteness of the Court makes confidence most difficult. It is hard to believe that a body can be aware of our problems when so many of its members, if they have ever visited us at all, have done so only on social occasions and at infrequent intervals; for, unlike the University Grants Committee, the Court never visits the institutions whose destiny it so largely controls.

On the academic side, we have found at L.S.E., and would not expect that we have been alone in finding, that academic developments or experiments which we should like to make are sometimes delayed or rejected at University level, sometimes perhaps because of the difference of our needs from those of Schools organised on a different basis from our own, sometimes because of the needs of other faculties than our own, or sometimes perhaps because of the different needs of the external side of the University. One recent example to which we at L.S.E. attach great importance has been the development of one-year Master's degree courses for graduates with high honours from other Universities. This development, for which the University Grants Committee have indicated their support, has been rejected by the University, after a protracted passage through its machinery, for reasons of which we have not, as yet, been made aware.

This is a single example only and, of course, neither it nor others that could be quoted are in themselves sufficient to call for any major remedial action; on the other hand, I would add that it is my impression that the increased complexity and magnitude of the tasks which the central administrative organisation of the University has to bear are such that an increasing rigidity is to be feared, and will, if it occurs, be found increasingly irksome by a university institution as ready for experiment and innovation to meet changed circumstances as is the London School of Economics.

I believe it to be primarily this rigidity that led to a recent decision whose implications I believe to be important. An application was not long ago made by an educational institution in London for admission to the status of School of the University. In my view, and that of a number of others, the application had a good deal to commend it, especially as it would probably have made possible further provision—of which there is a great need—for teaching in the social sciences within the University of London. The application was, nevertheless, rejected, and while other reasons were pleaded for that rejection, I believe that amongst the determining factors was the view that the central administration of the University could cope with no increase of its burden such as would be represented by the admission of any further institution to the University. If my apprehensions are correct, it follows that, unless some change is made, no further institution can hope for the status of School of the University. On the other hand, I find it very hard to suppose that, especially as Greater London continues to grow, it will be consistent with the national interest than no new facilities for university education be established in the London area. It would follow that either there will have before long to

be more than one University in London, or means must be found of relieving the present administrative burden so that the present single University can expand.

The possibility of a plurality of Universities in London is not one which ought to be for all time ruled out, but I believe that there are great advantages in the close co-operation made possible within the framework of the existing University; and that this should be maintained as long as there can be found consistently with it means both of satisfying the legitimate aspirations of the principal Schools to a greater degree of independence and of reducing the burden of the central administration; these two desiderata are in fact almost identical in essence—the reduction of the functions exercised by the central administration in respect of the principal Schools means in practice an increase in the independence of those Schools. Is it fanciful to think of a possible solution by the development of the University of London on Commonwealth lines, as it were, with institutions achieving something like Dominion status within the University? It seems to me possible that a great deal of progress in that direction could be secured within the framework of the existing constitution by some such means as the following:

1. By agreement with the University Grants Committee, the delegation by the Court to the principal Schools of the right to deal direct with the University Grants Committee, the Court merely being kept informed.

2. An agreement that the University would offer no objection to the application of any of the principal Schools for degree-giving powers which might be exercised concurrently with, rather than to the exclusion of, those of the University. The Schools might then for the time being for the most part continue to present their students for degrees of the University of London, but where a conflict of interest arose (as, for example, in the matter of one-year Masters' degree courses, to which I have referred earlier) the Schools could exercise their own powers.

I believe that if some such arrangements as these are adopted it will be possible for the unity of the University of London to be maintained; but it will be the unity of a federation of members—like the Commonwealth—who are in essentials like-minded, united by common bonds of affection and esteem, but prepared to recognise that their needs may in important respects be different and should therefore have different satisfactions. If the bonds which hold the University of London together can be relaxed and made flexible in this way, they may long survive. If, however, their present rigidity is continued, I fear that the strain will be too great and that before long they will break.

As I have indicated earlier, it is possible that the Committee on Higher Education will feel that, clearly as the subject falls within their very wide terms of reference, the arrangements for planning and co-ordinating the development of the great University institutions of London are too large a subject to be dealt with by the Committee in the time available to them. I hope that they will in that event nevertheless not leave it to be concluded from their silence on the topic that they are satisfied that all is well in London, but will at least recommend that the subject be examined by a specially constituted body.

ORAL EVIDENCE

given by

SIR SYDNEY CAINE

Friday, 6th October, 1961

Chairman: I wonder whether there are any preliminary observations that you would care to make before we ask further questions on your valuable and stimulating document?

Sir Sydney Caine: I do not think so.

Chairman: May we go through the earlier part of your document? I noted that, in course of remarks about the way in which the general problem of higher education should be approached, you make in Part I somewhat disparaging remarks about international comparisons. Since a great deal of expert statistical labour is being bestowed on these comparisons by our Statistical Adviser and other people, I wondered how seriously you warn us against them?

Sir Sydney Caine: I think that the fine distinctions resulting from these comparisons should be ignored, but in general I agree that we can learn a lot from what happens elsewhere. I did not intend to disparage. What I meant was that it is necessary to go further than mere statistics.

Mr. Shearman: I see that in Part I you indicate the broad future picture but you do not elaborate on this by saying whether this country could pay for much more higher education.

Sir Sydney Caine: That would be what the economists call a value judgment.

Mr. Elvin: In one paragraph you say that the new first degree you have in mind would make inroads on the work of the sixth form and suggest a transfer to higher education at the age of seventeen, but elsewhere you say that transfer at the age of eighteen to twenty would not gravely disturb the existing system. I wonder whether you would care to comment on this?

Sir Sydney Caine: In the first place I think there is a certain ambiguity about references to the age of transfer. In practice most of our students at the School of Economics enter

towards the end of their nineteenth year. That is, they are eighteen plus. I do not know enough about this to be precise, but I think the age of entry should be a little lower.

Dame Kitty Anderson: The age of entry to higher education is tied up with the age of entry to the grammar school. The child enters the grammar school at eleven plus and does a seven-year course, and is therefore eighteen plus when he or she leaves. As far as girls are concerned, the intense competition for places at Oxford and Cambridge tends to make many girls stay for a third year in the sixth form, during which time they try for entrance to several colleges and universities. I would deprecate cutting the main school course to four years for girls, because young women need this broadly-based school course.

Sir Sydney Caine: I do not know much about the schools. I would only say that I am not convinced that a seven-year course is necessary. As to the effect of Oxford and Cambridge examinations, this is one of the knottiest problems in the whole of the university structure; perhaps some drastic measure will have to be taken to solve it. There is no doubt that these examinations have a considerable influence on school courses.

Mr. Chenevix-Trench: I think that between seventeen and eighteen a great increase in emotional and intellectual stability occurs. It is an age of transition; at seventeen he is still a school-boy and a year later he is nearly a man.

Sir Sydney Caine: Is this only because this is the time at which he leaves school?

Dame Kitty Anderson: It happens inside school. In my school many girls leave after two years in the sixth form and a smaller group leaves in the third year. I am impressed by the fact that the girls who have had the extra time

tend to feel that they get more out of the university course.

Sir Sydney Caine: It might be better if everybody could have three years in the sixth form, three years in the first degree course and another year for the Master's course, but that cannot be done for everybody.

Professor Drever: The transition now seems to occur at seventeen, eighteen or nineteen, whereas less than a hundred years ago the normal time of going to the university was sixteen, seventeen, or eighteen. We know that physiological maturity comes earlier. Is our present view that young people are more mature, and thus better prepared for university life, at eighteen related to facts?

Sir Sydney Caine: That is the question I am asking. We should not assume the present age of transition is the perfect one.

Mr. Chenevix-Trench: What do you think would be the effect on the undergraduate of entering the university at an earlier age? We hear a good deal about lack of pastoral care even at eighteen plus.

Sir Sydney Caine: Students will need care in their first year at the university at whatever age they enter. I am not sure that they would all be more responsible at eighteen plus than they would be at seventeen plus.

Mr. Southall: This is not only a university problem; it affects industry also. Bringing young people at sixteen, eighteen or nineteen into an industrial group of 2,000 creates problems with similar causes. In a big industrial group staff are appointed to help the young people over the initial period.

Sir Philip Morris: You have raised a very controversial issue here. How much importance do you attach to it?

Sir Sydney Caine: I would prefer to expand considerably the number of young people who get an education up to their twenty-first year rather than to maintain the third year in sixth forms. I would be prepared to sacrifice the third year in the sixth form for the sake of that expansion.

Chairman: In Part I you ask whether policies for higher education should not take more cognisance of the possibility of change in the upper levels of school education. I wonder whether you would be tempted to say anything on this vexed question of specialisation in the sixth form, which, although outside our terms of reference, continually forces itself on our attention, because the extent to which we can proceed on a particular basis for higher education is inevitably dependent on the education given in schools.

Sir Sydney Caine: I think that specialisation has had a strong tendency to go too far too early. University requirements, and particularly those of Oxford and Cambridge, have forced schools into specialisation merely by the accumulation of faculty requirements.

Mr. Chenevix-Trench: Is there not a danger that if the leaving age were pushed back a year in the sixth forms, early specialisation would only be increased further?

Sir Sydney Caine: The standard of entry to higher education and the standard of specialisation in sixth forms should both be lowered.

Sir Philip Morris: Would you object to boys and girls doing three years in the sixth form if you thought they would not be over-specialising? Perhaps you would accept that a more generous provision of university places and a change of courses would probably be the best safeguard also for the schools?

Sir Sydney Caine: I would not want to insist on cutting off the third year from the present sixth form. It might, however, be the least sacrifice to make.

Chairman: May we proceed to the question of the junior college or the enlarged university? It has been represented to us that junior colleges would assume automatically an inferior status compared with the universities proper and their inhabitants would acquire an unnecessary sense of inferiority.

Sir Sydney Caine: I would like to see the experiment made, in the same way as we have been experimenting with

comprehensive schools. Of course experimentation with different types of tertiary education is tied up with the problem of the sixth forms. The junior college is the more drastic solution.

Mr. Elvin: I am not clear whether you have in mind a junior college in the American sense, a two-year institution which would act as a sieve to relieve pressure on the universities; or a liberal arts and science college which would give a general course of four years. Do I understand that you favour the latter?

Sir Sydney Caine: I am in favour of the liberal arts college, unless we were to be drastic about cutting sixth-form work and substituting the junior college for the later stages of the sixth form.

Mr. Elvin: If we are to create a new class of institution, a first degree institution, those who do well there and go on to an M.A. will go on to another institution, will they not?

Sir Sydney Caine: They might well go for a substantial period. There would be a dual system; some students would be admitted to M.A. courses requiring two years' study, whereas those who have taken the B.A. at the university would go on for one year.

Sir David Anderson: Do you anticipate the degree in an outside institution would be of a lower standard than the university B.A.?

Sir Sydney Caine: I envisage that as a possibility.

Sir David Anderson: So that the university students would be a privileged group as compared with those outside?

Sir Sydney Caine: Yes. I wonder whether, with the increased number of universities, one can maintain much longer the theory that all university degrees are equal.

Sir Philip Morris: Do you think the status of a degree should depend on what the student has done or on where he has done it?

Sir Sydney Caine: In some respects it would depend on where he had done it.

Sir Philip Morris: And what about the curriculum?

Sir Sydney Caine: I am assuming that junior colleges might not have the same curriculum as full universities.

Chairman: If some students take a general degree at, say the University of York and other students take the general degree at a junior college, may not public opinion tend to rate the degree of the junior college automatically lower than the degree from the university?

Sir Sydney Caine: I think they would, in the same way that, in general, the status of a degree of a new university is rated of less value than that of Oxford.

Chairman: When you say 'general', you mean 'pass'?

Sir Sydney Caine: I mean non-specialised. Let us suppose that we had junior colleges teaching for general degrees and universities still teaching mainly for honours degrees. I would like to see a situation in which, for the purpose of estimation of the quality of the graduate, the degrees were regarded as of equal value, but for purposes of qualification for going on to a higher study, the honours degree might rank higher.

Sir Philip Morris: Would you be against any pattern which confined universities to post-liberal courses?

Sir Sydney Caine: Yes. It seems to me that we have something not far removed from junior colleges in some of the newer universities.

Sir Philip Morris: How would the students distribute themselves among the two kinds of institution? To arrange large numbers of young people in different kinds of institution presents an important social problem. I am not unrealistic enough to think that all students are alike, but it would be difficult to know one from the other, especially if they presented themselves in a mass of, say, 100,000 a year.

Sir Sydney Caine: Would it be any worse than the problem of choice between different universities at present? By widening the choice the tensions might even be relieved.

Sir Philip Morris: You would not be sowing some vitriolic seed?

Sir Sydney Caine: This depends to a great extent on the way in which these institutions are regarded and the kind of recognition they have from universities.

Professor Drever: Is there a danger in thinking that by establishing six more universities the choice of the young person trying to get into Oxford or Cambridge has been widened? Or is there no real widening of choice if the status of the institutions involved is different? Would it be possible for the colleges to be constituent parts of existing universities, although many of them would have to be physically separate from those universities?

Sir Sydney Caine: That is a possibility, but it would mean a considerable change in the constitution of many universities.

Chairman: Would there be a tendency for the separate junior college to attract a different kind of teacher?

Sir Sydney Caine: I think there are different grades of teachers within the present range of university education.

Chairman: Have you reflected on the possibility that some teacher training colleges might be helped in this direction by widening their scope?

Sir Sydney Caine: Yes. I think in principle this would be desirable.

Mr. Shearman: You have said in Part I: 'The most obvious steps are: (1) Either the grant to the non-university institutions (Colleges of Advanced Technology, Teachers Training Colleges, possible new Liberal Arts Colleges, etc.) of independent degree-awarding powers, or their association with existing universities'. Have you any preference here?

Sir Sydney Caine: I think not. Both procedures might be used. I would regard them as alternatives to be used in different cases, without opting finally for one or the other.

Chairman: Many representatives of technical colleges and teacher training colleges, while they seem to have a longing for superior status, have what

amounts almost to a phobia of university control. Do you think affiliation with the existing or future universities would be justified?

Sir Sydney Caine: Here I am speaking with little detailed knowledge. I hope it would be wrong to say that universities could not take a liberal view; there can be a danger of thinking of the universities as being all alike. My instinct would be to try both methods.

Chairman: May we now go on to Part II of your Memorandum in which you deal with the machinery for the formation of university policy and the relationship of the universities to the state educational system?

Sir Philip Morris: You mention the University Grants Committee pattern as against a ministerial head, and further on you mention an Education Minister almost, it seems, by accident. I wonder whether you have thought this out in terms of choosing between a grants committee under the Chancellor and a grants committee under the Ministry of Education?

Sir Sydney Caine: I do not want to choose between the grants committee pattern and the ministerial pattern: I want to marry them. I think there are great virtues in the advisory committee system and also a need for a closer relationship in the formulation of university policy for the educational system as a whole. It seems to me that this is not likely to be achieved if there is a Minister who has control of most education but from whose responsibilities this important part of education is excluded.

Sir Philip Morris: As you know the present situation safeguards the universities from parliamentary questions. If the universities were under the Ministry of Education this safeguard would almost inevitably disappear, would it not? I wonder, in this connection, what you would regard as the essentials of university autonomy?

Sir Sydney Caine: I think the essentials are the determination of content of courses, that is: no outside dictation as to what is taught. I would not say there should not be outside influence in the choice of subjects, but once it has been decided that a certain subject should be taught, the university should



be free to teach in the way it thought proper and appoint the staff to do so. I regard these two things as crucial.

Sir Philip Morris: Is that all?

Sir Sydney Caine: I would add also a greater freedom than the schools have in deciding what subjects to teach, but not absolute freedom.

Sir Philip Morris: Suppose, for example, a university is told not to teach a particular course, and the university replies that it nevertheless intends to do so: is the right to say that an essential to its autonomy?

Sir Sydney Caine: I think the choice of subjects should in the last resort be a partnership decision.

Sir Philip Morris: What about admissions?

Sir Sydney Caine: Control of admissions I would not advance as essential in this respect.

Sir Philip Morris: You think students could be drafted into universities?

Sir Sydney Caine: Yes. I know this is not a popular view but I would not regard the choice of student as an essential right of the university.

Mr. Southall: Would you exclude any freedom of choice by the students themselves? It is not only the university's right to control admissions; it is the student's right to select if there is room.

Sir Sydney Caine: Students might be told they may go to X and nowhere else; this happens now. If there were a system of drafting in which the universities did not have an absolute choice, I think any sensible person operating an allocation system would arrange to give a good deal of weight to the preferences of students.

Professor Drever: A drafting system would have to have some basis. Would you, for example, feel that the University of Cambridge should become the University of East Anglia?

Sir Sydney Caine: I do not think so, unless it were proposed to make all the universities much more localised than they are.

Professor Drever: What other criterion could you have for your drafting system?

Sir Sydney Caine: It might be to take account of the preferences of students.

Mr. Elvin: Since there is a danger that the person who is already taking a B.A. in a university might have first preference for going on to take the M.A., would you think it reasonable to establish by national arrangement a quota system in which the universities were told what proportion of their M.A. students should come from outside their own districts?

Sir Sydney Caine: I think not for the M.A. However, I was not concerned positively to advocate a system of allocating students but rather that, if the selection for university entrance from among the students qualified for admission were made by some other authority, I would not regard this as an erosion of the fundamental freedom of the universities.

Mr. Shearman: There is a practical point here, because the education authorities are, in present circumstances, sometimes accused of interfering with freedom of choice in this way.

Dame Kitty Anderson: It has been a source of much adverse comment by both schools and parents.

Sir Philip Morris: Once you say that the right to admit or refuse to admit is not essential for a university, the question arises of how allocation should be made, and on what principles. Clearly we have not time to go into that. I do not think that, whatever may be done to rationalise the distribution of students among available places, the universities and colleges would abandon the right to say 'yes' or 'no' to a particular student. Would you agree that your view on this is a minority one?

Sir Sydney Caine: I know nobody who shares it.

Sir Philip Morris: On the wider issue, you envisage, then, that the universities would remain free and independent?

Sir Sydney Caine: Certainly. If they can raise independent funds, they

should be able to use them as they pleased; but I think the Minister is bound to have—and does have today—a say in what they do with the funds provided from public sources.

Sir Philip Morris: Let us suppose an institution is offered a quarter of a million pounds to erect a residential building for certain precise purposes at a certain time, should the institution be free to accept it?

Sir Sydney Caine: Yes.

Sir Philip Morris: I would suggest that more is involved than the mere acceptance of money. There may be consequences which would spill over into general policy for the universities. That particular example does not necessarily carry with it inescapable consequences, I agree, but others might well do so.

Sir Sydney Caine: On the whole I favour retaining something like the present degree of partnership in this matter. In the present distribution of responsibility, the universities have a very considerable area of freedom of decision, but the state can also exercise significant influence. I would not describe this particular freedom as absolute.

Sir Philip Morris: I am assuming that there is no such thing as complete autonomy in an interdependent society. I was thinking of autonomy in terms of constitution. In the last resort what can or should a university do on its own?

Sir Sydney Caine: I think the situation should remain exactly as at present and the practical influence of the state should be exercised in the same way as it is now.

Chairman: May we now return to the central question of Ministerial responsibility?

Sir Philip Morris: Would you be prepared to take the risk that a Minister who was doing well for the whole of the school system might have to resign on another question?

Sir Sydney Caine: Is this not a problem which exists for any Minister? The President of the Board of Trade may be pursuing exactly the right policy

about say, the Common Market, but might have to resign over some quite other issue. I do not accept this as a valid objection.

Sir Philip Morris: Is not the issue whether the whole of education is too much for one Minister?

Sir Sydney Caine: No. It may be too much in the sense that some of the burdens already thrown on Ministers are in fact too heavy, that the problems arising in administration today are almost too much for anybody to cope with. Nonetheless, education should be looked at as a whole, and not in bits and pieces.

Sir Philip Morris: May there not be too many pieces requiring different treatment and administration in a field as broad as education?

Sir Sydney Caine: No. There should not necessarily be any change in the present actual administrative arrangements for the assessment and payment of grants to universities, subject to my comments about procedure, which would apply irrespective of any change in ministerial arrangements. It may be that, if responsibility for universities were transferred to the Ministry of Education, the ministerial structure of that Ministry would need strengthening; that the Minister of Education should have a Minister of State attached to him who would be responsible for the universities or the whole of higher education. But I think this is a detail of the Ministry's structure. The point to which I attach importance is that there should be one mind at the highest level of government which applies itself to the problems of education as a whole.

Mr. Southall: Would it be worth considering administration and responsibilities on a parallel basis with the nationalised industries? Would it be possible to have a board concerning itself with higher education as a service to the community, much as we have the Gas Council the Coal Board and so on? The board, with a chairman, would have responsibility to a Minister. This would prevent the position arising in which the Minister might have to resign, because the head of the board would have to take responsibility?

Sir Sydney Caine: That might be attractive, if universities were on a financially self-supporting basis.

Chairman: May I suggest another possibility? It might be argued that higher education has an intimate connection with research and with science, and that to bring all research and science under the Minister of Education would not only put on one man a burden heavier than he ought to bear, but would be functionally inadvisable, and that therefore an alternative administrative system might be to combine science with higher education, leaving the Minister of Education to deal with the schools, and to attend to common problems in the way in which these common problems are already looked after by committees?

Sir Sydney Caine: I would regard that as less attractive. I am not sure whether it would be good for the universities to be transferred to the Minister for Science. Increased attention must be given to natural sciences and technology in higher education, but such an arrangement would give higher education too strong a bias in that direction. I would prefer the educational aspects of science and technology to be considered by somebody else, in close liaison with those responsible for research in universities.

Professor Dreyer: The proportion of most university budgets now devoted to equipment for research as against teaching is considerable. Research is an intrinsic function of universities and it is almost irrelevant to most of the rest of the educational system.

Sir Sydney Caine: Is there not already a certain division of responsibility at ministerial level? Does not much research come under the purview of D.S.I.R.? This could continue. D.S.I.R. is responsible to a Minister other than the Chancellor.

Chairman: Last year the Ministry of Education was, I think, allowed £100 million capital expenditure, and in the same period about £25 million went to the universities. Do you think the universities would have received as much if the whole field of education had been under a single Minister?

Sir Sydney Caine: I think they might have received more, but this is guesswork.

Chairman: Why do you think so?

Sir Sydney Caine: Because there would have been a Minister to fight for the universities, and with the present prominence of and publicity for university development in this country the Minister would be glad to be able to say that he succeeded in getting three new universities begun in a particular year. The Minister of Education would be fighting hard whereas at present there is nobody in the Government to do so.

Mr. Elvin: If the U.G.C. money came out of the Ministry of Education vote, how far would it be possible to retain the distinctive independence associated with the U.G.C.?

Sir Sydney Caine: This would depend on the attitude of the permanent officials. I see no reason why the officials of the Ministry of Education should have less respect for the university community, expressed through the University Grants Committee, than the officials of the Treasury have shown.

Chairman: How different would be the relations between the Minister and the University Grants Committee from the relations that have existed in the past?

Sir Sydney Caine: Initially, I would hope that they would be not very different, that it would begin by the Minister of Education simply replacing the Chancellor of the Exchequer. There would of course be a further stage in settling the final financial allocation, but that is the only change I would envisage. How it would then grow and develop I do not know, because the U.G.C. system has been growing throughout its existence and it has not yet crystallised to a firm pattern. It is different today from what it was in the 1930's.

Chairman: May I test this by one example? Supposing a university decides to launch out on some new subject, such as management, and, no private funds being forthcoming, an application is made to the University

Grants Committee. Is that a matter which is settled by the University Grants Committee without reference to the Minister?

Sir Sydney Caine: I do not know what happens now.

Sir Philip Morris: The only question in which the Chancellor is involved under the present machinery is something to which the Chancellor constitutionally has a right so say 'no', and that only concerns money. If, for example, I proposed to the U.G.C. that I wanted to spend £100,000 a year on management education, and I received £100,000 a year for five years, the U.G.C., if they had any obligation to say anything about it, would have to say it on their own authority. They might feel obliged, because of certain repercussions it might have, to consult the Treasury and discuss it with them, but the chances of the Chancellor being in the position where there would be a view that he could express on this would, under the present system, be remote.

Mr. Ross: As I understand the procedure, the U.G.C. tell the Chancellor when the quinquennial grant has to be settled, that they require a certain sum. They do not tell the Treasury how they are going to distribute it. The Treasury has no concern with the distribution, or with what the universities are going to do with it. I think that the Treasury would be most anxious to avoid being brought into any such discussion.

Chairman: The Treasury would know if there were a very large increase in one quinquennium over another, but it would only be in a qualitative general way?

Mr. Ross: I think so.

Sir Philip Morris: As far as I know it has been the unbroken custom that no individual university goes to the Chancellor as against the U.G.C. I think this is only a principle of behaviour but I think both sides would fight to retain it. In the new system which you foresee, who will have access to the Minister, in what circumstances, and about what?

Sir Sydney Caine: I would assume that access to the Minister would still be

through the University Grants Committee; that is, individual institutions would still not go direct to the Minister. On the other hand, I would contemplate that the University Grants Committee, in the kind of issue that has been referred to, might consult more with the Minister of Education than they do with the Chancellor of the Exchequer. I realise this is a crucial point. On such a question as, for instance, education in management, if the U.G.C. encourage it, or discourage it, or encourage individual universities to expand in that field, they must take account of what is being done in other educational fields in the same direction. I do not see how they can do this without some consultation with the Minister of Education.

Sir Philip Morris: There is existing machinery for consultation. Nobody would suggest that everything that happens now is altogether satisfactory. The difference between the present system and the one which Sir Sydney is proposing is that, under his system, the Minister would be discussing questions about which he would have the final word. Under the present system he enters into discussions through his officers and he could, I assume, do it personally if he chose. The discussions take place, but not on the assumption that the Minister has the final word, but that there has to be agreement, and agreement perhaps between different departments going in different directions. It is the widening of the Minister's field which is crucial here.

Chairman: In the present situation, presumably, the Minister, the Chancellor or the Cabinet Committee on Education has the last word. If there were to arise some controversy about, for example, the allocation of research money to the National Physical Laboratory or to leading universities, and the U.G.C. were to champion a certain point of view, it would not be the U.G.C. who had the final word.

Sir Philip Morris: Nor would the Chancellor of the Exchequer; the system works at present in a curious way; presumably it would have to work in a similar way if this new machinery came into existence,

because many decisions which had to be taken would be related to other important matters of state. Sir Sydney, may I ask where, in the new system you have in mind, the Committee of Vice-Chancellors and Principals, or rather, the more satisfactory body which in your view should replace the Committee, would stand?

Sir Sydney Caine: I think there should be a body which would be more patently representative of the universities than the present Vice-Chancellors' Committee. It should have greater powers to speak for the universities. I think the present Committee on the one side has no formal power, although it has a good deal of conventional power, and, on the other hand, is a committee of administrators. It does not represent all the varied academic points of view of the universities, and I do not think that enlargement by including more administrators would necessarily improve it. I would rather see a structure which would ensure that, in addition to those responsible for administration, who must of course play a large part, there were also some built-in arrangement for ensuring wide representation of academic opinion.

Sir Philip Morris: That is: more, better and more varied membership?

Sir Sydney Caine: I am sure that, within its present range, it could not have better members. It depends on how large a body is contemplated. It could

consist, partly, of additional representatives of universities and also representatives of academic interests common to many universities.

Sir Philip Morris: It would be a group of consultative bodies representing a system of consultative machinery?

Sir Sydney Caine: I think that a substantial increase in the size of the consultative organ or complex of organs may have to be contemplated. I think that the Committee of Vice-Chancellors may, in a sense, be too big and, having reached this size, it would not matter very much if the organ became a good deal larger.

Sir Philip Morris: You think the balance of advantage is in organisation which is much more systematic, larger and more complex?

Sir Sydney Caine: Yes.

Chairman: Have you any ideas on the principle of selection?

Sir Sydney Caine: I have no clear ideas to put forward on that question.

Chairman: Sir Sydney, we have not covered all the important points raised in your memorandum, but we have had a very interesting and fruitful morning. I wonder whether it would be suitable to adjourn the discussion now, and resume it at some date to be arranged.

Sir Sydney Caine: If I can help the Committee I will certainly be very glad to do so.

FURTHER ORAL EVIDENCE

given by

SIR SYDNEY CAINE

Friday, 24th November, 1961

Chairman: May we discuss first the important question of the financing of the universities? This, I think, falls into two parts: the question of quinquennial planning and the University Grants Committee, and the question of fee income. On the question of quinquennial planning, your submission is that the system is in effect unsatisfactory and that a superior system, the outline of which you adumbrate, is practical?

Sir Sydney Caine: Yes.

Chairman: And would be better suited to the needs of a period of decline in the value of money?

Sir Sydney Caine: Not necessarily a period of decline in the value of money, but of rising average wages, which is not quite the same thing.

Chairman: Sir Philip, you have more experience of this part of the system than any other member of the Committee. I wonder whether you would care to start the discussion?

Sir Philip Morris: Academic staffing at the moment represents somewhere between 60 per cent. and 65 per cent. of the gross expenditure of universities. As you know, extra costs on staff are not subject to the quinquennial exercise; that is to say in so far as they represent rising costs in salaries, as opposed to extra costs for extra posts. Do you think that your point about the weaknesses of the quinquennial system still remains strong when it is confined to 40 per cent. of the total expenditure?

Sir Sydney Caine: Yes, I think so, because I am not only concerned with the rises in costs during the quinquennium, although even on the remaining 40 per cent. these increases may be important. I am also concerned with the fact the quinquennial system does not give a quinquennial outlook, except, as it were, at one moment of time. For most of the quinquennium universities are in fact looking forward for four years, or three, two or even one year—and not five years. They

do not know with certainty what their income is going to be at the end of this ever-shortening period. At this moment none of us knows very clearly what our income is going to be after the 31st July next.

Sir Philip Morris: I must agree that this is a problem on which I feel strongly in my official position. I call it the quinquennial pause. Every five years there comes a time when one cannot look forward on any basis except guesswork.

Sir Sydney Caine: It is rather more than a pause. It is a gradual diminution of the period through which you can look forward. It is not just that at this moment of time we can only look forward six months. It is that a year ago we could only look forward eighteen months. It is only at the very beginning of the quinquennium that the period is five years.

Sir Philip Morris: It was once suggested, I think by Sir Douglas Logan, that in an imperfect system the amount of forward looking had to fluctuate, and that the important thing was to see that it fluctuated within narrow limits.

Sir Sydney Caine: The present limits are wide in that they vary between five years and a few months.

Sir Philip Morris: How would it be if the quinquennial exercise were to be completed six, nine or twelve months before the start of the next quinquennium?

Sir Sydney Caine: I do not think that would meet my difficulties. My impression is that for any kind of serious planning we have to be able to look forward to the session after next. At the very least we should be able to look that far ahead, because it takes time to get senior appointments made. I feel this is so, even though I would not dismiss as unimportant the fact that 40 per cent. of expenses are protected against rising costs.

Sir Sydney Caine

Sir Philip Morris: May I ask if you could explain to us what you mean by a moving quinquennial system? Do you mean that universities are always considering the sixth year, or are they always in the first year of the quinquennium?

Sir Sydney Caine: I am assuming that they would always be considering the sixth year, that is that they would always have some kind of assurance what the income would be for the next four years and would be currently discussing how much it should be five years hence.

Sir Patrick Linstead: It is not necessarily tied to the quinquennium in period?

Sir Sydney Caine: No, it could be a different period, although I think five years might be a convenient period and it has indeed been suggested in another connection.

Mr. Part: The College of Aeronautics at Cranfield is already financed by the Ministry of Education on the basis of a rolling grant.

Sir Philip Morris: I knew that, and it prompts my next question. What in your view is a realistic period? My own guess is that five years is too long to be realistic in relation to a rolling system, but that is only a guess.

Sir Sydney Caine: I think this is a matter of the combining or inter-locking of the universities on the one side and capital finance on the other. From the point of view of the universities, the longer period would have advantages, but I certainly would not press for that as essential. Looking at it from the point of view of the universities, I would regard five years as better than three years, but three years would be definitely better than the present arrangement.

Sir Philip Morris: You are thinking of a three-year rolling system because it is more forward-looking all the time than a fixed five-year system?

Sir Sydney Caine: Yes, I would think so. On the average it may be less, but the utility of it is greater; that is, the disadvantage at times of only being able to look forward one year is not compensated by the advantage of being able at another date to look forward five years.

Sir Patrick Linstead: Is not the difference that in the rolling system one is always at the same point, whereas in the other one oscillates but can at times do a great deal of forward planning?

Sir Sydney Caine: I would rather give up the advantage of at times being able to look forward five years or four years in return for always being able to look forward three years.

Sir Philip Morris: That is a discussion we cannot embark upon now because it would involve examining the elements of forward looking which are most important and considering in what periodicity universities ought to move. That is a very big subject.

Chairman: Sir Sydney said that he preferred a three-year rolling system to a five-year system of the kind we know. He might say: 'I ask you as a matter of principle to consider the relative merits of a five-year rolling system and a five-year fixed system'. That would put the issue of principle in its plainest light.

Mr. Part: In the Cranfield system the rolling three-year grant is combined with the forward look for the fourth and fifth years, so that there is a definite grant for each of the three years ahead, with a forward look for the fourth and fifth year, and then in each year the grant for the fourth year is fixed.

Sir Sydney Caine: That differs only slightly from what I suggested, namely a firm allocation for four years ahead and a forward look for the fifth year.

Mr. Southall: It is a question of finding the right rhythm. In industry one can work an annual budget on a monthly basis, and one is always rolling forward for the next twelve months because it is convenient to split into monthly groups.

Sir Sydney Caine: Although I want a rolling system, I would not like to be at all dogmatic about the right period for it. My own experience is in an institution of a very specialised character, and I would not be at all confident that what would suit us would suit universities of a general comprehensive character. They might need a longer or shorter period. My experience is too limited to be dogmatic about that.

Mr. Shearman: You are speaking only of recurrent, not of capital, grants, are you not?

Sir Sydney Caine: Yes.

Sir Philip Morris: I realise that the quinquennial system raises different questions from those raised by your point about fees which we shall no doubt be exploring later, but, nevertheless, I think the two are inter-related. If a high percentage of expenditure is to be met from fees, they must be capable of fairly rapid revision. I do not mind what percentage is used as an example—let us say 50 per cent.—but if fees are to cover more than 20 per cent. of expenditure it will be fatal to the whole exercise if they stay put.

Sir Sydney Caine: If about half total income came from fees, the need for a more flexible grant system would be increased.

Sir Philip Morris: How would you introduce this factor of flexibility? At the moment fee income is estimated for the whole period and the Treasury grant is based upon that estimate.

Sir Sydney Caine: Yes.

Sir Philip Morris: But unless fees are annually changeable, the more one argues that fee income should be increased percentage-wise, the more one is forced towards a longer period for recurrent grants, so that they can remain fixed for as long as fees must remain fixed, for that is certainly a much longer period than the quinquennial Treasury grant.

Sir Sydney Caine: If there is a combined system I would agree that there should be changing fees every year, and, given the impracticability of doing this, I would agree that meeting changing costs would have to fall on the Treasury grant.

Sir Philip Morris: In other words you would agree that the relationship of fees to gross expenditure has to be a casualty of rising costs?

Sir Sydney Caine: Over that period, although it can be brought back again, if you assume fees would be adjusted at less distant intervals.

Chairman: May we now come to a discussion in more detail of Sir

Sydney's proposal in relation to fees? Which do you emphasise most in urging an increase—the advantage of making palpable some at any rate of the costs of education, or the easing of the position of the universities *vis-à-vis* the subsidising body, the argument being that in the days when, let us say, the fee income was a higher proportion of the university receipts the degree of direct dependence on the grant-giving body was less? I am sure the two things are not mutually exclusive.

Sir Sydney Caine: I would rate the second advantage as the more important.

Sir Philip Morris: The present Treasury grant to university education covers something like 75 per cent. of the recurring annual cost of universities. In my view, if your suggestion about increasing fees is not adopted, this figure will soon rise to 80 per cent. and it will eventually go higher still. Minor adjustments in fees will not alter this trend. You are proposing in fact that fee income should become 95 per cent. of the total?

Sir Sydney Caine: That proposal was put as an extreme possibility. If I were in a position to decide it, I would probably aim at a combined system in which the fee income was more nearly equal to the grant.

Sir Philip Morris: Taking it either on the basis of 90 per cent. or 50 per cent. do you think that, as a source of income, fee income is more flexible to meet rising costs, whether it be inflationary or not?

Sir Sydney Caine: No, it is not more flexible to meet rising costs, but it is obviously more flexible to meet expanding numbers.

Sir Philip Morris: Do you think that it sensibly alters the position of central responsibility in the governmental sphere? Presumably these fees will have to be paid from the public purse even if they come out of another pocket.

Sir Sydney Caine: I do. But I do not envisage all fees coming from the public purse—a very large proportion, an increasing percentage, but not all. Moreover, I would argue that, even if fees did come in the main from the

public purse, nonetheless there would be advantage in presenting the students with a true picture of the cost of what they are getting.

Sir Philip Morris: Would you envisage any refinement in the governmental machinery for grants to students?

Sir Sydney Caine: I am not sure that any change would be needed as far as that is concerned. My proposals simply involve paying a higher grant and the present machinery could do that just as well.

Sir Philip Morris: You think that the Ministry of Education and the local education authorities could be expected to make grants which would equal 50 per cent. of the costs of the university, instead of the 12 to 14 per cent. which is met today, without asking for more say in university affairs?

Sir Sydney Caine: There might be some repercussions, but, as I said in our previous discussion, I would not be frightened of an increasing influence in this coming from the Ministry of Education.

Sir Philip Morris: Supposing that the proposal which you have already put to us were accepted and all educational responsibility at ministerial level were vested in one Minister, the only change your proposal would effect would be in what appeared to the public?

Sir Sydney Caine: Yes.

Mr. Elvin: Is there a logical concomitant of this policy? If 100, or even 50 per cent. of all costs were paid from the national purse as fees, ought that not to carry with it a right on behalf of the Minister concerned to state a ceiling for university numbers in the country and perhaps the ceiling for each particular institution?

Sir Sydney Caine: The Minister might set a ceiling for the number who would be assisted from the public purse. I do not think he would necessarily set a ceiling on the numbers at the university.

Mr. Elvin: But you would expect him to set a limit to the total amount he could be expected to pay?

Sir Sydney Caine: I think that would be inevitable.

Mr. Elvin: Are you certain that you wish to be conservative and suggest that only 50 per cent. of the cost should be met from central funds? If the principle is a good one on the ground that it gives much more freedom to the university, why not make it something nearer 100 per cent.?

Sir Sydney Caine: Partly because I do not think one can pursue logic to extremes. It has been pointed out that there are large variations in the cost of particular courses. I do not think we could envisage fees varying between £100 and £2,000 a year. Therefore there has to be some other source of income to take up that difference, and I think that a combined system is probably the best answer. Perfect logic in any direction generally gives the wrong answer.

Mr. Elvin: If there is an expansion of student numbers during the course of the quinquennium, at present one cannot come within range of meeting the cost of the extra staff needed to teach those students. Would that not still apply even if fees covered 50 per cent. of all costs?

Sir Sydney Caine: If the extra cost of extra students is confined to extra staff; if, that is, the rest of the overheads are adequate for more students, an increase of 50 per cent. in income would go a very long way to covering any staff crisis.

Mr. Elvin: The qualification you make rarely holds, does it? If a fairly small staff is increased by five new members in the course of the quinquennium more money is needed for the secretariat, for accommodation, for decorating hitherto disused rooms if they exist, and your qualification does not hold.

Sir Sydney Caine: It does not hold all the way, but I think in many cases it is possible to increase numbers without a completely proportionate increase in total costs.

Mr. Southall: Is there not an inflationary danger in this? The salary which the student who has been assisted expects to get when taking up employment is related in his mind to the grant he has had. For example, if somebody has been assisted to the extent of £450 a year, he would certainly not

willingly take up employment without some considerable percentage addition to that £450. His argument is: 'If I was worth £450 to be trained, I am worth more than that now I am qualified'. This already has an effect on starting salaries, in my opinion.

Sir Sydney Caine: I doubt whether this would be a serious difficulty. I think it should not be impossible to divide the grant into two parts, one a maintenance grant which was paid to the student, and the other the fees which never in any form passed through his hands, but were paid direct.

Mr. Southall: They do not look at it like that. A prospective employee has told me that it would not be to his advantage to leave the university in order to come to us for the salary offered.

Chairman: Sir Sydney, I understood that your proposal included the possibility of giving this assistance, or a portion of it, by way of loan?

Sir Sydney Caine: Yes.

Chairman: In which case Mr. Southall's trouble would evaporate?

Sir Sydney Caine: Yes, I think it might, although I must admit I had not thought of it at all.

Sir Philip Morris: There is another point, however. If the nub of this issue is the impression created by the manner of doing it, is it serious that at present fees are themselves not differentiated in accordance with the real costs of student education, although there are wide differences of cost between one class of student and another which are not reflected in differences of fees at present?

Sir Patrick Linstead: Is Sir Sydney speaking entirely in terms of undergraduate fees?

Sir Sydney Caine: Yes.

Sir Patrick Linstead: Postgraduate education is the extreme case of the differences Sir Philip is talking about. It can involve fantastic expenses. At that stage the fees remain low but the expenses can go up astronomically.

Sir Philip Morris: It surely would give rise to difficulties in implementing your proposal that, depending what

the student is doing, the cost can vary at present between something like £80 to £100 a year and £2,000 to £3,000.

Sir Patrick Linstead: I see the difficulty about the postgraduate side, but I do not see the logic of leaving post-graduates out of this proposal.

Chairman: The differences are certainly greatest as between postgraduate courses. A man who is doing a doctorate in mathematics needs a great number of expensive books but a man doing a doctorate in, say, nuclear physics needs a lot of extremely expensive apparatus.

Sir Sydney Caine: I see the difficulties. I think I should then envisage an increase in postgraduate fees of the same order of magnitude as for undergraduate fees. I am not sure that I had in mind any difference between undergraduates and post-graduates. They might be treated differently on another point, the possibility of treating grants as loans.

Sir Philip Morris: You would go half-and-half in that?

Sir Sydney Caine: Yes.

Sir Philip Morris: Part one way and part the other?

Sir Sydney Caine: Yes.

Chairman: May we move on now, since our time is limited? There were points in your paper which impinge on more delicate matters, on the composition of the Committee of Vice-Chancellors. As you know, our terms of reference do not require us to consider the problem of particular institutions, save in the broadest aspect. We can consider, that is to say, the problems of federal as distinct from unitary universities, but we are precluded from considering the particular features of particular universities. Nevertheless, I have no doubt that you can say most of what you wish to say to the Committee under this broader umbrella. Your submission is, leaving out at this moment the particular difficulties arising in London, that the composition of the Committee of Vice-Chancellors suffers from a certain ambiguity. This is a matter on which

Sir Sydney Caine

I feel unfitted to conduct a discussion, but we have an ex-chairman of the Committee here, and, once more, I ask you, Sir Philip to start the discussion.

Sir Philip Morris: I would like to make Sir Sydney say as much as he is willing to say. I think he has in mind that the Vice-Chancellors' Committee should become a more satisfactory body for consultative purposes.

Sir Sydney Caine: Yes.

Sir Philip Morris: If you want to make it more representative of universities, perhaps you would say how you think that might be done. I gather you would like to see its composition and constitution altered, but chiefly its composition, with all the consequences as regards size and operations.

Sir Sydney Caine: You have exactly expressed what I feel, namely that there is a need, a growing need, as the number of students and universities in the country increases, for a body which can deal with the common problems of this growing number of institutions. What I have to say is not said in any spirit of criticism of what the Vice-Chancellors' Committee has done. I think that they have served very well indeed as such a body, granted the limitations of their terms of reference. It seems to me that they have necessarily been driven into acting for the universities as a whole in a way which is not authorised by their formal composition. I think this has been an inevitable development. I should like to see it more extensively recognised that there is need for a body which can do this kind of job of representation. As to the composition, there are obviously two considerations here. The first is bound up with the London problem to some extent. This is whether the system of one representative per university, or in the case of London two, irrespective of size, is the best way of getting an adequate and consultative and representative body. On the whole I think it is not. The difference between representation, say, of London and the newest University in the country is too great. Secondly, there is the other problem, whether a body which is necessarily

composed of people who are currently concerned with university administration rather than actual teaching is the perfect body for considering all the questions that arise, and whether there might not be some element introduced to represent the teaching staffs of the universities.

Sir Philip Morris: Would you not then have to start on a basis of at least two people from each university?

Sir Sydney Caine: That might indeed be necessary.

Sir Philip Morris: And increase upwards, following your principle of size?

Sir Sydney Caine: Possibly.

Sir Philip Morris: With fifty institutions that would be something of a body!

Sir Sydney Caine: It would inevitably be a much larger body. I think one might have to consider building up a more active and effective body, by having a universities conference. I do not know whether that would be feasible.

Sir Philip Morris: If it could be done, do you think it should meet annually?

Sir Sydney Caine: Probably more often than that.

Sir Patrick Linstead: If your first suggestion were followed, would it not be a necessary corollary that there would have to be some form of elected executive?

Sir Sydney Caine: Yes.

Sir Patrick Linstead: Which might change?

Sir Sydney Caine: I think there would have to be some form of elected executive or steering committee.

Sir Patrick Linstead: Of, say, about fifteen or eighteen?

Sir Sydney Caine: I envisage something of that kind, acting on behalf of a much larger body.

Sir Philip Morris: This might take the form of a consultative addition to the present Vice-Chancellors' Committee?

Sir Sydney Caine: It could do. Obviously I do not know just how the Committee works now but I think a body which is growing to thirty or more members is already rather large for effective working.

Chairman: I am perplexed about the addition of the teaching as distinct from the administrative element. How would you select them?

Sir Sydney Caine: I may be too elaborate here. I wondered whether there was room for a series of consultative organs in connection with the Vice-Chancellors' Committee which would be representative of the main disciplines of study.

Chairman: What would be their terms of reference as distinct from the terms of reference of the Vice-Chancellors' Committee?

Sir Sydney Caine: I can see problems of academic development common to the country as a whole which could usefully be examined by a body of this sort.

Sir Philip Morris: But that is surely a different field altogether? The Vice-Chancellors' Committee technically are always having to allocate problems and to say: this is a matter for administration or this is a matter for deliberation and conclusion. If the second, the Vice-Chancellors' Committee simply acts as a midwife and brings an *ad hoc* consultative body into existence. The Vice-Chancellors' Committee is here simply an administrative midwife which enables the universities jointly to bring a piece of *ad hoc* machinery into existence; is that the sort of thing you want?

Sir Sydney Caine: I was thinking more in terms of long-term planning consultative committees.

Sir Philip Morris: That would really completely alter its character, would it not? Are you not saying not only that the Vice-Chancellors' Committee is not a good piece of machinery within the limits in which it at present operates, but that the limits within which it operates at present are ill-conceived?

Chairman: I can understand your reference to the special problems at present in specific disciplines and to the desirability of consultation on these matters. But would that not be an *ad hoc* question of allocation? It would presumably be subsidiary to the sort of deliberations which the administrative body would have. It would not be a body which considered methods and scope of curricula. It would simply be concerned with, say, the question whether there should be more social studies in University X rather than spread them over Y and a number of others?

Sir Sydney Caine: I think this sort of problem would come up fairly frequently, and there might be room for a body for the exchange of information, and for consultation on these things. I am not thinking of a body with power to direct.

Chairman: You would not want it to have teeth?

Sir Sydney Caine: No.

Chairman: But on the whole your submission with regard to the Vice-Chancellors' Committee is a plea that they might develop at any rate a front row of teeth.

Sir Sydney Caine: Yes. The other body would be much more consultative, but associated with this central machinery.

Chairman: Sir Sydney, thank you very much indeed.

MEMORANDUM

submitted by

PROFESSOR H. R. HOGGART

28th August, 1961

ROOM FOR EXPANSION

A. I am working from memory and not all my figures may be accurate ; but this, roughly, was my own early experience :

I was the only one from my 'elementary' school class who went, in 1930, to the local 1902-Act grammar school. I have been told that I failed to pass the qualifying examination (I remember a cold March day, a walk to a large strange school, and some strange and complicated Maths. papers). I was given a grammar school place, the story goes, because my Headmaster asked the local education office to look again at my English essay.

I remember others in that 'elementary' school class who were bright. But other forces—poor food, unhelpful homes, poor teaching—were presumably too much for them. Those who went on from that slum school were exceptionally intelligent, exceptionally tough or exceptionally lucky.

In my grammar school form—drawn from a wide area—I was not usually top boy, except perhaps in English. I was usually among the first 5. After Matriculation (in which I gained a Distinction in Maths!—we had a good teacher), only about half-a-dozen of us stayed on into the Sixth form. First, the social climate did not greatly encourage staying on, except for the really outstanding boys ; second, too many had parents who needed the money they could earn (parents who could see their way—imaginatively and financially—to keeping their child at school from 14–16, so that he became a black-coated worker ; but for whom a further stretch was only rarely conceivable). I stayed because of one sentence on my report at the end of the Matric. year. My headmaster wrote at the bottom of the report: 'Should think of professional life'. I was an orphan, being brought up by my grandmother on 7s. 6d. a week Board of Guardians' money. She did not know exactly what the sentence meant but asked the Board of Guardians' Visitor, a most helpful woman. She took the report to her Board, who increased my weekly payment to 15s. a week. My grandmother, a first generation townswoman, had the old rural respect for learning ; I stayed on.

After two years in the Sixth a handful of us took H.S.C. State scholarships were practically unheard of. I only remember Oxford or Cambridge being mentioned twice, each time in connection with rather special pupils who took a third year in the Sixth. One was the daughter of the school's Deputy Head, and she went to Oxford ; the other was a 'posh' boy (very unusual in that school) who went to St. Edmund's Hall and eventually, I was told, into the chorus of a revue! Of the rest of us one or two gained Senior City scholarships, of which 20 were given each year throughout the city's grammar schools, and were told that our next move was to Leeds University. Some others reached university on R.S.T. grants. The rest went to Training Colleges.

So I joined others, who had been similarly selected at each stage, at Leeds. My education properly began when I joined Bonamy Dobree's School of English there. I give this personal history first, because it comes into my mind first whenever I hear people talk (and some talk easily) about 'scraping the barrel'.

By comparison with us, even a moderately-endowed boy from a good school and a well-provided home had a simple run to the University in the 'Thirties. If, on my 12 years rock-climbing progress there, only one other of my class-mates with similar abilities had been lost en route, then that—repeated in schools all over the country—meant a considerable drain of talent. I think it follows that we could stand a large expansion, in these more comfortable times, to cater for those intelligent children who would have been lost by the wayside in harder times.

We are still losing many (see, e.g. *Early Leaving*, Floud and Halsey's work—or think of the shortage of places for girls at Oxbridge). But we are losing less. Better health, better schools, less worry about money and steady employment among parents . . . all these are creating a climate more congenial to the idea of continued education. I am struck by the number of my students who are first-generation undergraduates in their families. Some parents are thinking chiefly of investment, of ensuring a better-paid job for their children (though this not a sin); but most, it seems to me, also respect education in itself—they say they are glad to think that their children are having 'opportunities we could not have and regret missing—there's nothing like 'education for broadening your mind'. It occurs to me that these parents include those I left behind 30 years ago, in the 'elementary' school.

In rising to their new opportunities I think very many parents show a flexibility and faith which are admirable; and that they are here ahead of many educationists and politicians. In making provision for an educated democracy we are only now at the end of the beginning.

B. The second main strut of the case for expansion rests on the evidence that, as society becomes more complex, we need *proportionately more people*—than we envisaged before—whose intellectual potentialities have been developed; not simply people trained in existing techniques, but people trained so as to be able to direct their minds towards problems we do not yet know.

We also need to think, more than many of us do at present, of a single spectrum of further education—getting thicker or denser as it approaches post-graduate work. That is, we seem to need many more people with *some* further training. I mention this because many people seem to have a deeply-ingrained assumption that, however one organises selection, only about 10 per cent. of the population will ever need advanced training; the rest will be carried along by them. It is a vestigial 'minority', or 'aristocracy', thinking. Or perhaps some will think of the inevitable three-tiers: 10 per cent. advanced (admin. class; first-class; Third Programme; officers), 30 per cent. in the middle (executive class, technicians, second-class; Home Service, N.C.O.'s); and the rest. This is partly a social hang-over, and mechanical. We need to think of many more being trained, to some extent; and of a complex whole. I am not suggesting, of course, that all this is the concern of the universities; it is part of the larger picture you are considering.

But my first paragraph of section B suggests the second part of the case for expansion in the Universities themselves, a case which is met with much suspicion. Some of this suspicion is due to the 'minority' assumption I mentioned earlier. But when it is better based, as it often is, it arises from a fear that the Universities will be diluted and lose their main purpose—the pursuit of higher learning, and its transmission, first, to those few who can also pursue it; and second, to those others again (it is assumed, not a great many), who can benefit from contact with it. People with these doubts would often prefer that the next range of people should go, say, to liberal arts colleges.

I think they should go to Universities, for these reasons:

1. Such colleges would be in grave danger of becoming centres for second-class citizens' education—partly because of our ingrained snobbery, but more importantly because they would be cut off from original research (and so from the best minds) and from the feeding-back, in teaching and day-to-day contacts, which the actively learned mind gives and the simply instructing mind does not.

2. University education has this over-riding distinction: that it is both professional and general, that it both trains for the needs of society and prompts questions about the nature and quality of that society. More than ever, since social and cultural changes are taking place so rapidly, we need

to ensure that those who can benefit from such an education have the opportunity to receive it. I do not think there are floods of such people; but I believe there are more than is usually assumed by those whose fears I described two or three paragraphs above.

(Incidentally, it seems to follow that the provincial universities will have to think more about the place of tutorial or seminar work in their teaching than some do at present. I am struck by the lack of contact, in some provincial universities, between staff and students. To exaggerate the situation a little: too many of the junior staff seem to feel they are in some Siberia of the academic life, wondering when their call back to Oxbridge will come. Or they cling to their research project (obviously I do not undervalue research) rather desperately and at the expense of the care they should give to their students' needs. The students themselves are often rather lost, since they can have so little understanding of the complex social and educational process which has brought them to the University. In the end what suffers is one of the University's prime purposes—the free and rigorous pursuit of understanding, based on a Socratic meeting of trained mind with untrained mind. If the universities do not think more about this they will run the risk of becoming the advanced potting-sheds or hot-houses for the meritocratic society—and then they really *will* have become less than universities.)

3. Although it is often assumed, it is not proved that wider entry to universities will weaken the specialist or Honours work: My own experience, here and in a good American university, suggests that good students are not held back by being in a group most of whose members will plainly never be scholars (and it is arguable that they learn something about the variety of possible human gifts). I have been told of some American research which suggests that good students in fact do better in such groups than they do when kept only with their peers; but I have not seen this evidence.

C. A great many things follow from all I have said above, but I would like to select only three points:

1. '*General*' or '*Combined*' degrees: several universities think a good General degree very important and include among their reasons some of the arguments above. They claim parity for this degree with an Honours or Special degree. But the General degree is still largely regarded among schools (and in some university departments) as a sink for the second-rate. Hence the new move in one or two places to call it a Combined degree (and at Leicester we give Honours grades within it). But nomenclature is only one problem: to establish a really good Combined degree, with the right sort of value to its students, is one of the more important internal jobs for the universities in the next few years. I am concerned myself about the condition of Special schools and the inevitably large tail of lower Seconds there. At Leicester, we had 20 English graduates this year: no Firsts, 3 upper Seconds, 16 lower Seconds and one Third. I believe our course is, as a Special course, as good as most; and certainly we try to look after our students. But I do not think that the course given to them is the best those 17 might have had; it is so much more loaded to the advantage of the potential specialist scholar than to that of the others (who are by no means fools).

2. We shall have to think much more about our *post-graduate work*. At the moment too much of it seems to fall between two stools: it cannot seriously be thought of as a 'contribution to knowledge' (its practisers are too young and inexperienced); but it is not planned so as to give them a firm groundwork in the ways of advanced and independent study. Here again, we can learn something from the best American practice, especially in the use of different approaches (not only the thesis) to first post-graduate work. Here, too, the specialist will really come into his own and the dangers of 'dilution' will be less. I would also envisage, therefore, *more* post-graduate work than we have at present.

3. We have to alter *university organisation*, bit by bit. This is already happening in some places. Everyone knows the symptoms of the need for change: too much administration funnelled on to Senate so that Professorial Heads of Departments are spending far too long on committees, far too little time on research; the temptation to build departmental empires and so on. That it works as well as it does, in some places, is a tribute to the self-sacrifice of many professors. I know many who work enormously hard to ensure that their committee-work does not interfere with their actual teaching or their attention to students—but most of them have a book on their table on which they have been working far too long, in odd moments. And the non-professorial staff soon feel that there is a 'Them'—the Senatorial group—and 'Us'. There are several ways in which this state of affairs can be altered—all of them are being tried out at one place or another: by making new forms of faculty organisation; by appointing more professors (and letting the Headship of the department rotate); by giving more Senatorial representation to non-professorial members of staff and by drawing much more on Senior Lecturers and Readers for service on practically all committees.

Even if most educationists and politicians agreed with this case for university expansion, I do not think we need fear an ungovernable rush. There are too many other forces making it quite a slow business to establish or expand a university, to allow that.

Last, though it will not be easy to find teachers (especially in some subjects, where there is demand from outside), I think they will appear from among the increased numbers. I do not believe that, for instance, our teaching in the Arts is intellectually less respectable now than it was 25 years ago (when we had less than 40,000 undergraduates in the country); here too, then, I do not think we have 'scraped the barrel'. But if necessary I would not be afraid to see the 'general' or 'average' intellectual level of university teachers rather lower than it is sometimes assumed to have once been (though this would be hard to prove)—so long as we gave opportunities to, and so held, the very best men also.

ORAL EVIDENCE

given by

PROFESSOR H. R. HOGGART

Friday, 6th October, 1961

Chairman: On behalf of the Committee I should like to thank you very much for your memorandum. I think we all feel that it is a very helpful contribution.

Professor Hoggart: Thank you.

Chairman: One point on which I would welcome any further comments you may have is the question of the most desirable form for the enlargement of university facilities. It has been suggested that some, at any rate, of the enlargements should take the form of junior colleges on the American pattern. There is a statement in your paper which suggests that you think that this is an inferior solution to the enlargement of the universities themselves.

Professor Hoggart: I think that at first glance the notion of a liberal arts college is an attractive one. I have a feeling that its attraction among English people is not always the attraction of expansion. It fits in rather too easily with some fears of universities, some of which, I think, are not always well-founded. I think it also fits in with our sense that, although we want to be democratic and fair, we do not want to do damage to what we think of as the best things. This can be good, but it can also be a somewhat stick-in-the-mud notion. So I want first of all to question the basis behind the push for liberal arts colleges. I think the main reason why I would feel doubtful about them is the one I mentioned in my paper, that it seems to me, from my experience as a university teacher—and I am talking not just about the honours students but about the general students—that the organic nature of a good-sized university, with some of the staff being very good teachers and perhaps not doing a great deal of research, and others being first-rate researchers but also good at teaching, means that you get a mixture in universities. They provide something which no other institution can provide in that way,

and I very much doubt whether the liberal arts colleges would provide it.

I think there would also be a great danger in England of their becoming regarded as second-class places. If one takes a parallel, it is quite difficult to get some of our students to go to training colleges to teach. You have to explain to them that they are very good places indeed in which to teach. Part of what is behind this is something that we cannot measure at all; it is the extraordinary way in which we are all mixed up with our social snobberies. The other day I was talking to a girl who wanted to teach. She had just taken a post in a secondary modern school, which I thought was a very good thing, but she is being got at by her colleagues who feel that she is losing caste.

So on those grounds, on the way it might reinforce certain rather undesirable aspects of the English attitude to education, and because of the relationship with active research, I would be dubious about the liberal arts college.

Mr. Elvin: I can see the danger of second-class institutions. If, however, we assume that it is better to create a good number of new institutions of a reasonable size, rather than to overcrowd existing ones, is there a case for the creation of first degree colleges, whose degree ranks just as high as the first degree of any of the existing universities? Is there a case for trying to encourage in such institutions an emphasis on teaching with possibilities of research, while refraining from installing in every one of them the very expensive research equipment necessary for technology and science? Is it inevitable that they would be regarded as second grade if they are not the junior colleges as in America but are institutions for a first degree, which could be either specialist or combined?

Professor Hoggart: I would predict, with all the assurance I could, that they would become second-rate institutions.

Mr. Elvin: If that is so, are you suggesting that we be driven back to a policy of expanding present universities? Would not this mean having so limited a number of new ones that they are very large and all equipped with a wide range of expensive research plant?

Professor Hoggart: If the expense of research plant were the only difficulty, it would surely not be insuperable; the rest—accommodation, teachers, a library and so on—would be needed in a liberal arts college. If that were the only major reason for not thinking in terms of universities rather than liberal arts colleges, that one could leave it to be sorted out as expansion went along. If we believed in the notion of expansion to meet the present pressure I do not think we would find this difficulty very hard to get over.

Sir David Anderson: If, for purposes of a higher degree, graduates of liberal arts colleges were regarded as the equal of university first degree holders, would the liberal arts college necessarily be regarded as second-rate?

Professor Hoggart: What would then be the purpose of establishing separate colleges, instead of an organic expansion of the undergraduate population in universities? If a difference in kind were made, with a different title, different foundation and so on, in my view the liberal arts college would straightaway be regarded as inferior. Further, you would do damage to teaching and research, because the teachers would be faced with a dilemma they should not have which would cut their combined existence as research workers and as teachers. The organic nature of the university seems to me to be something that we should not let go.

Mr. Southall: Would you argue that the staff would, in fact, be second-rate in the sense that, if they had the choice, they would go to the full university, and would regard the other college as the weak alternative? And this would in itself lead to a division between better and poorer staffs and inevitably lead to a lower quality institution?

Professor Hoggart: I am sure of it.

Mr. Elvin: Are we certain that that is so? I think most people would agree that a considerable proportion of university teachers—particularly in arts subjects—would much sooner spend most of their time on teaching, and perhaps write a good book of criticism when they are forty, rather than be under the present absurd pressure to undertake research and publish at twenty-five?

Professor Hoggart: This would be a bad reason for founding liberal arts colleges would it not? I think the pressure to produce a work very quickly is over-estimated. The universities I have been in have not said: 'Look, you must get that Ph.D out or the Senate will not put you over the bar.' There was no undue pressure. I think that this is one place where we are now slowly changing, that universities are beginning to recognise, perhaps more than is realised, the virtue of a good teacher and the slow way in which research is done.

Mr. Southall: I think this is not necessarily true in the pure sciences. There seems to be growing discontent in technical colleges about the lack of research, so that what you may say about the arts people going into liberal arts colleges may be true enough, but would be untrue of the science people.

Mr. Elvin: We have had some evidence that lack of published research tends to count against a lecturer who is seeking promotion.

Professor Hoggart: Yes. It does.

Sir David Anderson: When one considers the good teaching done in the fifth and sixth forms at schools where there is no research, it is hard to believe that good teaching would not be done in liberal arts colleges.

Professor Hoggart: The liberal arts colleges would have good teaching in all sorts of ways. I think they would be regarded as an extension of the grammar schools through county colleges; but I do not think they would solve the problem which confronts us. There are a lot of assumptions behind my belief. The first one is that many people want a university education, as we know, and a university education



in the full sense. The second assumption is that, however good the teaching may be, the English background will make people regard liberal arts colleges as second grade. The third assumption is that we can provide the teachers for the universities. If we can do that and we will obviously be restricted by building requirements, capital costs, etc., I should have thought we had a big programme for the next ten years, without thinking about liberal arts colleges. It may be that, if the demand for education keeps growing, we shall be forced to think of a bridge between school and university. But I have the feeling that some of the talk, which I regard as premature, about liberal arts colleges now is not based on a proper view of the nature, scope and possibilities of a liberal arts college. It is based on a desire to shovel off this pressure on the universities. There are myths in this, and the two we hear increasingly in senior common rooms are that we are already scraping the barrel of ability, and that we could not find enough staff for expanded universities. People who say these things may be right, but few of them can advance any evidence. If you say to them: 'Have you really seen a decline in the quality of your students?' you get the answer: 'In honesty, I cannot see a difference between 1930 and 1960', and yet there are several times more specialists coming in. I think the social reasons for this are fairly obvious, and the reaction that we are scraping the barrel has deep-seated roots. We do not even know the social composition of university staffs, and it is curious how, when you scratch a bit further down, you find that often they are first generation university teachers, even first generation further-educated and they are bothered about their first research. Sometimes they bother themselves more than their professor bothers them. Partly, it is a matter of getting there and being Doctored, which is understandable. I would also add that there is often among university staffs an inadequate grasp of what their students are going through domestically, socially, and so on.

Dame Kitty Anderson: Do you find that students who come from the

industrial areas are conscious of a lack of background, or are they, in a sense, giving it to one another with their own sturdiness of thought?

Professor Hoggart: You mean lack of intellectual culture?

Dame Kitty Anderson: Yes. Do they have any great difficulty in overcoming this when they get to the university?

Professor Hoggart: This is a very complex question is it not? We set our students a first year essay, and I recently put in deliberately something taken out of a book of mine about students living in two cultures. We got the best essays out of that question. About a third did it, which was the highest single proportion; they were very moving essays indeed, really very much rubbing against the grain of their feelings. The fact that only a third did it perhaps indicates that two-thirds probably feel it more. They know that I have this kind of interest and they tend to come and talk a lot about this kind of thing. I think they find themselves at the centre of something which, in fact, we are all at the centre of, this whole cultural mix-up. I do not think it expresses itself much as a feeling of lack of culture and intellectual background. I think it expresses itself much more in emotional terms, coming to terms with their families and districts, and coming to terms with what seems to be offered to them, because a lot of them are, perhaps, a good deal blinder to that than they should be. If you say to them: 'Do you wish you had been in a home which had more books or in which there was more conversation?' I think their natural and healthy reaction would be 'No'.

This widens out into the question of staff of course. I do not want to sound arrogant about staff, but I think staff could make it easier if they had more knowledge about what is happening in society. There are many different kinds of staff, and the good person who really likes people and likes his subject will get by, even if he is the most roaring nineteenth century aesthete. I think that in general we are not close enough to the complex of issues that the students are having to fight out in their lives to

be able to do more than make them feel in compartments. Here is culture or education: outside are all the problems about what I am going to be, what I am going to do. Do I want to be that? In English study, the great malaise—and it is the point at which you begin to be really excited and friction is generated—is the feeling that they suddenly wake up in their second year, and think: ‘I am doing very well’; and then they think: ‘What shall I be in ten years?’; and then they think: ‘I shall be senior English master at some grammar school, and do I want to be that?’. They may be very good, but at some point they have to ask themselves this sort of question. Again, I think on the whole senior common rooms are depressing places because of this.

Sir Philip Morris: Do you think this is due to a lack of imagination, or lack of experience, or both?

Professor Hoggart: It is a combination, it is a mixture. To give an example, a member of the staff who was at Oxbridge, did very well and then goes to the provinces, and feels vaguely as though he is outside and may want to go away. If he is any good he will see what the virtues are and start building up at Redbrick. But there is something slightly comical and something cynical about the groups of staff who are from Oxbridge, Leicester or whatever it may be. There is a feeling in the common room that the Oxbridge people are miles from anywhere. I wish they would have more imagination about it. They should look a little more at their students.

Chairman: How do you improve senior common rooms?

Professor Hoggart: It will be a very slow process. It would be fascinating to see an analysis of the composition of different common rooms in this first stage of the new universities.

Sir Philip Morris: On this matter of conflict, do you think there is much difference, for example, between the boy who comes from a mining village, with all that that means in the way of background, and, for example, a boy who comes from a family with

five generations of university education behind him, who happens to be an artist in a military family? Is there much difference?

Professor Hoggart: I should think not, but I do not get those.

Sir Philip Morris: There are many tensions of varying degrees. Are we tending, perhaps, to put this social one too much under a microscope? Is it not something universal of which this is only an example?

Professor Hoggart: Because it has become interesting and fashionable we are perhaps over-emphasizing it a bit, but I would still give it more emphasis than the other kind of tension you mentioned, which is unavoidable, and part of the whole business of growing away from your family. The one I have been pointing out is not merely normal home and family development. I think it is part of the British picture. This has been behind all I have been saying, I suppose. Nobody expects lack of conflict. There are bound to be all sorts of conflicts and tensions and we want that. But I do think we half tie our hands behind our backs with many of our assumptions.

Professor Drever: You mentioned the general or combined degree, and many people have suggested that this should be developed. Of course in Scotland we have it already, and some of us are worried about it. Some of us are not satisfied with it, and think it skims the surface in large classes, and the education it gives is rather superficial. Can you say anything more about what you think a combined or general degree ought to be, to some extent to get away from the difficulties which we have found in Scotland?

Professor Hoggart: I think we have a fear of dilution, and it is true that, whatever we say about our general degrees, they do tend towards dilution. I am very struck with the Brighton proposals, and I would suggest that this was the sort of thinking that ought to go on. But for existing universities it is going to be a much harder problem without making fairly major changes. I think that the Brighton method, as I understand it so far, turns on the way one starts

with the central discipline, and tries to relate the other two to it much more closely than we have done at present. General students at the moment tend to feel that they are just below the cream in each of the subjects they take. We will see how Brighton does it.

Mr. Elvin: Could you tell us a little more about what happens in Leicester, where I gather one can get honours standing in respect, at any rate, of some parts of a combined degree? Can one get a general degree at honours level?

Professor Hoggart: Yes. The title 'honours' we keep for the grade of the degree, and not for the type of subject taken. The system is that, when our special finalists take their papers they are graded according to the pattern of results. The same thing applies to general students and when they have done a couple of Part I papers in their second year, they do seven or eight in their third year. Their measuring is rather different. The aggregate for all the marks of those papers is put together, and first, second and third honours or passes are given according to the level of the aggregate.

Mr. Elvin: Does a person who gets honours standing on a combined degree have a lower status in the eyes of other undergraduates than a specialist?

Professor Hoggart: Yes, he does, and also in the eyes of many a headmaster and headmistress.

Mr. Elvin: If they are needed to teach one subject that seems reasonable, but if they are wanted to teach three in the secondary modern school it seems unreasonable, does it not?

Dame Kitty Anderson: General degrees are excellent as a basis for much school teaching and such graduates are needed by the schools.

Professor Hoggart: It is sometimes harder to get a first class general degree than to get a first class special degree. I have in mind the attitude of the examiner. You can become mean with general students sometimes. You have a feeling that they cannot

write as good a paper as the special students. You are really reacting against the desire to be kind to them but, on the whole, you do not have to do that.

Sir Philip Morris: I am sure that is true; but other qualities are needed to get a first in a general degree—the student has to have determination.

Mr. Elvin: Yet such degrees have a lower standing.

Dame Kitty Anderson: I do not think they do within the school itself. If general degree students are taking several fields of study this means they are concerned with several departments. Who co-ordinates the work? Is not this the worry in the student's mind?

Professor Hoggart: This was brought out very sharply at Leicester. I ought to add that Leicester—and I suppose other places too—is taking an enormous amount of care to try to make the general students feel good class and decent citizens. In fact, we did a survey which you may have heard about. It is an extremely interesting one, and was done last year by the senior tutor for general students. To me the most striking thing which came out, when you left out the fact that most of them were extremely happy about their training, was that they all felt homeless because they had no departmental professor: a professor can really be a 'daddy' as we all know.

Sir Philip Morris: Do you have a head of the school?

Professor Hoggart: Of the general school, no. We have a senior tutor, but he is not a professor.

Sir Philip Morris: There is a head in each special school, but not in your general school?

Professor Hoggart: Yes. That is to say, the English school or department has a professor. The senior lecturer—he is a reader, in fact—spends most of his spare time making sure that justice is done to the general students. But it emerged clearly that there is nothing like a professor to them. If they did not have direct access to their professor they felt lost.

Chairman: It is not only what they feel, it is what we can do which leads me to ask whether it is necessary to the conception of a combined degree that all the subjects taken should be free and equal. Is it not conceivable that the ideal combined degree attaches a little more importance to one subject than to others, although not relegating the others to the despised position of ancillary?

Mr. Elvin: Like majoring in an American college?

Chairman: Yes. It would then be possible to attach the students to departmental heads. That is what we have been trying to do just recently at the School of Economics after having a period of about eight years with a completely general Part 1 for everyone; they wandered about for two years and, in spite of all sorts of efforts it did not work.

Professor Hoggart: I should add that officially—and they say it themselves—our general students have a main subject; that is the one they take for three years. But it is still very hard to feel towards your three-year English general students as much as you feel towards your special students. One does one's best, of course, but it is not part of the system, and they do not feel it other than the fact that they have to opt. In fact, they only decide at the end of their first or second year which one they will make their major subject.

Sir Philip Morris: I think Leicester and we are very alike. We have found, as Hoggart has found, that the departmental organisation does not successfully look after the general degree student; we have had to make the general degree into a school with a professorial head; the school has its own staff, but it is a staff which does not interfere in any way with the departmental teaching. They get all the departmental teaching through departments. But the school is an organised, coherent entity both in arts and in science. Experience has proved that it is necessary and, if the general student is to have status, you have deliberately to set about doing it and provide an organisation which makes him satisfied.

Chairman: Do you call your degrees 'general' or 'combined'?

Sir Philip Morris: 'General'. We have 'combined' as well, but that is different.

Chairman: And is it higher or lower? It does not carry with it the slight disapprobation which has come to be attached to it in many universities?

Sir Philip Morris: Within our university a man who gets a general first is regarded highly by everybody, because it is much more difficult to do than to get a special first. This question of status is not a simple matter. It is generally true that the classification is: single subjects special and combined special at the top, with general honours below it—in general, but not in regard to particular people.

Professor Hoggart: I do not know whether I have beaten the gun on this. We do not call our degree combined; we call it general, but we are so concerned for the reputation of the word 'general' among schools and students that some of us on the non-professorial staff have put in a paper suggesting it should be changed.

Chairman: How do you think headmasters and headmistresses would react to new terminology?

Dame Kitty Anderson: I wish that we could get a recognised terminology throughout the country, because these differences are bewildering. I think that, with the experiments that are going on, combined or general courses will acquire recognition in schools. I am certain that there is a growing realisation of the need for this new kind of course. In girls' schools we feel it very strongly.

Professor Hoggart: I can think of a girl who got a steady 65-65-65 at 'O' and 'A' level, and was obviously a very good candidate for the kind of general or combined degree that we have. She is unusual in that she is fairly free from worry about this: she has had a few qualms because people say things, but she is holding out.

Sir Philip Morris: We must not delude ourselves into thinking that altering the nomenclature will solve this problem, because it will not. There is also a danger in that we want variety. Our general honours schools would not have existed if the university had been trying to remain easily organised, to

ensure that everybody knew what it was doing. It is better to take the risk that what you are doing will be misunderstood, if what you are doing is worth doing.

Chairman: The trouble is the heritage of the past. The word 'pass' has been grievously discredited.

Professor Drever: The Scottish term is 'Ordinary', which does not help either.

Sir Philip Morris: In Leicester and Bristol the general degree is certainly gaining ground, and that is good. Could I say a word about special degrees? If you take, for example, a special economics degree it covers a wide field. If a student wants to be a joint degree student at Bristol, he might choose his special honours subjects from, for example, all the special economics degree course offers, and all the special philosophy courses; he may be more interested in the economics than in the philosophy as a person, but not necessarily as a student: his loyalty tends to depend on the kind of man he is. Our object is to give great flexibility of courses which have about the same breadth and width. The general degree course is quite different. The general course aims are given as extending over at least two and often three subjects, usually involving the study of four or more in all, with the purpose of giving a qualification which is of an honours standing in the subjects taken. That is a different story altogether. In this sort of graduate we are saying to a school: 'This man is a good chemist; he is also a good physicist'. It may be that we are educating a man who is going to live for the rest of his life as a physical chemist, and nobody would claim that a physical chemist is necessarily a physicist. Is that more or less how you do it in Leicester?

Professor Hoggart: Yes. I think your joint degree is what used to be known at Leeds as double honours. We do not have that at Leicester.

On nomenclature, I would agree that you do not get a great way by changing names, and the solution lies mainly in thinking about the organisation of the course. Whether you change the name, or wait for the name to acquire the right connotations, depends on how strongly you judge the feeling against it and how long it

will be before the feeling disappears. I think the feeling against general degrees is very strong in most schools and it will take a long time, a few generations of students, to go. Our proposal for a change of name was a deliberate attempt to start people thinking, and of course they have reacted. They are going to think about the whole status of the general degree. I hope they will also change the name, but it is a long process.

Chairman: I wonder whether you think that too many special degrees are regarded by those who frame them as, as to speak, training for academic life and for the graduate school, and that many students who take the special degrees thus constructed would be better educated if they took something broader?

Professor Hoggart: I do.

Chairman: I wonder if we might question you on a matter which you do not dwell on in your paper, the future of training colleges and technical colleges. How do you see the evolution of the teacher training colleges and the more advanced technical colleges? Do you see them in association with universities? Is that the way to procure a change of status, or is there some other way?

Professor Hoggart: I have not thought much about this. I do not think that anything I said would be of much value. I have not taught in technical colleges, and although I have examined in training colleges, anything I said would be of the most general kind. I think my own feeling would be that the best progress lies in greater association with universities.

Chairman: What is your experience from examining in the teacher training colleges?

Professor Hoggart: The ones I knew, which were the nine in and around Leeds, covered a wide range at that time. Students in the best colleges were as good as our second class undergraduates and the poorest of them were very poor indeed: but that was 1955. I think anything else I said to you would not be of any use.

Chairman: Professor Hoggart, we are most grateful to you for this interesting discussion.

MEMORANDUM

submitted by

THE ASSOCIATION OF TEACHERS IN COLLEGES AND DEPARTMENTS
OF EDUCATION

20th July, 1961

THE TRAINING OF TEACHERS IN RELATION TO THE EXPANSION OF HIGHER EDUCATION

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A. THE DEVELOPMENT OF TRAINING COLLEGES

1. In considering the training of teachers in relation to the expansion of Higher Education, we have had in mind their education for teaching in both Universities and Colleges, and the inter-relations between the two in this connection. Moreover, we have assumed that there will be a considerable expansion of Higher Education during the next decade or two, so large that Universities could not fully meet it without changing their character; and that in consequence a new range of institutions would be developed which would be added to or grow out of existing Colleges (Teacher Training, Technical, etc.) and which would give courses generally lasting for three years in preparation for a variety of occupations requiring a standard below an honours degree. It is against this background that we begin by considering the extent to which Training Colleges should either preserve their present character, or form a nucleus for expansion into a new system of Colleges of a more general kind.

2. The combination of academic and professional education is a distinctive feature of the Colleges which we are most anxious to preserve. They are concerned with the education of the students as persons and as teachers, each reinforcing the other. The course of study encourages them to follow intellectual disciplines and ideas at a level akin to that of a University; to gain an understanding of young people in society—observing them at home and in school, at work and recreation; to think of the problem in terms of human values; and it also provides rich opportunities, so often lacking in higher education, in creative arts and practical skills. This is a far cry from the narrow practical training of earlier days. It harnesses the deep interest of many students in people, and profoundly affects their attitude to learning and to life; for the sense of vocation gives strength and purpose to the course as a whole. It is, in our view, truly liberal, and a vital line of development in higher education.

3. It follows that we are against a sharp division of the course for teachers into two years of academic education followed by a year of professional education; for this would undermine the rich blending of studies we have just described. If a change of this kind were to be involved in the proposals which are being discussed for certain Training Colleges to become Colleges of Liberal Arts, then we should be opposed to them. Moreover, there would be a danger of such Colleges becoming inferior imitations of Universities, inevitably second-rate, and lacking the professional qualities which we think should make them essentially different. Thus we differ fundamentally from the proposal to establish a broad system of Colleges of Liberal Arts; for our emphasis is vocational, though not narrowly so. What we envisage might be called Colleges of Professional Studies.

4. We believe there is a strong body of opinion within Training Colleges and outside in favour of widening their scope to provide the professional education of other, more or less related, groups in addition to teachers. Students following different courses would educate one another, just as undergraduates reading different subjects do within their community. The interchange of ideas and experience occurs more freely when students live together in an institution with many and varied activities; residence is a strong and valued feature of the Training College tradition. We consider it important that the Colleges should, while growing in scope and numbers, preserve their distinctive character. Hence we envisage that they might expand by developing courses in social welfare and the varied occupations sharing the concern of teachers with children and young persons in society—youth leaders, child care officers, probation officers, social service workers—each College developing courses suited to its particular circumstances. A few may become part of a University. Others might continue to train teachers only. But most would become Colleges of Professional Studies, with courses of several kinds.

5. The number of teachers required at present and in the future is so great that students intending to teach would have to be in a majority at very many Colleges. Yet we believe that it would be possible to broaden the outlook of the Colleges as a whole, and to achieve a measure of flexibility, with some courses in common for students with different occupations in mind, and allowing students to delay their final choice of a career until perhaps the end of the first year. Changing social trends, and especially their implications for the supply of women teachers, have made these questions more clamant than in the past.* In making changes, however, it would be important not to weaken the professional emphasis, for this might jeopardise the recruitment of good teachers. Much consultation would be required in working out the varied pattern of the Colleges and adapting it to the nation's needs.

B. THE AWARDING OF DEGREES TO STUDENTS IN COLLEGES

6. It is an essential feature of our proposals that the ablest students in certain courses in the Colleges should have an opportunity to gain degrees. There is undoubtedly at present an overlap of ability between Training College and University populations. The evidence in support of this statement is strong, as may be indicated briefly as follows. (i) In some Training Colleges there is a long tradition of students reading for a degree, usually an external degree of London University; and in the past, until regulations were changed, many of the students in certain Colleges did this. (ii) Many students entering Training Colleges now have the G.C.E. passes needed for matriculation at a University. In 1960–61 12 per cent. of all students admitted to three year general courses had three or more A level passes, 23 per cent. had two and 61 per cent. had at least one; and a large proportion of these A level passes were in subjects normally studied at a University. (iii) The high quality of the academic work of the best students is often commented on by members of the staff of Universities who examine at the Colleges, even within the confines of the former two year course, and with three years of study the standard will rise considerably. (iv) The pressure for admission to Universities is increasing, and a clear distinction cannot be drawn between those students around the borderline who apply to both Training College and University. So complex are the problems of selection that improved methods will not suffice to overcome them entirely; for a student's performance in a course of higher education depends on his motivation and on social, emotional and physical as well as intellectual factors. Hence in the Colleges there are bound to be many students of similar ability to others who gain admission to Universities. Moreover, we believe that an appreciable number of able students would choose a professional course in a College in preference to a more purely academic course in a University, provided both would lead to a degree. Thus to the powerful argument on the grounds of overlap of academic standards can be added the claims of social justice and the need for good teachers. In our view it is crucial to the status and future development of the Colleges for some of their ablest students to have the opportunity to read for a degree.

* See Appendix.

7. We believe that Universities should have a direct academic responsibility for degrees awarded to students in Colleges. Failing this, there would be a risk of a decline in the reputation of degrees in general, which would harm Universities and Colleges. That is why we consider that initially only a minority of students in Colleges would be candidates for a degree. For the remainder there would be an award similar to the present Certificate of an Institute, though we think the name Associateship would be more generally acceptable.

8. We have considered the problems which would be involved in students of the Colleges reading for (i) existing University degrees, and (ii) new degrees, and wish to refer to (i) and (ii) separately in the following paragraphs.

9. It would be possible for students to read for an existing degree if a University would allow their work in College to count as meeting part of the requirements, which would afterwards be completed by transfer to the University. This would mean accepting students of a College as being in full affiliation with the University. Already a beginning has been made with some arrangements on those lines, and we wish to see them develop wherever possible. We believe, however, that existing degrees are suitable for only a few of the students of degree potential in Colleges ; and that a new type of degree is also required.

10. The essential feature of the new type of degree is that it should be more closely related than existing degrees to courses in the Colleges. It is not our intention to define the nature of such a degree, which would require much consultation between Universities and Colleges. To quote one possible example, however, there might be a degree pattern with three subjects, two of them corresponding with those of a general degree in a University, and the third being 'Education' or a similar subject of a professional kind. This would, of course, mean recognising Education as a subject for a degree study along with Divinity, Law, Medicine, Engineering, etc., which combine academic and professional aspects, and which accept practical experience as an integral part of the studies. This example is quoted only to illustrate the kind of way in which the new degrees might differ from those which already exist. The content of College courses would continue to be decided in consultation with Universities, as they are already through the Institutes of Education ; and those courses leading to degrees would have to be specially approved for the purpose, together with their standards of admission, staffing and examination.

C. THE DEVELOPMENT OF INSTITUTES OF EDUCATION

11. We consider it to be a matter of vital importance to the future of the Colleges, and to the teaching profession as a whole, that their links with Universities should be strengthened. The Institutes of Education have already achieved much that the McNair Report expected of them, bringing members of University staff into closer touch with teachers outside, encouraging vitality and high standards in the academic life of Colleges, and increasing the opportunities for teachers in schools to improve their knowledge and skills. Their achievements have been considerable, in spite of difficulties and criticism ; and they represent an important step forward from the Joint Boards that preceded them. We believe that they should be further developed to enable Universities to exercise through them the responsibility for awarding degrees to students in Colleges.

12. The degree-awarding relationship will emphasise the need for close consultation between members of staff of Colleges and Universities, and for a clear definition of responsibilities. It is in our view preferable, despite the evident difficulties, to the possible alternative of giving certain Colleges the power to grant degrees on their own. The degrees would not be 'external' because there would be consultation between College and University staff over syllabuses, and setting and marking examinations, with the University holding the ultimate responsibility for standards. It is possible that certain Colleges may become so closely associated with existing or new Universities as to be, for academic purposes, a part of them. But for most Colleges we envisage the existing kind of relationship through Institutes of Education being developed to enable their best students to read for degrees ; and we hope that Universities will be ready to give the problems which are involved very serious consideration.

D. THE PROFESSIONAL EDUCATION OF GRADUATE TEACHERS

13. Our first recommendation is that graduates should be required to have a year of professional education before being recognised as qualified teachers. This reform is so long overdue that the reasons in support of it will not be gone over again. We urge that an early date for the introduction of this requirement should be decided, and that it should be announced soon in order to prevent the growing harm caused by prolonged uncertainty.

14. Plans could be made to take the extra numbers at Universities and Training Colleges as part of their expansion programme. At the same time we wish to encourage more effective co-operation between teachers in schools and lecturers in Colleges and University Departments of Education; and we realise that when there are more teachers in schools with higher qualifications, they will be able to participate more fully in the training of teachers. This partnership would also be important in another development now being considered, which is to associate the year of probation required of teachers with the initial training course.

E. HIGHER QUALIFICATIONS GRANTED BY UNIVERSITIES FOR SERVING TEACHERS

15. A very promising start has been made by Institutes of Education in providing courses for serving teachers leading to a higher qualification, usually called a Diploma or Advanced Certificate of Education. These courses are open equally to graduates and non-graduates with at least four or five years of successful teaching experience, and last for one year of full-time study or three years part-time. The award is normally made by the University through the Institute on the basis of written examinations and a thesis. These courses have proved successful—teachers who come to them are keen, the standard of work has been high, and many gaining the award have been quickly selected for senior posts—and this despite the fact that the award brings no increase in salary. We hope that these advanced Diploma courses will be vigorously encouraged.

16. The Master's degree of most English Universities does not fully meet the needs of the teaching profession for higher degrees. It is often open only to those with first or upper second class honours degrees who complete a period of full-time research; and few teachers apart from specialists in grammar schools take it. A research degree such as this is only appropriate to those who wish to continue with research, usually while on the staff of a University Department of Education or a Training College. It thus meets a need which, though important, is numerically small.

17. The more important need for teachers is a Master's degree awarded for advanced study; what we have in mind is that it should be open to experienced teachers who have taken either a degree or Diploma or Advanced Certificate in Education. It should require a year of full-time, and a period of part-time study, with the emphasis on advanced study rather than on research. The course would be either within an 'academic' subject or in the field of 'education', or in a combination of both, examined by written papers or dissertations. We believe that the institution of a higher degree of this kind is justified by the academic level of the study involved and by the ability of those who would be taking it; and that it would make a valuable contribution to the improvement of teaching in schools—both primary and secondary. We hope that the institution of a Master's degree which can be awarded for advanced study to experienced teachers with good qualifications will be seriously considered by every University.

18. The opportunity for teachers to take higher qualifications has great significance in developing a feeling of professional unity, by bringing together for advanced study teachers who did their initial training in Colleges and in Universities. In so doing, it forms a bridge between graduate and non-graduate teachers, who still suffer from the long historical division. Another important bridge is being developed at the present time when an increasing number of graduates are doing their year of professional education in a College. The proposal that some students in Colleges should be enabled to gain a degree would dissolve the clear separation between

teachers trained in Colleges and Universities, and thus be a major step toward professional unity.

19. Better opportunities for teachers to gain higher qualifications will do much to improve the quality of teaching in schools. In addition, teachers with these qualifications will be able to participate more fully in the practical training of the next generation of teachers.

F. THE GOVERNMENT OF TRAINING COLLEGES

20. We have been much concerned in recent years with the need to reform the system of government and administration of Colleges. The major expansion of training facilities now in progress, and the changes which have taken place in the aims and nature of the work, make it clear that the training of teachers is fundamentally a national responsibility. The pattern of government should reflect this. The present system is, on the local level, inconsistent, piecemeal and parochial, as history has left it: the constitution and powers of governing bodies vary greatly as between voluntary Colleges and L.E.A. Colleges, and between one L.E.A. and another: some Colleges have no separate governing body of their own. Though the L.E.A. Colleges are financed from a national 'pool', L.E.As. which do not happen to have a College in their area have little or no responsibility for the training of teachers, while those which administer Colleges have a great deal. At the national level overall administration and the formulation of policy is one of the many responsibilities of the Minister of Education; the other interests involved are represented in a complicated structure of advisory committees.

21. We feel that there is a strong case for the institution of a national body, a Grants Committee for the Colleges, possibly a sub-committee of the University Grants Committee. This would negotiate on the one hand with the Treasury (or Ministry of Higher Education, if this be established), and on the other with the Governing Bodies of the Colleges. The latter would need to have a large measure of autonomy in their conduct of College affairs; for unless they are given real responsibility they cannot attract the kind of Governors able to contribute to the life and work of the Colleges. At both national and local levels all the main interests and institutions involved should be adequately represented.

G. STUDY OF THE PROVISION OF HIGHER EDUCATION

22. We have a separate recommendation to make, the importance of which has been borne in upon us during the course of our deliberations. It is that a central body should be set up to collect information about the provision of higher education, and to keep under continuous review the extent to which existing needs are being met and new requirements are becoming apparent. In the absence of such information it is not possible to assess progress and plan ahead effectively; and this information does not exist at the present time.

APPENDIX

THE CHANGING SOCIAL PATTERN AND ITS IMPLICATIONS FOR TEACHER TRAINING

It seems necessary to link the development of higher education and, in particular, the education of teachers with predominant social trends.

The size of the teaching profession will have to grow substantially as the school population is likely to increase because of the higher marriage rate, earlier marriage, and the larger size of families. National policy will send up the demand for highly educated and skilled people, and individual expectations of an efficient and prolonged education are bound to become more insistent. To reach the required numbers to cope with the higher birth rate, the trend to stay longer at school, and to carry out agreed educational reforms will require, it has been calculated, 8,000 extra teachers a year, or about 25,000 a year in all.

Will recruits to the teaching profession come forward in sufficient numbers? The theory of the limited pool of ability, rather dismally subscribed to by some dejected academic fishermen, is of doubtful validity when the correlation between intelligence

test scores and success in higher education, is considered. Environmental and temperamental factors and the quality of the teaching available, appear to be just as important for success as high ability. This has certainly been found to be so in the teacher training colleges. With the growth of sixth forms there ought to be a good supply of recruits to the teaching profession; the problem is rather one of motivation, and variety of opportunity for training than of supply as far as one can see by the analysis of present trends.

Motivation is partly connected with rewards and conditions of service, but depends, perhaps more than many people are willing to admit, on the appeal and relevance of the education offered and its ability to call out idealism and commitment on the part of aspirants to the profession. It seems unlikely that the teaching profession can ever hope to compete, in material rewards, with industry; it is very important then, in this day and age, that it should make its appeal to committed persons who go into it with a clear intention not as a last resort.

Although the affluent society is supposed to have arrived in Britain, and we could certainly afford to spend more of our resources on Education, and indeed *must* do so, it is doubtful, in our opinion, whether we can afford to be so wasteful of human resources and training, as is, for instance, the United States. Liberal studies courses, as usually understood, unrelated to the professions, would be likely to have a high degree of wastage, and it seems extremely risky to rely on such courses as a main recruitment ground for teachers, if they provide no encouragement to consider studies or meet situations relevant to a teaching or allied career.

The idea that a liberal education is essentially different and separate from that needed for a profession is considered elsewhere. From the point of view of the young people growing up in our society, it is probably true to say that they are more willing to make an early choice of a career than their predecessors; they mature early, and want to select their rôle in life as soon as possible. The difficulty about the teacher training course at present is that it calls for too narrow and final a choice; our proposals for putting several similar professions in one college, and encouraging the setting up of common courses, and of transfer, if it seems suitable, from one course to another would help to make the choice less limiting, without losing its appeal to the present day student's desire to find his place in the working world.

A career, to be attractive to the modern student, must have varied and worthwhile prospects ahead. It must carry with it, too, some nationally recognised qualification, which with application and enthusiasm can be converted into a higher qualification, and this is one of the reasons why we think that degrees should be more readily available to the best training college students in all areas, and that they should be given more opportunities of obtaining higher diplomas and degrees as we suggest.

The selection of a career and its relation to their personal lives is a particularly difficult one, in these days, for many young women. It is the remarkable change in the age and expectancy of marriage and the period of child bearing and rearing that has been responsible for many of the problems of staffing the schools. This is obviously not a passing phase and we must reckon with the facts that:—

(a) many women, either will not teach at all or will only teach for a short period directly after their training, but may return later, and

(b) many women will seek their initial training after marriage and child rearing.

Some people have argued from the first point that initial education should be more general and less professional than hitherto. However, there is at least as strong a case for believing, on personal and national grounds, that studies focussed on the development of children and on those problems of society that most affect the family, together with the development of academic and creative interests, is the most suitable that could be devised for many young women. A happy and securely based experience of teaching, however brief, is the surest guarantee of return to teaching: students should be left in no doubt that a period of teaching is required at some point in their lives, but if some time elapses before they can teach,

arrangements should be made for further education and training in the form of readily available refresher courses.

The need to provide for mature candidates for the teaching profession, both men and women, is probably a permanent need in our system of higher education, quite apart from these married women 'returners'. Some will be newly attracted to teaching by the experience of rearing their own children, others will begin to feel the need to pass on their acquired skills, while still others may seek relief from our mechanised society by a change to a career dealing with persons. The variety of these courses should provide variety in the colleges, but it is difficult to see the possibility of adequate provision for so many needs in Education without special institutions to cater for them.

The needs of the country for an ample supply of teachers, the early maturation of young people and their search for a settled role in the modern world, the changing position of women and our need to provide for it, all seem to be trends in our society which should lead us to recognise a vocational core of studies as one way of obtaining a liberal higher education in our age.

The following supporting documents were also submitted :

Appendix ; 'The Historical Background of Teacher Training'. 'Colleges of Education for Teaching' (A.T.C.D.E., 1960). 'Education for Teaching'; Re-print from the Times Educational Supplement, 31st March, 1961.

ORAL EVIDENCE

given by

Miss J. D. Browne, Professor J. W. Tibble and Miss E. G. Malloch

on behalf of

THE ASSOCIATION OF TEACHERS IN COLLEGES AND DEPARTMENTS OF EDUCATION

Friday, 6th October, 1961

Chairman: I must begin by thanking you on behalf of the committee for this lucid and interesting document. May I ask you first whether you would care to make any general statement or to draw our attention to the points which you think we should have particularly in mind?

Miss Browne: I think we reduced our document to as few points as possible, so that they are all vital to us: but we are particularly interested in the character of the education which is to be given to teachers. We are also aware that you are considering the whole future of higher education and we are quite ready to see this as a part of the whole pattern. Having said that, I think we would like to leave it to you to ask the questions.

Chairman: We might perhaps proceed according to the table of contents on the front of your memorandum. So far as the first section is concerned, the future development of training colleges, I take it the salient point which you wish to emphasise here is that, while you are in favour of including the training of social workers, youth leaders, probation officers and so forth with the training of teachers, you are out of sympathy with the idea that the training colleges, or some of the training colleges, should develop in the direction of colleges of liberal arts?

Professor Tibble: Yes, that is the main conclusion we came to, after a good deal of thought on the subject. We tried to see the underlying principles in training college work, and how they have developed, particularly in recent years; this brought us to the conclusion that, in general, the training college is providing a liberal education round a vocational core, which has links with other vocations which have to do with human relations, with

people whose job is mainly concerned with other people, either children or older people. We felt that if we were able to preserve the character of the colleges, and indeed extend it along its own line of development, it could well include such other people as came into this general vocational category. We also concluded that if the work of the training college were put into another kind of institution with entirely different objectives, it might lose this essential and fundamental character. It is not so much the day-to-day connection between the professional side of the work and the academic side, it is the fact that it is all being done within the same institution, on the same campus, with people who are committed to this range of interests.

Mr. Elvin: That does not necessarily mean you are opposed to the idea of liberal arts colleges as such, but rather that you do not want training colleges to be diverted from their present good purposes by being turned into a different sort of institution?

Professor Tibble: That is our point. We are not against the idea of liberal arts colleges as such.

Dame Kitty Anderson: If teacher training became one-third of a college which included other professional studies, are you of the opinion that it could do its job as well as it does at the moment?

Professor Tibble: I think our calculation was that it could not. We should be anxious that the number of other professional courses should not rise above a certain proportion.

Dame Kitty Anderson: What kind of proportion?

Miss Malloch: This would partly depend on how closely related were the other professions. We did not feel

it would be possible, in view of the enormous need for teachers, as far as we could look ahead, that the teachers would in fact be outnumbered in colleges of professional studies. We think the difficulty would be to get enough of the others—to get the kind of balance which would be desirable. On the other hand, we think there would be so great a common core of studies that there would not be a differentiation of the wrong kind as between teachers and students in the wide fields of social services.

Miss Browne: On the whole, one side of the work of colleges has tended to go towards social studies: therefore we feel there would be a general and broadening educational field in which there might be genuine co-operation, and the illumination of one way of looking at, say, young people growing up in society by another.

Dame Kitty Anderson: I expect you feel that there should not be fewer teachers trained, but more?

Miss Browne: Yes.

Professor Tibble: I came to this conclusion about other vocational courses through my own experience. I happen to have been associated with our social studies department for many years, as well as with the training colleges. I happened to do exactly the same courses, such as social psychology, thought and language—they are not all specifically professional—with the social studies students as I do with the graduates in the professional course, or sometimes with students in training colleges.

Mr. Elvin: How do you envisage the link between such colleges and universities? As training colleges they are connected with universities under the Institutes of Education, but if in part they became something different through related, they could not very well associate with the universities through Institutes of Education. Would they associate in relation to that part which was considered to be teacher training?

Miss Browne: It might be possible for the Institutes of Education themselves to broaden their scope in the direction of the related professions.

Chairman: What type of paper qualification would these people be working for, the people who were not training to be teachers? Would they be working for some social service diploma, or, social science certificate?

Miss Browne: Yes, but I think this depends partly on the answer to the question, of the relation which our students' qualification might bear to a degree. I imagine many of the others would be working for some kind of social service or social science diploma.

Chairman: Of course there is a tendency, which has not gone very far, to push a large number of students of what might be called social administration towards degree courses. It cannot in the nature of things go all the way, I think. Would you think this movement would tend to grow in strength?

Professor Tibble: I envisage groups of students, some of whom would be getting degrees and others would be getting diplomas, but both following the same kinds of courses.

Sir David Anderson: Do you envisage that professions other than those associated with social services might be included in these colleges?

Miss Malloch: We felt we should not go too far in deciding what would appeal to others more directly concerned. I felt that the higher levels of secretarial workers in the future will need to be as well educated as teachers. Equally I dare to say that there are many in local government service who will not have degrees as at present conceived, but who ought to have full-time education, and might well link up with these colleges in professional studies. But, again, we have hesitated to pronounce for them.

Sir David Anderson: That was the kind of group I had in mind.

Miss Malloch: There are of course so many within that field whose only opportunity is part-time evening study, which must inevitably be long drawn out and, I imagine, not greatly satisfying for the future.

Chairman: May we now pass to section B? I see that you attach great

importance to the opportunity to gain degrees, and you put forward various arguments that there are now a substantial proportion of people working in the training colleges who by natural capacity are eligible for that kind of examination. But you are not sure that the existing degrees are very suitable? Would you agree that this is the main burden of your message under heading B?

Miss Malloch: We would wish to make two points. We think that the existing degrees would meet the needs of some of our most intellectually gifted students. We are worried that the very best of our students, who but for a chance might be in a university, now have three years of the best study at the best level that we can give them, but yet have to begin again if they wish to take a university degree. This is something which is going to be an increasing problem by 1963, because the students will then have been with us for three years; some of them after two years would in our view have merited some remission of a university degree. That is our first point.

Miss Browne: These young people feel very strongly about this: they know that many of their number when they leave the college and go on to teaching do, through the surmounting of very grave obstacles, in fact get degrees, and very good ones. We feel this is a problem which should be met.

Chairman: Do you think the present atmosphere of university senates is inclined to be hostile to these aspirations?

Miss Browne: I would not exactly say it was hostile. I think that regulations which have grown up over the years seem rather difficult to surmount. I do not think universities are unsympathetic to the persons involved.

Chairman: There have been attempts to surmount these obstacles, and so far they have not been very successful?

Miss Browne: We have made a recent approach to the Vice-Chancellors, which has not yet been answered completely.

Miss Malloch: The Vice-Chancellors were kind enough to reply that each would consider the matter within his university.

Mr. Elvin: The remission referred to is presumably allowance of a year or two years in the time spent on a normal university degree, in virtue of three years in a training college. Am I right in understanding that your paper goes much further than that?

Miss Malloch: I would agree, but we did not wish this aspect to be ignored.

Sir Philip Morris: May I ask you to describe the two patterns you have in mind in terms of the kind of course and length of time involved? Am I right in saying that in the one pattern a minority of training college students would take conventional degrees, and the other pattern would be some special degree arrangements?

Miss Browne: May I make one preliminary comment? You mentioned 'conventional' degrees. I would only like to suggest that, since many new universities are about to be founded, the character of their degrees may be rather different and possibly more suitable for our students.

Miss Malloch: The other part of this is that we wish to make a very strong recommendation that there should be, in the context of greater provision of general degrees, consideration of a degree which might consist of two of the more usually accepted academic subjects, but which might well also have either education or, if they were professional colleges, the social sciences or some branch of social science, as one element.

Chairman: Supposing one of the new universities were to decide upon a degree of this kind, what repercussions would you anticipate so far as the training colleges are concerned? Let us suppose for instance that one of the new universities had a combined degree in two subjects.

Miss Malloch: So many of our students would like to take it that the university in question would not be able to accommodate them in their first instance.

Chairman: You mean that they would desert your colleges and flock to that university?

Miss Malloch: It is very difficult to think in terms of the vastly increased numbers of people who will be coming forward into higher education. I do not think that one university offering such a degree would anywhere near meet the need. It would seem highly desirable that colleges, where appropriately situated and with staff, accommodation and facilities of sufficient standard, should be more closely associated with universities and thus also able to offer this opportunity.

Dame Kitty Anderson: You therefore see the students taking this degree in your colleges?

Miss Malloch: In some cases, yes.

Sir Philip Morris: Imagine yourself the principal of the college, full of people, all of whom are going to be issued in due course with either what you describe in your paper as existing degrees on the one hand, or alternatively, degrees of a new type. Would you describe the life history of each kind of student? How long would he or she be in your college? Does he go on somewhere afterwards?

Professor Tibble: I think in the first case we envisage students, having spent three years in the college, going on to spend another year or two years in the university to complete a degree in the normal university subjects.

Sir Philip Morris: That is your first category?

Professor Tibble: That would be our first category. For the others we were envisaging more of a general degree pattern which would include Education, because we believe that Education now is becoming a liberal study in its own right, quite apart from its professional value; for those students we would suggest that, having taken their three-year course in these three subjects, some of them would reach a sufficient standard to merit a degree.

Mr. Elvin: Taken entirely on work at the training college for three years?

Professor Tibble: Yes.

Mr. Elvin: Would that be an internal or an external degree?

Miss Browne: We thought it could be not entirely an external degree, because we had suggested granting it through the Institutes, on which there would be representation of all faculties of the university.

Mr. Elvin: Some witnesses have expressed unease about the effect of university departments or faculties composing for training colleges their own notion of what a degree in history or mathematics should be. I think the Committee would like to hear your views on that. My second point is that at the moment, at any rate in London and I think elsewhere, a university Certificate in Education is given through the Institute of Education. In other words for these purposes an Institute of Education at the moment is recognised as a kind of school, and that goes also for the main subjects taken, the academic subjects, not only education. Do you think it would be reasonable to hope that universities might be willing to take that idea much further?

Professor Tibble: That was our hope, and to some extent I think that answers the other question. I think we have to recognise that if we want a qualification of national repute, we might have to accept, I will not say more uniformity, but perhaps more planning, within one university, we hope in collaboration with us, of syllabuses and the content of studies. On the other hand we would like this to be done by university people who have had experience through the Institutes of the kind of work we are trying to do. To take mathematics: one might argue that there could be a degree of very high standard in mathematics which was rather different from the present honours schools of mathematics. We feel that people in the Institutes who had had some experience of working with our lecturers in mathematics—they might themselves belong to a faculty of mathematics—would be more likely with us to produce the sort of syllabus which our students would respond to, and would in fact meet the needs of the schools.

Mr. Elvin: That implies that you have within one university two boards of

studies establishing regulations for degrees and thereby influencing syllabuses, one for the history component of the degree taken from a training college, which is not perhaps a college of the university but is associated through the Institute, and also the normal university board of studies. Do you think universities would accept that?

Professor Drever: Suppose we go back to the point where it was suggested that there should be professional training leading to a degree for a larger group of social study workers than the teachers. Are we not a little confined in our thinking at the moment by the need to equate degree status with an existing degree, and—inappropriately—with an existing degree in arts or science? Would it perhaps be possible to look at some of the other professional training courses which in fact lead to a degree, for example a degree in dentistry? Does a degree in dentistry have to be in some way equated to a degree in physics, or is it a degree which is built up in terms of the needs of a particular profession and draws its value from the extent to which it meets those needs? Should we break away from equating a degree in Education and social work generally with a degree in arts or science, and think of it as a genuinely new development, drawing its characteristics from the needs of the job and not from the existence of perhaps slightly irrelevant degrees in other subjects?

Miss Malloch: This is exactly how we have been thinking. I know there are certain administrative problems on the university side for which we cannot legislate. If I could go back to what Mr. Elvin said, I suppose that Institutes of Education have different constitutions: but in the ones known best to me there is a very strong and growing interest in the Institutes by the academic departments of the university, and at least one member of every academic department must serve on the Institute. This may not therefore be as difficult as it sounds; there is an overlap already.

Mr. Elvin: In London certainly we have a number of people from the different teaching faculties of the university to help us with Institute work and we

should have no difficulty in getting them to look at the needs of, say, history and mathematics in terms of preparing a teacher. The difficulty is with those who do not participate and who may conceivably have greater weight, by number alone.

Miss Malloch: We had foreseen this, but we hoped that the overlap would grow. After all, the oldest of the Institutes is only fourteen years old. What has been achieved in organic growth of contact during that time is nothing short of miraculous in many cases. This is nothing artificial. If it were hurried it would be in danger of being artificial. We in the colleges have been much encouraged by the increasing interest of members of university academic departments. I know that in terms of numbers this is not perhaps yet a very sizeable proportion.

Chairman: You are not afraid of this in relation to these developments which you propose?

Miss Malloch: We hoped that the problem of meeting the needs of so many more young people would give rise to a certain flexibility on both sides.

Chairman: Let us suppose that there were new degrees of this kind, including Education as one subject; the syllabuses for the other subjects would clearly fall to be formulated by the university boards of studies concerned, would they not, and while you might expect the relevant university boards to include a certain proportion of representatives from the training colleges concerned, would it be conceivable that they would ever be in a majority? Even if you had an adequate voice you would not be afraid of being outvoted?

Miss Malloch: We realised that there might be a certain kind of restriction, which would be somewhat more binding than at present in certain of our more academic subjects, but a great deal depends on how the actual study is approached. The formulation of the syllabus is not the whole story. We believe we have great expertise in methods of enabling the young student to study and to work; there is a possibility of some flexibility in the methods of approach.

Mr. Elvin: At present the syllabuses for the Certificate in Education are approved on behalf of the university by the Institutes; they do not have to go to the boards of studies which would approve syllabuses for degrees. For these purposes, therefore, the Institute of Education is treated as if it were a department, the study of history being recognised as part of a total which is labelled Education, and going beyond the mere pedagogy, I took it that the delegation want this practice to be extended to the approval of degree courses not only in Education in the sense of pedagogics but in the sense of the study of other academic subjects. My question was: is this not a big step?

Chairman: In some universities at any rate a considerable resistance would presumably be put up by boards of studies.

Professor Drever: But a responsibility for a degree in history is quite different from a responsibility which is an advisory responsibility for a degree in history.

Chairman: Yes. I was seeking to discover whether the delegation has any fears on this score?

Professor Tibble: We are clear that we should not want to see the proper work of the training colleges, as it has developed in recent years, perverted, if I might use the word, by the needs of the minority of people who might be achieving degrees. That is where the danger lies. If there were double machinery such as has been mentioned, the danger would certainly exist. If, however, the present machinery were extended so that the Institute were operating in effect as a faculty, with representatives of other faculties sitting on it, then it seems to me that the safeguard might be built in.

Dame Kitty Anderson: You are thinking here only of a small proportion of training college students?

Miss Browne: I think we are. The main point is that the arrangement should be flexible, because the numbers with appropriate qualifications will vary almost from year to year. I think the colleges have enough experience not to thrust into degree courses those who are not suitable.

Dame Kitty Anderson: Who indeed often make some of the very best teachers?

Miss Browne: Yes.

Sir Philip Morris: Your first type of student, as I understand it, does a three-year course in a training college and then completes an existing university degree. Now you say that on the basis of the three years at the training college you would like a degree to be earned in accordance with terms and conditions which, on behalf of the university, the Institute of Education determines. Would not this second type of course actually be the source from which the first type of student came? Anyone who is going on to a university degree after the three-year course would presumably be of that calibre and kind?

Miss Malloch: Yes.

Sir Philip Morris: Would not the relationship then be not quite as described in your paper as alternatives, but actually an end-on relationship, would it not?

Miss Malloch: Yes, I think this is so: I had not looked at it in these terms.

Miss Browne: We were thinking of the two types as in different colleges. We were thinking not so much of an overall pattern as that in some colleges the first pattern might be the easiest and more suitable to operate, and students for whom that specialist type of degree seemed the obvious thing might gravitate to those colleges.

Mr. Elvin: Would it not be simpler if one thought first of the degree taken in the training colleges as Bachelor of Education, leaving it open to the person who wanted to specialise to take Bachelor of Arts?

Miss Browne: Yes, I think it would.

Chairman: May we now go on to item D, the professional education of graduate teachers? It seems you are anxious that a year of professional education for graduates should become compulsory. How soon do you think the time would be ripe for this?

Professor Tibble: It cannot be too soon from our point of view.



Miss Malloch: There are two parts to this. One, that the announcement must precede by a good many years the actual compulsion. We believe that the announcement is practically overdue, although we know how difficult it is to pronounce years ahead. There is great danger that the good practice which prevailed before the war, that a high percentage of graduates were trained—in fact that was the accepted thing—is being altered and reversed. We are nearing the position when the accepted thing is not to have this year of professional studies. This is so dangerous that the announcement ought, in our opinion, to be made soon. I have been on another committee which recommended at one stage that the compulsory training should come in 1968. We no longer believe that this is possible. I think the figures which are now coming forward might make it possible by about 1970, but we are in process on another committee of looking at these. I think it ought not to be later than 1970, and that we ought to bear the burden of it. It will not be as big a burden, however difficult it is in the schools, as the imaginative inauguration of the three-year course.

Chairman: If this is right, why should it not come into force straight away?

Miss Browne: No doubt the training colleges would have to take a big part in this, and they have a large immediate programme to carry out. If a much wider expansion programme were envisaged, there is no intrinsic reason why this should not come about now.

Chairman: You do not fear that there might be some slight diminution of the supply of volunteers to the profession?

Miss Malloch: It is now proved that those who come in untrained have a more transitory life. I do not think there would be any appreciable diminution.

Sir David Anderson: What do you mean by transitory life?

Miss Malloch: Those who come into the profession tend to be there in terms of months rather than years. The figures show this.

Sir David Anderson: And they leave to enter other professions?

Miss Malloch: Yes. I cannot go further than that, because I do not carry the figures with me.

Mr. Shearman: Does this apply to all tiers of the profession?

Miss Malloch: I was speaking mainly of the maintained schools.

Mr. Shearman: Are those who come in as sixth form teachers, particularly in mathematics and science, also transitory?

Miss Malloch: I am not sure about mathematics and science; I do not know what proportion they constitute at the moment. Last year there was an increase in the number of mathematics and science graduates who trained, but I am not sure what proportion mathematics and science graduates are of untrained graduates.

Mr. Shearman: I was surprised to hear you say that throughout the school system very few people who come in untrained stay as teachers.

Miss Malloch: Very few in proportion to their total number, yes. I think that it may be that mathematics and science graduates stay, but that would be a guess.

Chairman: Suppose we disregard those who take a job school-mastering while they are preparing to do something quite different. Would you say that of the rest, those who intended to enter the profession, those who come in without professional training are necessarily transitory?

Miss Malloch: I would say that a bigger proportion of them is. We know, for example, of people who do not know how to do the right kind of job in a secondary modern school. I am sure we lose people because they have not had a course of professional studies and the necessary expert help.

Dame Kitty Anderson: There might be difficulty in attracting into teaching people who had served in other walks of life because they would not want to train. This is true of scientists is it not?

Miss Malloch: Yes.

Dame Kitty Anderson: It is also true, is it not, that in considering the compulsory training of graduates you are considering various means of training?

Miss Browne: Yes. This is a very difficult period. I do not think we can be too categorical about the exact nature of the training, but we hope sometimes to get out of the crisis of supply of teachers.

Mr. Elvin: The memorandum does not say very much about the future pattern of relationships between the university departments of education and the Institutes and the colleges. At the moment we have got a very diverse pattern. Sometimes the Institute is the federation of training colleges, under a different head and separate from the department of education; sometimes there is one person who is head of both, but otherwise they are separate, and sometimes, as in London, the word 'Institute' implies a federation of both. I do not know what the delegation feels about the desirable future pattern? Coupled with that, may I ask if they have any sympathy with the idea of the McNair Report that the colleges ought to grow into one and be labelled the school of education of the university?

Professor Tibble: We have recently debated this in my university. Being a small Institute, we set up under a joint head, and have run in this way for years; and had a policy decision which said that we expected after a few years to divide, as other Institutes have done; that was the decision of my colleagues at that point, several years back now. This question has just been re-opened, very much in the terms of your question, and I am glad to say that the decision was that they would reverse their former policy, and, instead of dividing, set up a machinery which effects a much closer integration. In fact it means the abolition of the names Institute and department as such, and the setting up of a school of education with a common pool of staff. It is something, on a much smaller scale of course, nearer to the London pattern, but also very much in line with the McNair suggestion. It represents a change in the way my colleagues in the university have been thinking about educa-

tion in recent years and I hope that this thinking has also been going on elsewhere.

Mr. Elvin: Do you feel that might represent a trend of opinion in general?

Professor Tibble: Yes, I do. From discussions with colleagues in universities, I know that some of them are thinking along these lines, and some have been very interested in this particular scheme for having a school of education which included both, and not having a distinction.

Miss Browne: Of course we would envisage an extension of the training of graduates in colleges of education, and this would further help to diversify the type of person who goes there.

Mr. Elvin: That is much simpler to arrange if you have one organisation rather than two?

Miss Browne: Yes.

Chairman: May we now pass to section E, to higher qualifications granted by universities for serving teachers? Here your main point is that you would hope that some new type of Master's degree would be devised. Has it been your experience that, when suggestions of this sort have been made to individual universities, they have shown reluctance?

Miss Browne: No. We felt, when we were considering the whole pattern of teachers' education in future, that there has been quite a big development in the granting of higher degrees, some of which have been quite suitable for teachers. But we do not feel the needs of the teaching profession as a whole have been fully considered in this respect, and we think that teachers seeking a course of further study leading to a degree have sometimes been pushed along the lines of narrow research, when they wanted to keep their own subject up to date and extend it further.

Chairman: There is a strong movement in universities to have Masters' degrees which result from further training rather than from prolonged dissertations and original research. I wonder if that is a very contentious section of the memorandum?

Mr. Elvin: There are two points here, are there not? We have heard a lot of argument in favour of changing the content of higher degree courses. The other point concerns entrance to that sort of course. Normally you have to have the B.A. first, and the argument in the memorandum is that admittance should be recognised for a person who has taken a diploma or advanced certificate in Education.

Miss Browne: Yes. Thank you for reminding us of that. We feel strongly that for the people we know in our colleges, and on our staffs, one of the most disastrous things in the past history of training colleges is that, however good they were, this has been a wall that they could not get over; this is something apparently peculiar to English education. Other countries may seem to fling degrees about, but we seem to try to prevent a lot of able people from getting them.

Professor Tibble: May I draw on my own experience here? Leicester became a university only a few years ago, and we brought into being the M.Ed., a Master's degree in Education. This is a degree which is open to non-graduates or graduates, the non-graduates being people who have taken one of the further courses in Education and have proved that they have studied Education up to a level acceptable to us. This has been an interesting experience; we have been flooded in recent years with applicants who were entirely acceptable but whom we cannot take only because there are limits to our staff and accommodation. I think all my colleagues in this field would agree that, by and large, one cannot distinguish between the graduate and the non-graduate in this field of education. Some of the non-graduates are among our best people in terms of the standard they reach in their work for the M.Ed. degree.

Chairman: And you found the regulations of other universities were much more restricted?

Professor Tibble: Much more restricted. They may allow for this being done in exceptional cases, but we allow it to be done not on those grounds but on the ground of the applicant's qualifications and experience.

Chairman: It is not allowed in London, is it?

Mr. Elvin: No. There may be the very exceptional case, but in practice unless one has a B.A. one cannot take an M.A. in Education.

Chairman: What about Birmingham?

Miss Browne: You cannot at Birmingham.

Professor Tibble: There is a serious bottleneck here which has prevented good and highly qualified people from going on to do further work and getting a reward for it. This is very acute at the moment. And, of course, the need in the profession for these people with higher qualifications is enormous.

Dame Kitty Anderson: Is the Leicester M.Ed. by thesis?

Professor Tibble: Yes. The student chooses a field of study and writes a thesis. This is not course work; it is working with a tutor. Many of these people might be equally satisfied with a course type of degree taken by examination, and we have had this under consideration. When I last raised it, my colleagues were on the whole of the opinion that we had better wait to see the report of the Committee on Higher Education before we opened up yet another route to a higher degree.

Chairman: May we pass to section F, the government of training colleges, where there is a state of affairs at present which you think leaves very much to be desired?

Professor Tibble: Yes indeed.

Chairman: Your suggestion is for the institution of a grants committee for training colleges, possibly a sub-committee of the University Grants Committee.

Mr. Elvin: May I ask if that means there would no longer be any financial responsibility on the part of either the Ministry of Education or the proprietors, that is to say, the local education authorities and voluntary bodies? In other words, would the colleges become self-governing institutions entirely, subject to consultation with the university through an Institute on academic matters?

Professor Tibble: Yes. In an earlier stage of this scheme we had a three-tier system in which the Institutes extended their sphere of influence into the financial field, as the regional boards for this purpose, so that there would be a national committee, a regional committee and then the governing body. But after much discussion we cut out this middle stage and thought it would be more feasible to have a stronger governing body, making the college more autonomous financially, and dealing direct with the national body, which would of course represent all the interests concerned.

Mr. Elvin: Would your Grants Committee for the teacher training colleges have to deal with 120 separate bodies, and even more?

Professor Tibble: Yes.

Mr. Elvin: Would that be practicable?

Professor Tibble: It is not so very different now, is it?

Chairman: I must confess that I do see difficulties in the prospect of the members of a committee of this kind, constituted on similar lines to the University Grants Committee, visiting over a hundred different institutions in the course of a comparatively short period. Might this not involve physical and psychological strains and stresses which would exhaust the members?

Miss Malloch: Yes.

Chairman: Personally I would feel unable to make up my mind about this without more evidence. If you could document your case for this a little further it would be very helpful to us.

Professor Tibble: We would be very glad to do so; we have had a sub-committee sitting on this for a long time, and I think we have available the further detail you ask for.

Chairman: Thank you.

Sir Philip Morris: Could you tell us what you mean by a governing body? Would you plan to retain the present character of the governing bodies?

Miss Malloch: We wished, in our evidence, to acknowledge what has

been done by what we call the providing body, whether this is voluntary or local authority, and we envisaged that they would have good representation on the governing bodies. This would seem to us almost axiomatic. But we wish to widen the representation on the governing bodies to include those who have experience of education, people who on certain local education committees would be co-opted members.

Mr. Shearman: You say some unkind things about the present system, which may very well be justified. But my immediate concern is your remark that the constitution and powers of governing bodies vary greatly as the system varies. Do you feel that there is no virtue in variety? And, alternatively, do you think it is possible to get rid of it altogether? You have, for instance, the place of the voluntary colleges in the system: there is bound to be variety there. Would you not think there is some strength in this variety? I am reminded that universities have no single constitutional pattern or structure.

Miss Browne: Certainly variety has some virtue, but 'variety' is used here perhaps to conceal other feelings which we have. We feel there are great weaknesses in some of the existing governing arrangements.

Mr. Shearman: In my experience, for instance, the university Institute and the university itself has brought the full weight of its interest to bear in order to get the constitution and principles of government brought into line with what teachers generally would wish, and they have been fairly successful in that respect. Might it not be that this is the right way forward in dealing with such difficulties, rather than to set up a national body?

Professor Tibble: We are not against variety, indeed it would certainly remain in the different natures of the colleges and their governing bodies. But we do want uniformity in certain matters. What is the nature of a governing body, for example? In my own Institute the colleges do not have a governing body; there is only the training colleges sub-committee of the



Education Committee and it deals with all their business in the office. This seems to us wrong.

Mr. Elvin: Is that not within the power of the university to change? In the case I know, no college is admitted to membership of the university Institute unless the senate approves the general principles of its governing body, and that has been used to press that principals of colleges shall be members of their governing bodies, and in the London area every one is so.

Miss Browne: That is most unusual.

Mr. Elvin: It is within the power of the university if it wishes to do it.

Professor Tibble: The power of the university—that is a question, is it not? I have fought for this in Leicester for about ten years, and succeeded to the extent of getting the local authority to agree to have one or two members of the university co-opted to their committee. I cannot get any further on this, and it is very difficult to see how you could without some clear direction from a national level.

Mr. Elvin: You propose virtually to get rid of the local education authority or voluntary denominational owners. Who would appoint to the governing bodies under this scheme?

Professor Tibble: Each governing body would have a constitution, and you would have to proceed from the present situation by local agreement as to the different bodies who would be represented on the governing body; they would obviously be the university, the local authorities, in particular the local authority which had been running the college, and co-opted members from among teachers and people interested in education generally. There would have to be a constitution to get it started.

Mr. Elvin: But who would draw up the constitution?

Miss Browne: I think the college or the Institute would do that. In many cases where there is a widely representative governing body already in existence this is in fact practically

what they would take over. The point is that there does not seem to be any possibility now of bringing into line—and by 'line' I do not mean that they should all be exactly the same—those which seem in a very inferior position. I think it should be recognised that the constitution of governing bodies is in some instances peculiar, even from the point of view of the local authorities. A small local authority, to take one example I have in mind, may have set up a college for reasons of expediency in the past, and may retain control over it so that even the larger neighbouring local authorities have no direct voice in its affairs.

Mr. Shearman: As chairman of a local education authority I have had the experience in the last twelve to eighteen months of being asked by two training colleges to take them over, and have been overwhelmed at the praise we have had.

Miss Malloch: We would like you to know that the two of us who come from training colleges serve under most liberally-minded local education authorities. But the parochial outlook that cannot get away from the dominance of the elected majority certainly exists elsewhere; and it does happen that the elected majority is swayed every time by considerations other than educational.

Professor Tibble: We were very impressed with the good ones, and the puzzle left in our minds when we went round seeing people was: how is it that one authority does not seem to know what the other authorities are doing?

Chairman: I would like to assure the delegation that the Committee have no *a priori* views on this matter, and do not find implausible the submission that conditions vary greatly. It is a matter on which I think we should have further written evidence. If you could submit a more detailed statement on the nature of the grievance we could give it consideration.

Miss Brown: We shall be glad to do so.

Mr. Elvin: Might I ask if the delegation would add something on a point

which they do not bring out fully? Training colleges have to satisfy three different authorities: the local authority or voluntary body; the Ministry; and the university. Do they find this convenient?

Miss Browne: I think that this is also a point on which we shall welcome an opportunity to elaborate in further evidence.

Chairman: It would be very helpful if you could furnish us with a more extensive statement.

I think the Committee would like me to express their indebtedness to you for the trouble you have taken and for the interesting discussion we have had. We shall be happy to consider the further submissions which we have been discussing.

FURTHER MEMORANDUM

submitted by

THE ASSOCIATION OF TEACHERS IN COLLEGES AND DEPARTMENTS OF EDUCATION

21st February, 1962

THE GOVERNMENT OF TRAINING COLLEGES

INTRODUCTION: THE NEED FOR CHANGE

1. Training Colleges are national in character, not local. Their students come from all parts of the country, and at the end of the course take posts in schools all over the country. For this and other reasons the present system of administration by Local Education Authorities is inappropriate.

2. The national character of training colleges is to some extent recognised already in that they are financed by a national 'pool' to which all L.E.As. contribute, and in that the voluntary colleges receive their funds for current expenditure directly from the Ministry. The argument that the providing authorities act effectively as representatives of other authorities is fallacious. We maintain that, apart from other advantages, the interests of L.E.As. in the recruitment and training of teachers, which are and should be strong, would be better served in a system of administration reorganised on the lines we propose.

3. There is another fundamental reason for modifying the administration of training colleges, namely the rapid expansion in the numbers and sizes of the colleges. When the McNair Committee* reported in 1944 there were about 10,000 students in 100 colleges. At present there are over 140 colleges in process of expansion to about 54,000 students—more than a five fold increase—and this is unlikely to be the end. We accept the view that so large a number should not be administered directly by a central Ministry, and that an intermediate tier with clearly prescribed administrative responsibilities is required between the Ministry of Education and the colleges. Some indication of the changes which are desirable is given by an analysis of present difficulties in the government of colleges.

THE PRESENT SITUATION IN LOCAL EDUCATION AUTHORITIES' COLLEGES

4. These colleges suffer from the way the hierarchy of local government functions. Their Governing Bodies are largely composed of members of the Council or Education Committee, and may be affected by the hazards of local elections. Moreover, these governors often have little or no experience of higher education. Their recommendations may be delayed or reversed by committees of the L.E.A., whose members have no association with the college and may be ignorant of its needs. Independent Governors, appointed because of their special knowledge and experience, are in a weak position because they cannot represent their views on L.E.A. committees. At times, in small Authorities especially, decisions may be affected by local pressures which should not bear upon a training college. Under these conditions there is little scope or attraction for able and experienced people to serve on Governing Bodies.

5. Many Local Education Authorities have taken a broad and generous view of the needs of their colleges; but even they are sometimes hindered by standing orders and regulations designed in the main for schools. There is considerable variation between Authorities, some colleges being treated much more favourably than others. In general it is over financial matters and non-academic staff that difficulties most often arise.

* *Teachers and Youth Leaders*: Report of the Committee appointed by the President of the Board of Education to consider the supply, recruitment and training of Teachers and Youth Leaders. H.M.S.O. 1944.

THE PRESENT SITUATION IN VOLUNTARY COLLEGES

6. These colleges have considerable autonomy and responsibility in administration. Negotiations over capital expenditure are carried on between the Ministry and the Voluntary bodies, which know their colleges well. There is, however, a basic weakness over current expenditure. Colleges negotiate through their Principals with the Ministry, which considers and approves the estimates. But the Ministry cannot know the detailed circumstances of every college, and the pruning of estimates is liable to be severe and arbitrary.

A THREE-TIER SYSTEM OF ADMINISTRATION

7. The proposal to have a three-tier system of administration, with Area Bodies between the colleges and the Ministry, would overcome some of the weaknesses referred to above. For instance the Governing Bodies of colleges established by the L.E.As. would report to the Ministry through the Area Body. The latter would translate the national policy for the training of teachers into an appropriate policy for each college. The Area Body would also be responsible for checking the annual estimates of expenditure made by its colleges, in the light of a detailed knowledge of their circumstances, and submitting a co-ordinated statement to the Ministry. Its purpose would thus be not to provide finance or exercise detailed control, but to act at an intermediate policy level in relation to planning and finance. The responsibilities of each tier would have to be clearly prescribed, to avoid delays and frustration. At the same time, we realise that the system would have not only to be appropriate for institutions concerned in the main with the training of teachers, but also to be capable of forming part of a coherent national pattern for higher education as a whole.

THE PROPOSAL FOR AREA BODIES

8. The crucial question in considering a three-tier system is what should be the nature of the middle tier. We suggest that it should have the functions mentioned in the paragraph above; and that there should be about 10 to 15 Area Bodies, so that each of them would on average have between 10 and 15 colleges—the precise arrangements would naturally be the subject of negotiations. In our view there would be grave weaknesses in setting up either ad hoc or joint committees or bodies comprising persons nominated by the Ministry. The only existing organisations capable of being adapted for the purpose are the University Institutes of Education.

9. The importance of universities undertaking considerable responsibilities in relation to training colleges was strongly emphasised by the members of the McNair Committee who supported the proposal for University Schools of Education. 'It demands of the universities a richer conception of their responsibility towards education: it will also involve additional staff, both teaching and administrative. On the other hand we are not proposing that the universities should burden themselves with detailed administration, but rather that they should accept responsibility for the general supervision of the training of teachers and that in that task they should have the active partnership of those already engaged in the work and of others who ought to be engaged in it' (para. 171). In concluding their proposals they said: 'we believe that in years to come it will be considered disastrous if the national system for the training of teachers is found to be divorced from the work of the universities or even to be running parallel to it' (para. 179). And this viewpoint was accepted by universities when they set up the Institutes of Education, in preference to the alternative scheme for Joint Boards in which the universities would have played a smaller part.

10. The Institutes of Education would have several advantages in acting as the Area Bodies. They already have academic responsibilities of a similar kind, which they have developed in accordance with the McNair Report. In consequence they have an intimate knowledge of the colleges, their staffs and traditions, their aims and standards of work. Moreover, the Institutes have, through their constitution and relationship with a university, an assured status and independence;

and they bring together in a working relationship not only the university and the colleges, but also representatives of teachers' associations and of L.E.As. in the area.

11. There are, however, two important respects in which Institutes would have to be modified. First, some have too few colleges, and one perhaps too many, to serve as an Area Body. Second, their constitutions would have to be adapted to provide for this additional responsibility. These two aspects will be considered in turn.

12. At present the Institutes vary widely in the number of associated colleges. An examination of the number of colleges in the existing Institutes shows that the larger Institutes have an appropriate number of colleges to serve effectively as Area Bodies, and that the smaller Institutes might be associated with a neighbouring Institute for this purpose; in the latter case the small Institute would continue their academic relationship with colleges, the provision of in service training facilities for teachers, and their other existing responsibilities.

13. It may be appropriate to indicate now how the constitution of an Institute might be adapted to serve this additional function. Our intention is only to show the extent of change which might be necessary, not to make definite proposals. At present the constitution of an Institute is designed to bring the university into a formal relationship with the training institutions, L.E.As. and associations of teachers in its area, and to carry the responsibilities for the form of students' courses and the standards of qualification. The main committee, bringing these interests together and carrying these responsibilities, is usually called the Delegacy (or Council or Board). It functions through an Academic (or Professional) Committee, with appropriate sub-committees; and it reports to the senate of the university, which carries the ultimate responsibility in such academic matters as the standards of qualifications. We believe it would be possible to establish under the Delegacy what might be called an Estimates Committee, parallel to the Academic (or Professional) Committee, with the colleges and the L.E.As. strongly represented on it. This Committee would have as secretary a member of the staff of the Institute with financial experience. It would report to the Delegacy, which would forward its co-ordinated recommendations on the estimates of the colleges to the Ministry of Education (the channel being parallel to, though quite distinct from, that between the university and the U.G.C.). The critical and informed consideration of college estimates would gain much from the knowledge which Institutes already have of the academic aims and standards of each college; and there would be a constant interchange of information between Academic and Estimates Committees.

14. The proposals for a three-tier system have far-reaching implications for those already concerned with the development of training colleges—Universities, L.E.As., Voluntary Bodies, etc. For the universities it would represent some increase in the work undertaken by their Institutes—although it should be emphasised that they would not be concerned with the detailed administration of college finances or payments or accounting. L.E.As. and Voluntary Bodies would continue to be represented on the Governing Bodies of colleges provided by them; and they would continue to be partners in Institutes of Education, with strong representation on the new Estimates Committee. For the colleges it would mean a significant change, as the Governing Bodies of both L.E.A. colleges and Voluntary colleges would report on annual estimates and related matters to the Area Institute—without, of course, weakening the relationship of the Voluntary colleges to their parent body. Provided the responsibilities of the several parts of the system were clearly prescribed, this should avoid much of the frustration which Principals are liable to suffer under the existing arrangements.

15. We believe that in due course the Institute principle could be further developed. Through its auspices discussions could take place on the awarding of degrees to students in colleges, the importance of which we emphasised in paragraphs 9 and 10 of our original Memorandum submitted in July, 1961. For those colleges undertaking the education of students for posts in social work of various kinds, there might be an appropriate committee parallel to the Academic Committee.

THE GOVERNING BODIES OF COLLEGES.

16. Our proposals would make the Governing Body of a college responsible for the preparation of estimates, the control of expenditure within approved estimates, the appointment of principal and staff, and the proper functioning of the college within the framework of policy decided at national and area levels. These responsibilities would require a strong governing body with membership reflecting the many interests which are concerned with its work. It is proposed that membership would include the following: (a) representatives of the 'providing body' (L.E.A. or Voluntary Body responsible for founding the College), and of L.E.As. in the area; (b) representatives of the Institute of Education of which the college is a constituent member; (c) representatives of the college, one of whom would be the principal; (d) persons nominated by the University; (e) co-opted members with the knowledge and experience to make a positive contribution to the work of the college.

RESPONSIBILITY AT THE NATIONAL LEVEL

17. We are convinced of the need for more effective planning and consultation at the national level. The college horizon has been darkened in recent years by a succession of crises appearing suddenly and necessitating emergency measures and crash programmes imposed from without. Decisions having a profound effect on colleges have been taken in a way liable to undermine confidence and morale. We consider there is a serious weakness at the national level in long-term planning and the formulation of policy, and in consultation with institutions and organisations concerned with the training and supply of teachers.

18. The question arises as to how these three inter-related requirements—planning, the formulation of policy, and consultation—can best be met at the national level. The responsibility for formulating policy and giving effect to it must rest with the Ministry of Education (or Ministry of Higher Education, if such is decided on), because it must be under the control of the Government and answerable to Parliament. And it must be accepted that most of the cost will have to be met by the Treasury. But a consistent policy and programme—violent fluctuations are both expensive and harmful to the work of colleges—requires skilled staff to do the short and long-term planning and the continual assessment of progress. Moreover, consultation with training institutions, L.E.As, etc., should contribute to planning and the formulation of policy. To give one example, decisions to open new colleges, and their location, should be the outcome of full consultation and should be a part of national policy. The McNair Committee, in considering these questions, recommended the appointment of a small, high-level Central Training Council with a full-time salaried chairman and two to four other members paid for their services, charged with responsibility for consultations and establishing the Area Training Organisation. The Council was to be 'independent enough to advise the Board with authority'; and 'it ought to have an independent existence just as the University Grants Committee, though within the framework of the Treasury, has an independent existence.' This emphasizes the need for the Council to be authoritative and independent and, though only advisory, to watch developments and report on them annually. The present National Advisory Council on the Training and Supply of Teachers has become a much larger body, with some 40 members, among whom representatives of training institutions are in a small minority; too large a body to be consulted readily and continually, or to keep an independent watch on developments.

19. We wish to make our recommendations about responsibilities at the national level in general terms:

(i) That the Ministry should review the existing arrangements for consultation, bearing in mind among other things the desirability of training institutions being consulted at an early stage about changes in policy and programmes which concern them directly; the desirability of enabling the advisory committee to keep an independent watch on the progress of developments; and the need to bring the proposed Area Institutes clearly into the theatre of consultations.

(ii) That the Ministry should provide short and long-term plans for the training of teachers of all kinds for the national system of education ; and for youth leaders, social workers of various kinds and similar occupations which might be catered for by expanding some Training Colleges to Colleges of Professional Studies.

(iii) That the Ministry should formulate and keep up-to-date a consistent policy for the training of all teachers, while allowing colleges as much freedom and scope for initiative as is compatible with national requirements.

20. We appreciate the importance of ensuring that our proposals for the government and administration of the colleges whose main concern is with the education of teachers, social workers, etc., should be capable of forming an integral part of a national system of higher education. The number of teachers required is so large that producing them is bound to be the main task of many colleges, although it is hoped that some will also take in students with other related interests, and that some will provide the professional training for men and women educated to an appropriate level in other institutions of higher education. We should like to see some colleges become more closely affiliated to universities. This reflects our view that in general there should be vertical relationships within the national framework for higher education, and that we should avoid a situation which leads to a sharp division between universities and colleges of advanced technology in an upper stratum and the remaining colleges in a lower stratum.

SUMMARY

21. We recommend:—

(i) That there should be a three-tier system for the government and administration of Colleges and Departments whose main concern is with the education of teachers, with Area Bodies as a link between the Colleges and the Ministry.

(ii) That the larger Institutes of Education should be adapted in ways we suggest to serve as the Area Bodies, with clearly defined responsibilities.

(iii) That the Governing Bodies of colleges should be strengthened to enable them to undertake more responsibility, including the preparation of annual estimates and the supervision of expenditure.

(iv) That at the national level the Ministry of Education and a reorganised National Advisory Council on the Training and Supply of Teachers should ensure

(a) the formulation of a consistent policy for the professional education of teachers ;

(b) the preparation of reliable short and long-term plans for the number of teachers needed, and

(c) more effective consultation with institutions concerned with the training of teachers.

(v) That the pattern of higher education should allow for vertical as well as horizontal relationships.

MEMORANDUM

submitted by

THE METHODIST EDUCATION COMMITTEE

21st July, 1961

The Governors of Westminster and Southlands Colleges offer this document as evidence to the Committee on Higher Education.

INTRODUCTION

Westminster College was founded in 1851. In 1959 it moved to its new site at North Hinksey, Oxford: in 1963 it will have been enlarged to take 400 students (220 men, 180 women).

Southlands College opened in Battersea in 1872, and moved to its present site in Wimbledon in 1932. By 1963 it will have been extended to take 400 women students.

Both Colleges were founded and are maintained by the Methodist Church as its chief contribution to the educational system of the country. The Methodist Church has been glad to raise its share of the cost of new buildings and of the present Training Colleges' expansion programme.

Before 1870 most of the teachers from Westminster went to the Methodist Day Schools. Since then they have increasingly gone to serve in the provided schools: former students occupy important positions in all branches of education at home and abroad.

Each College has its own independent Board of Governors of which the College Principal is an ex-officio member, and on which the Universities of Oxford (for Westminster) and London (for Southlands) are represented.

The majority of the students (75-80 per cent. in recent years) are members of the Methodist Church: the remainder are nearly all members of the other Free Churches and the Church of England.

Nearly all the students at the two Colleges have put one or the other as their 'first choice': they come because they have a strong vocation to teach and very few of them drift away into jobs outside the teaching service. (That is not to say that many of the women do not leave the service, at least for a time, on marriage.)

We submit the following points chiefly in reference to questions raised in paragraph 4 (iii) of the notes on 'Scope of the Enquiry' sent out by the Secretary.

THE PLACE OF THE TRAINING COLLEGES IN THE WHOLE PATTERN OF HIGHER EDUCATION

1. If the Training Colleges (L.E.A. and voluntary) are to develop their work to the best advantage, there must be (a) long term policies about the number of students to be received and the kind of school for which they are to train, (b) clear indications about their place in relationship to the Universities and other institutions of Higher Education.

2. Whatever may happen to the 11+ examination, we suppose that there will still have to be an 18+ examination for University Entrance, so that there will be some Training College students of University calibre who have just failed to find a place in a university for one reason or another (shortage of places at the Universities, conditions at Grammar School, late developers etc.). In order to save these students from a sense of futility and to stimulate them and the whole college, there should be opportunity for the abler students at Training Colleges to take some of their studies to University standards and to be examined at that level: these studies should then count towards work for a University degree which might be gained by two (or in certain cases in one) additional years' study after a student has finished his course at the Training College.

Note on the qualifications of present Training College students to undertake work at university level

(Of the students accepted to begin in 1960 the three-year course for Junior and Secondary Schools at Southlands 57 per cent. had gained two or more passes at 'A' level in the G.C.E. examination, at Westminster 60 per cent.)

3. It has been accepted that University graduates who wish to become teachers should have a year's professional training. For many of these men and women there can be no more profitable place in which to undergo this discipline than a Training College. There they meet students who are preparing to teach in all kinds of school, and learn to know their future colleagues. If 'Liberal Arts Colleges' and the like are to be developed, and an increasing number of teachers is to be drawn from them, as well as from Colleges of Art etc.: again we believe that the Training Colleges could give the right kind of setting for the necessary courses in the art of teaching.

4. It is said that Training Colleges tend to work in isolation and to be narrow in outlook. We do not believe that is so in the case of colleges like Westminster and Southlands, situated close to Universities. Students from Westminster and Southlands are drawn from all parts of the country, from all kinds of home background. They have many contacts with students at other Training Colleges and in the Universities. Moreover students in a residential college of 400 are not likely to fall victims to the loneliness of those who live in lodgings nor to waste time and energy on long journeys each day.

5. In conclusion, we believe that in a Training College there should be students training for Primary and Secondary schools: and that besides those taking the three-year course there should be a number of University graduates and possibly students (?graduates) from Liberal Arts Colleges and Colleges of Art etc. taking the one-year professional course. This variety is valuable for the students in College and for the future unity of the teaching profession.

OUR PARTICULAR CONCERN FOR WESTMINSTER AND SOUTHLANDS COLLEGES

6. The contribution of the Methodist Church to the training of teachers is comparatively small in that we have only these two colleges. But for that reason, 'as well as because it seems to us educationally sound, we wish to be able to train students as teachers for all types of school.

ORAL EVIDENCE

given by

Rev. G. R. Osborn, Professor A. E. Smailes, Miss M. S. Johnson and
Rev. T. Hughes

on behalf of

THE METHODIST EDUCATION COMMITTEE

Friday, 6th October, 1961

Chairman: May I open this discussion by asking if there are any general observations you would like to make on the written submission we have before us?

The Rev. Mr. Osborn: We are very glad to have the opportunity to represent the voluntary colleges in this way. The points we want to make are those set out in our memorandum, and, if you would like to ask us questions about it, that may be the best way we can help.

Chairman: May I reply by putting to you a general question? What are the points which you would hope to see dealt with in the report which this Committee will be making?

The Rev. Mr. Osborn: We hope that the existence of the voluntary colleges, and the voluntary training colleges particularly, would be recognised as valuable, embodying as they do the voluntary principle, with a specialist group of people particularly interested in them. We believe that they bring into the teaching profession many people from our Church who are anxious to serve as teachers and also to be connected with the work of the Church. The second point we would like to make is that there should be a closer link than exists at present between the work of the training colleges and the work of the universities, so that abler students have their minds and general education stretched by the advantages which come from a closer link with university work.

Chairman: I think you may take it for granted that we recognise the value of the work which goes on in colleges of this sort. Our task is partly to make recommendations for development, and your suggestion in this con-

nection is that there should be closer integration with university activities?

The Rev. Mr. Osborn: Yes.

Chairman: In what way would you hope this would take place, as far as your own colleges are concerned?

The Rev. Mr. Osborn: I think there are inevitably in the training colleges, because of what we have called the eighteen-plus examination, some people at, or probably above, the standard of a great many students in the universities. They have not gone to a university, either because they have had bad luck at the entrance examination, or because they have come from a poor school which has not enabled them to reach the required standard. Wherever you draw the line, there will be some near misses. There also are those who come to the training college because they want to be teachers and prefer the Church training college to a university because of family connections or for some other reason. I think the work these abler students do at the training college should have a chance to count towards a degree. There might also be some who actually work for a degree while at the training college.

Chairman: Do any of your students work for a degree at the University of London?

Professor Smailes: When Westminster College was in London our students used to go to King's College and the London School of Economics. In their fourth year they did their professional training with us, but they remained members of our college during the whole four years. They lived in the college, and did not regard it simply as a hostel. They preferred to play for Westminster rather than one of the other colleges; they were members of the London University Union.

After the war, when we took in two-year course students, we had two groups at the college, those who were working for the Teachers' Certificate and those who were taking degrees on a four-year course. This proved beneficial to both parties. People who were not working for degrees, seeing some of those who were, thought: 'If he can do it, I can' and, when they left college and went to posts near London, they attended evening courses at Birkbeck College. When we moved to Oxford we were not able to make with Oxford University the kind of arrangement we had had with London University.

Chairman: What specific changes would suit your requirements best now?

Professor Smailes: Our answer to that would be that people who come to Westminster should be able to work for degrees. We have raised this with the Ministry of Education. We should like some of our students to work for London external degrees.

Chairman: I do not quite understand what obstacle has been placed in their path.

Professor Smailes: The Ministry of Education would not allow us to continue our four-year course. I think the Ministry reasoned that if we continued our four-year course for a London external degree with the Ministry's approval, that would establish a precedent of general Ministry approval for four-year courses. Although we have tried since 1953 to persuade the Ministry of Education to allow us to have four-year courses and to continue what we did in London, but externally rather than internally, there has been no favourable response. We have been told to wait. If you ask for an answer now, the answer is 'No'. They say: 'If you will be patient the answer may be yes.' We are still waiting.

Mr. Elvin: You do not think it proper and right to make such a decision? I understand that you do not altogether approve of what appears to be dictation of academic policy?

Professor Smailes: No. We should like the Ministry to encourage us in our efforts to raise academic standards.

The Rev. Mr. Hughes: It is Ministry policy at the moment to narrow the sector for which our colleges are providing teachers. The latest edict is that the proportions of the intake to the training colleges shall be 85 per cent. for the education of primary school teachers and 15 per cent. for secondary school teachers. We believe that it is not healthy for the colleges to concentrate in that way upon a particular sector of the educational field. We consider that the range of work should be widened.

Chairman: Do I understand you to say that the range of work you may do is dictated to you by the Ministry of Education?

Miss Johnson: We have in recent years been subjected at very short notice to the demand to change the pattern of training according to the needs of the schools in any one year. Last year, for example, when we were about to select our applicants, we were asked on October 3rd to switch across from the normal intake to the one Mr. Hughes has indicated.

Chairman: If this had happened on October 4th, would it have, so to speak, misfired?

Miss Johnson: It was already very late; we were about to start interviewing.

Chairman: What is the sanction of the Ministry of Education in thus constraining you against your will?

The Rev. Mr. Osborn: It is more, I think, in the nature of a request which it is very difficult to refuse.

Professor Smailes: It is more than a request. All the training colleges in the country were thus divided to allow a certain proportion of people for secondary teaching. We were told we could have 43 people training for secondary school work in any one year, and some of those must train for physical education, some for science, some for mathematics, and some for divinity.

Chairman: What would have happened if you had disobeyed?

Miss Johnson: I think we should have been under the sanction of the London University Institute.

Mr. Elvin: The Ministry asserts, and I think it is on firm ground, that it has a national responsibility for the supply of teachers. Its statistical studies led everybody who looked at them to agree that, if exceptional action were not taken, there would be a shortage of teachers in primary schools within a few years. They therefore decided to ask training colleges to change the balance of training so as to produce more people who could teach in primary schools. The Institutes only came into it in so far as the federations of the training colleges and the university committees preferred to administer it themselves rather than that the Ministry should deal directly with every college. The sanction is that the Ministry pays grants to students and can decide whether or not to pay a grant. My personal view is that the Ministry's statistics were not open to serious question, and that action was necessary.

The Rev. Mr. Hughes: The statistics were discovered only many years after the pupils had been born.

Dame Kitty Anderson: I was a member of the National Advisory Council which considered the matter. It is true that we did not have the figures until late. But the Council felt that no other course was open if the staffing in primary schools was to be maintained and classes were not to rise in number. I would agree that it was regrettable that the full statistics were not considered earlier. The whole teaching force has of course also been affected by the growing number of young women who leave the profession on marriage. This kind of factor is very difficult to forecast, is it not? I think the picture is clearer now.

The Rev. Mr. Hughes: The present crisis concerns the primary schools; very shortly we shall have the crisis for the secondary schools. I think I am right in saying it is Ministry's policy or expectation that in future secondary schools will be stocked with graduates. We would ask to be allowed to produce some of those graduates along the lines my colleagues suggested.

Chairman: I confess I am still not quite clear about this. I can well under-

stand that the statistical machine has not in the past been perfect. I can equally understand that some inadvertence of procedure may have led to the unfortunate date of the request. But I am not clear what would have happened if the governing bodies of these colleges said that they would do what they could to meet the Ministry's request, but intended also to continue training students for degrees.

Mr. Elvin: If the Ministry said: 'You can have thirty people specialising in, say, English Literature', and the college said it intended to take fifty, every one of the fifty would have to get a grant from the Ministry, and the Ministry would have been in a position to withhold grant from the additional twenty students.

Chairman: This request was backed by the financial sanction that no money would have been forthcoming for any other course than that suggested by the statistics?

Mr. Elvin: This also applies to capital grants.

Chairman: The college has no independent funds with which it could have circumnavigated this difficulty?

The Rev. Mr. Osborn: No. The funds of the college are devoted to capital expenditure.

Chairman: Entirely?

The Rev. Mr. Osborn: Yes.

Chairman: All current expenditure is met by subvention?

The Rev. Mr. Osborn: Yes. There has been a succession of different short-term policies, while what the colleges need is a long-term plan.

Chairman: I appreciate that.

Mr. Shearman: I am sure you would not wish us to recommend that there should be no attempt to ensure that a national need is met, and that we should leave the colleges to decide entirely without guidance whom they shall teach. That might result in over-supply of some kinds of teacher and a shortage of others. What kind of machinery would you desire in the long term for getting these things into proper relation?

Professor Smailes: We have run courses which have been designed to fit

teachers for both the primary and the secondary school because we know that, although there may be a shortage in primary schools in the next few years, the Ministry, or the local authorities, may be asking that the people who have been teaching in primary schools should then move on to secondary modern schools. This happened just after the war. What makes me a little uneasy about the principles laid down by the Ministry is that it is not ultimately the Ministry but the local authority which decides where teachers find employment, according to the needs of the situation in a particular area. We therefore feel we should try to fit some of our students for secondary work, and some for primary, but that the rest should have courses which will enable them to teach in either type of school.

Mr. Shearman: If each college decided for itself how much of its resources it would devote to that dual function, do you think things would work out satisfactorily in the long run, or do you think some kind of plan, from the Ministry, worked out through the Institutes, is unavoidable?

Professor Smailes: The training colleges responded to the appeal of the Minister just after the war without any numbers being laid down, and I think the local authorities by and large were satisfied that the needs for more primary teachers were met by the training colleges; and the same also applied in the period when the emphasis was switched to the secondary schools.

Mr. Shearman: We are concerned with the general problem of the allocation of resources to higher education. Do I understand that you think if it is left to the training colleges it will work out all right, and that there is no need to have a general statistical survey of the needs?

The Rev. Mr. Hughes: Not at all. There should, however, be a long-term policy; the statistics are known when the children are born.

Mr. Elvin: Not all of them surely. There are factors like the age at which young women tend to get married, and the gap between marriage and family.

These things are not known with any precision.

The Rev. Mr. Hughes: No; but the incidence of the bulge is known.

Mr. Elvin: We know five years ahead how many children will enter the infant schools, but we cannot be precise on much more than that.

The Rev. Mr. Hughes: I agree; but if we plan on those statistics we will never be in a position suddenly to require 85 per cent. of a certain sort of teacher. We might have to alter the proportions as we go along but there would not be such a sudden swing.

Chairman: What is the moral here for the future? I gather the delegation feel it would be helpful to them if the Ministry gave clearer indications over a longer period, and, coming back to the point from which this started, they are asking that they should receive financial support for a certain limited number of people to take degree courses?

The Rev. Mr. Hughes: That is so. We think that the ingredients of our student population should include this element.

Chairman: Are you satisfied that the numbers that it would be prudent for you to take would be such as would involve an economical use of resources, yours and the national resources in this connection? Supposing you have, let us say, half-a-dozen degree students, would the existing staff be able to take care of them, or would you need reinforcements in various ways?

The Rev. Mr. Hughes: It could not be done over the whole range of subjects taught within the college, but it could be done in two or three subjects. Students reading for degrees are regarded as an intellectual leaven in the whole college, just as postgraduate students, coming into the college for their Education Diploma, would similarly contribute.

Chairman: Would you feel this particular policy discriminates against you?

Miss Johnson: Yes.

Chairman: That you are denied the opportunities accorded to other existing training colleges?

The Rev. Mr. Hughes: No, but I think that, if the voluntary principle has any validity, it does not apply only to training teachers for primary schools; it must equally apply to stocking the secondary schools.

Chairman: My difficulty in this is in relating it to any conclusion that we may eventually promulgate. We are specifically not addressing ourselves to the circumstances of particular educational institutions save where they may impinge on the structure of higher education as a whole. Would you feel that your causes would be forwarded if we expressed the hope that in teacher training colleges there should be appropriate facilities for some students to take degrees?

Mr. Elvin: It is done.

Chairman: If that is so, it seems to me that the sort of generalisations we are capable of making are likely to leave your particular problem unmentioned. I am putting the problem to you in order that you may realise that we are anxious not to be unhelpful, but it is not easy to see what can be done.

The Rev. Mr. Osborn: I think we would like you to say that this has been done in our colleges in the past, and that it is desirable that there should be students in the general training colleges taking a degree course.

Chairman: You think that something in those general terms would meet your case?

The Rev. Mr. Osborn: I think it would.

Professor Drever: There is one point of general interest here that puzzles me. Some witnesses from training colleges have spoken with eloquence and conviction on the need to preserve training from the dead hand of the universities, from the academic requirements universities tend to impose. Yet you are apparently saying that it is desir-

able to lay this dead hand on more than half-a-dozen of your students. Do I misunderstand you here?

The Rev. Mr. Hughes: You would not expect me to be on the side of the people you are talking about. I can only say I have not had to convert my colleagues to a different point of view; it is, from the first, theirs.

The Rev. Mr. Osborn: We have nothing to say about dead hands on this point.

Professor Smailes: It has been a very helpful hand in days gone by.

Mr. Shearman: I gather from your memorandum that at Southlands three out of five of your present students are at the minimum standard required for entry to a university degree course. I wonder whether you would recommend that at least a substantial number of students should have a broader degree course, whether the colleges might not help in this way to refresh the universities?

Miss Johnson: Yes. This is very much in line with what I have been thinking. Broadly speaking we have something like three groups in a college such as mine, and possibly Mr. Hughes' college also. There is a group of considerably more than six students, who could take a present degree course in three years. There is a second, larger group who could take it in four years: the remaining 60 per cent. of students would, I think, not achieve graduate status; in the main they are those who are preparing to teach infants and juniors, who have a real understanding of the small child and his or her needs, and who find their academic studies best interpreted in the classroom. But it seems to us wrong to deny the first two groups the chance which is given to other people with the same ability.

Chairman: That is a point on which we have had many representations and we shall certainly take it into serious consideration. Thank you very much for this interesting discussion.

MEMORANDUM

submitted by

THE NATIONAL UNION OF STUDENTS

17th July, 1961

PRESIDENT'S FOREWORD

At the present time the vast increase in the number of students qualifying to enter Institutions of Higher Education has tended both to exacerbate long-standing problems and also to give birth to many new ones, at a time when those concerned with the administration of higher education are still in the throes of grappling with the older problems. Such is the dilemma which confronts anyone seeking a solution to the problems of the higher educational system of this country.

Perhaps two basic factors most concern the National Union of Students at this time; a desire to ensure that all young people, capable of benefiting from any course of higher education, should be able to enter on that course to the mutual advantage of the community at large; secondly, that the conditions attached to the status of a student shall be such as to encourage young people to enter upon a higher educational course rather than to dissuade them. It is our firm belief that practical adherence to the above principles is in the interest of all sections of our national life and for a real investment in the future.

The National Union of Students welcomes most warmly the Committee on Higher Education under the Chairmanship of Lord Robbins. We believe that while this Committee's task is immense, it also has a golden opportunity to provide this country with a real guide and structure for higher education in the years to come.

It is in the light of these circumstances that the National Union of Students as the nationally representative student organisation in this country, was pleased to accept the invitation to offer its views to the Robbins Committee. This has been done in the form of the memorandum which is contained in the following pages.

We make no apology for presenting our evidence specifically from a student viewpoint for it is our sincere hope that in this way we may make a unique contribution.

(Signed) J. GWYN MORGAN,
President.

I. THE NATIONAL UNION OF STUDENTS

1. The National Union of Students, founded in 1922, is a federation of constituent Colleges in England, Wales and Northern Ireland which includes over 165,000 students. The Union has in its membership at the time of writing 100 Universities and University Colleges, 107 Training Colleges, all the Colleges of Advanced Technology, 18 Regional Colleges, 40 area Technical Colleges and many Colleges of physical education, domestic science, art, agriculture, commerce, drama, physiotherapy, occupational therapy, music and adult education. The Union accepts into membership those Colleges which have a self-governing student body, and the majority of whose students are pursuing courses of not less than one year's full-time study, the entrance standard of which is not less than five subjects at Ordinary level, or the equivalent. The governing body of the National Union is the Council which meets twice a year and is attended by some 400 delegates and observers from constituent Colleges. The Council elects annually, from the delegates to Council, an Executive Committee which carries out the instructions of Council and which is the supreme authority of the Union between Council Meetings. The National Union employs a full-time staff of over forty people. The President of the Union is the only full-time Executive officer.

2. The Executive Committee appoints a number of ad hoc working parties to consider problems related to Colleges of different types, and also holds Annual Conferences of Technical College and of Training College students respectively.

The Union takes an active part in national and international student affairs, and maintains good working relations with many educational bodies both in this country and abroad.

3. The National Union particularly welcomes the appointment of the Committee on Higher Education to enquire into the future development of higher education in this country.

II. THE NEED FOR INCREASED HIGHER EDUCATIONAL FACILITIES

4. Our society has perhaps been slow, by comparison with other advanced countries, to recognise the overwhelming nature of the case for the full development of talent and abilities through higher education. The National Union believes that the case for a considerable expansion of higher education in this country is indisputable. Our Councils have frequently re-affirmed* that, in the interests of the individual and of our society, all those who can benefit from a higher education should be able to obtain it. We believe that the pool of ability is far wider than that catered for at present, as we shall indicate in subsequent paragraphs.

Further, it is evident that the expansion and increasing complexity of our national economy will continue to give rise to demands for greater numbers of people who have undergone the process of higher education in one or other of its various forms. If this country is to meet its international responsibilities we must be prepared to provide more places for students from overseas. In addition, more trained personnel must be made available from this country in order to increase the scope and impact of the technical assistance which we send overseas.

5. In considering the future size of the demand for higher education, we have based our estimates on the following assumptions. Firstly, we assume that the qualifying level for entrance to higher education should not continue to rise but should stay at its present level, generally described as the 'University minimum' of two subjects at Advanced level of G.C.E., or the equivalent. Sir Keith Murray† has quoted expert opinion in a statement that the present 11 per cent. of the age-group which acquires these qualifications will rise to about 16 per cent. of the age-group; Sir Geoffrey Crowther‡ has stated that he believes the Canadian provision of higher education for 20 per cent. of the age-group is 'about right'. The 1960 U.K. number of births is 916,000, and it seems reasonable to expect figures of this order to be maintained or increased in the future. 16 per cent. of this age-group would produce a group of approximately 150,000 qualified entrants to higher education in 1978—or about 125,000 in England and Wales.

6. We assume that the numbers of overseas students wishing to come here will continue to rise, although we cannot make firm estimates of the rate of increase. However, it should be noted that their numbers have quadrupled in the past decade, and are now about 47,500. The courses they take range from one to six years in length and we can only guess that perhaps 12,000 overseas students enter new courses here each year. We assume that these figures will double in the next twenty years, so that by the late 1970s there will be 25,000 new overseas students each year, or about 100,000 altogether resident here.

7. With the evolution of their home society it is probable that there will be a change in the type of course most in demand. There may be more overseas students who wish to learn technical skills, advanced technology, architecture, mathematics, and science, or who wish to train as teachers, whilst the numbers wishing to read law, economics or politics may not increase so rapidly. We have no means of assessing what the future demand will be, and the estimate of 100,000 students may well be a very serious underestimate of future demand. If numbers rose over the next twenty years at the pace shown since 1950, there would be about 350,000 altogether studying here by 1980. We hope it will be possible for the

* See N.U.S. Policy Statement.

† Address to the Royal Statistical Society, May, 1958.

‡ London School of Economics Oration, December, 1960.

Committee to arrive at reliable forecasts. We welcome overseas students because of the large range of interests and experience which they bring to student life in this country.

8. We would expect too, that for many years to come there will be an increasing demand for higher education from older people who missed the opportunity for full-time higher education at the usual age, and who are prepared to make considerable sacrifices in order to return to full-time education.

9. Further, there has been a considerable increase in the practice of taking post-graduate degrees, and we would expect this to grow still further. In 1938-39, 6.1 per cent. of full-time University students were reading for higher degrees, in 1955-56 10.8 per cent., and in 1958-59 about 15 per cent. The increase in the proportion of extended studies probably reflects the change in the balance of University Faculties, which will have become more marked by 1970 when science and technology will account for about half all University places, on present plans. This may mean that by 1975 something like 20 per cent. of all University students will be reading for higher degrees and are likely to be in a University for at least five and more normally six or even seven years.

10. The ratio of new entrants to total University places will also be affected by the introduction of compulsory graduate training for teaching.

11. We would expect that by 1975 it will be necessary to multiply the number of new entrants by about 5.25 to arrive at the total number of University places. This figure, which is of course basic to any forecast of future needs for University places, is an extremely difficult one to calculate. In the first place it is clear that many faculties are finding it difficult to cover a sufficiently wide syllabus in three years. Many of these courses are likely to extend to four years. This will not, however, reduce the demand for postgraduate courses of training and research in the expanding departments of science and technology. The factor of 5.25 attempts to allow for these two considerations but does not provide for any extension of the practice of requiring all students to take a 'Foundation' or general year of less specialised study.

12. We have already stressed our belief that places must be made available for all those qualified by present standards to enter higher education. On the foregoing assumptions we arrive at an estimate of about 650,000 places which will be required by 1978.

13. We cannot emphasise too strongly that these estimates are based on the retention of the present standards of entry to higher education. This is most important; the sharp rise in the standard of attainment expected by the Universities since the war has already had very bad effects on the schools and this process must not be allowed to continue. This is a point which we think has not been sufficiently grasped by the public as a whole. It is widely and wrongly supposed that, because 1 in 30 now enters the Universities where before the war only 1 in 60 did so, the standard of entry has dropped. It is not generally realised that there have been tremendous social changes in this country which have resulted in a very great increase in the numbers of candidates who achieve qualifying level and who wish to proceed to a higher education.

III. A PERIOD OF TRANSITION

14. The present period in the development of higher education in this country is clearly one of transition. In the past the general need to expand opportunities for higher education has been widely accepted but the need for a clear policy has been as hotly disputed as has the decision on who should define such a policy. Thus the present structure of higher education has become extremely complex through ad hoc adaptation of traditional patterns to current and future needs.

15. What clearly distinguishes the next two decades is the unprecedented size of the expansion needed, and the clear opportunity for co-operation in the solution of the problems involved. We believe that this is a unique opportunity for courageous

experiment, not in competition but in co-operation, to provide for the great variety of needs that will be expressed. It would be a grave mistake, however, if, in attempting to cater for this greatly increased demand, much that is commonly considered fundamental to a higher education were to be lost. There are already many serious deficiencies in our higher education system which damage the quality of the education students receive. We draw attention to these first because unless corrective action is taken, any further expansion would cause still further deterioration. Any future expansion, if it is to be successful, must have a sound launching board: we must ensure that our present educational system is so improved, amended and reconstructed that it will not be found wanting in its fundamental task.

(a) **Structure of courses**

16. One of the most serious problems facing students today is the pressure of specialisation in courses of all types. A higher education has always meant special concentration on one discipline; this will certainly continue, and is not wrong in itself. It is wrong, however, that a student should go through a course of instruction in his own cocoon of specialisation without knowing or caring what other students do, and without becoming widely educated, even in the social or philosophical implications of his own specialist studies. The traditional answer to the problem is to assume that students can educate each other, and that if Halls of Residence can be provided in which students of different disciplines mix, they will succeed in doing so. We strongly support this view, but only as a partial solution. If the course of study, the entrance qualifications, and the type of teaching, to mention only some of the factors involved, militate against a broad education, the mixing of students cannot alone solve the problem.

17. A growing concern is expressed at our conferences: that it is becoming common in all courses for students to be expected to achieve the maximum specialisation of which they are capable in the shortest possible time. In many branches of study the pace of development of knowledge has become so intense that very much more learning is required in the same amount of time as was previously available for acquiring mastery of, in many cases, a considerably lesser sum of knowledge. This situation tends to be worst in the disciplines of science, medicine and technology but is apparent in others also.

18. It cannot be said too frequently that there is nothing specially illiberal in the study of science or technology; it is also true that any subject can become illiberal if it is studied so intensively and exclusively that the student develops no awareness of the wider implications of his subject nor has any common intellectual ground with other specialists. This matter is particularly relevant to Colleges of Technology and Technical Colleges where the range of disciplines is comparatively narrow, but it is also true of the Universities where divisions between Departments are increasingly rigid.

19. Many students think that the emphasis on vocational training has now become much too insistent throughout higher courses and that the opportunities for wide personal education have become much too limited. The pressure of the syllabus is such that tutorials deal closely with immediate difficulties arising from the mastery of the syllabus, with methods of conducting a particular experiment or tackling a problem of mathematics, rather than with a discussion of the wider implications of the subject under review. It is becoming increasingly rare for a student to spend any time on a subject which is not closely related to his own course.

20. It may be true that for students—whom we have estimated at some 20 per cent. of the University intake—who will go on to research degrees, speed and intensity of specialised study are desirable if they are to reach the boundaries of their subject and make a useful contribution to research before they pass the early age when the potential power for new thinking is supposed to decline. Even if this is so, we think their education will suffer from such heavy specialisation. Moreover, we would stress the need to ensure that this comparatively small group should not dictate the pace throughout the University.

21. One of the unfortunate effects of the greatly expanded demand for higher education has been an increase in the number of students who look upon a higher course as primarily a means of acquiring a qualification for a specific career rather than an opportunity for wide study and for the development of methods of mastering knowledge, not necessarily closely related to one career. In some faculties this tendency has been greatly enhanced by the need to specialise early and intensively to gain a useful qualification so that students will not attend alternative liberal courses unless these are specifically part of their examination syllabus.

22. In many branches of study the rapid development of knowledge is also tending to make the present divisions between some disciplines unrealistic; new faculties and sub-divisions of the sciences and technologies are needed if students are to achieve a worthwhile level of knowledge in their subject.

23. The growing need to subdivide still further the present syllabuses throws into sharp relief the question of developing links between special studies. The gap between students of different subjects has become wider and increasingly students find that, having studied in a specialised field for five or six years in the sixth form and University, they have no common ground with students of other subjects. The Crowther Report discussed the problem in relation to sixth form work and called for a much greater allocation of time in schools to wide background reading. It is unrealistic to hope that this will be developed whilst there is the present intensive pressure to compete for places in institutions of higher education.

24. There are widespread complaints from students of technical and technological subjects. These courses are designed to provide a vocational training for a particular job. In some cases, where firms have developed close local ties with C.A.T.s or technical colleges and provide a large proportion of the students, it would seem that syllabuses are geared more to the requirements of the firm than to the wider educational development of the student. Many of the students taking them welcome the opportunities these courses provide. However, there are constant criticisms, not of the vocational training itself, but of the lack of ancillary studies and of opportunities for personal development. It is clear that the courses of 'liberal studies' which many Colleges attempt to provide are quite inadequate to meet the students' needs, and are in their eyes a poor substitute for the wider personal development which they think the Universities provide.

25. In science and engineering there is a great insistence on massive syllabus content for its own sake, as though this syllabus content anticipates vocational needs. In the modern mass production system with its high degree of specialisation and differentiation of function, vocational education will not suffice. A broader based attitude must be engendered.

26. This massive syllabus content results in lectures being merely the transmission of data and in tutorials being used entirely for the solving of mechanical formulae.

27. We believe that there is little point in adding 'liberalising subjects' to courses which are characterised by a syllabus which is already overburdened.

28. It is not only contents of courses that are criticised by our students, however, but also the conditions in which many of them are required to carry out their studies. The recently published N.U.S. Safety Memorandum* indicates the perilous conditions of many laboratories and in many cases a complete lack of insurance coverage, and calls for early implementation of the Gowers Report.

29. Many students believe that the pressure of study in sandwich courses is unnecessarily intensive not only because of the crammed syllabus but also because the periods spent in College are too short. Periods of work study have been justified on the grounds that it is directly valuable to students to alternate integrated periods of study of theory in College with the application of theory in the works. In students' eyes these grounds have yet to be proved. Many believe that the actual

* Memorandum on Safety Provisions in Institutions of Higher Education. N.U.S., June, 1961.

reason for the alternating periods in the works is not that they illuminate College studies, but that they simplify release problems within the firm. We would advocate very strongly that sandwich courses should be developed which permit two or three years continuous study in College, with one or two years in industry during which the student keeps in contact with his tutors and continues his studies.

30. End-on sandwich courses constitute an even greater threat to the provision of a rounded education. When it is realised that there is already a time of adjustment at the beginning of each College period and an examination involvement at the end, any reduction in the time students spend in College is a considerable loss to the effective teaching period. Such courses also introduce staffing problems. They must involve either duplication of the entire staff which is financially unwise to say the least, or an excessively long teaching year for staff with a consequent reduction in time available for personal research and the study of industrial techniques. The effect on a College community is drastic. Reduction in the College period means an increase in the intensity of study, and further removes opportunities for extra-curricular activity. We believe end-on sandwich courses are being introduced not on educational grounds but as an industrial expedient.

31. There are many ways in which the academic community can help alleviate the problems of over-specialisation and some of these are dealt with in subsequent sections. We give here alternative methods of dealing with the problem. The best method would seem to be the extension of the length of the academic course. The increasing amount of information that has to be absorbed with new matter and new techniques, would seem to demand this. More time is also required for reflection and consideration of the wider issues of subjects if education is to equip students for the contemporary world. Material should be introduced into courses that will tend to broaden rather than narrow the field of studies, but which must have some common basis with the student's special field of study and form part of the syllabus for examination. For example, technologists might study the social influences of technological development.

32. Another means of reducing overspecialisation would be to alter the entrance qualifications for higher education; by this we do not mean a lowering of standards of attainment and intellectual development. The Crowther Report considered sixth form studies and concluded that their pattern in this country, although unique, was broadly right. The Report says: 'The years in the sixth form are crucial years in which the foundations of a sound social and moral judgment can be laid. They are the seed-time for a lifelong harvest'. We strongly agree with this concept but doubt whether the present sixth form curricula are successful in laying these foundations. A better curriculum might involve continuing a group of five or six subjects beyond Ordinary level in the sixth form. All the subjects would be examined at the same standard of attainment after three years in the sixth; the same examination would include papers in the use of English and general knowledge. Entrance to higher education would thus depend on good standards in seven or eight papers, and would normally be at the age of 19. Schools and Universities should agree not to offer or accept candidates who had not spent three years in the sixth form. This solution would involve very wide changes in the curricula of schools and Colleges, and in the staffing of secondary schools, which might take many years to complete. It would necessitate close co-operation between schools and institutions of higher education, perhaps through a joint Committee of the National Advisory Council we shall propose, and possibly a radical overhaul of the present curricula and divisions of subject studies.

33. Another possibility is the establishment of a two-year course of broad further education through which all students wishing to enter higher education must pass. This would be taken in existing institutions of higher education to gain the benefits of participation in a full academic community. Its object would be to give a broad basis of knowledge and some understanding of the inter-relationships of disciplines combined with a certain degree of specialisation. On this general foundation the student could proceed to build his specialisation without the detrimental effects experienced at present. It would also help to avoid premature selection by

giving the student time to feel his way into his chosen subject while testing his choice against a wide range of studies. It is to be presumed that most students would proceed to their special subject in the institutions where they took this general course, although some would wish to change their course and should be able to transfer to other institutions or faculties. The two-year course would be completed with an examination of national standard and would permit those who did not wish to pursue specialist studies to obtain a diploma or certificate in general studies.

34. We have considered the widely discussed concept of 'liberal arts' colleges, separate from existing institutions, at which such a two-year course as that outlined above could be pursued. In our view it suffers from the basic defect, that it precludes participation in an academic community of people studying at all levels of higher education and thus would be a move towards isolation rather than to the greater integration of disciplines at all levels which we believe is fundamental to institutions of higher education. In passing we wish to comment on the possible introduction of Liberal Arts Colleges of the kind known in America. We believe that confusion has arisen over their purpose, and since names are important we wish to explain our reasons for opposing this concept. At 17 or 18 the American student leaves school and if he has gained high marks in subjects in the national examinations, he may decide to try to gain a place in higher education. If he wishes to read history, languages, English, classics, or other arts subjects not related to a career, he goes to a Liberal Arts College and after four years he obtains a B.A. degree. If he wishes to read science, law, engineering, medicine, architecture, or some other vocational subject related to a career, he goes to a University and after four years obtains a degree. We believe that the introduction of Liberal Arts Colleges in this country would ultimately produce a similar pattern with disastrous effects on our whole system of higher education.

35. It may well be that the ultimate solution to the problem of specialisation will lie in the provision of enough places in higher education for the numbers wishing to enter. While the competition for entry to universities is intense, selectors will continue to place emphasis on high marks and therefore on specialisation and this emphasis will be transmitted back to the sixth forms. A reduction in competition may lead to a reduction in such emphasis and to selection based on broader indications of candidates' suitability. There is no reason why academic selection boards should not encourage entry on a broader basis now, and indeed some do, but until this becomes general, other methods have to be sought to correct the serious effects of over-specialisation. It is interesting too, to conjecture what might be the truly educational development of less academically able young people if they could attend courses in a collegiate atmosphere and environment which they are at present denied on account of their lack of academic ability. Temperament and character which obviously deserve the best cultivation are not necessarily found only alongside academic ability.

(b) Teaching

36. The quality and methods of teaching are among the other factors determining the standard of our higher education that have given many of our students cause for concern. We have prepared for the Hale Committee a statement of our views on university teaching. To many students it appears that there is more interest in research than in 'teaching the young' in our institutes of higher education. Appointments to university and similar posts and advancement within the hierarchy seem to depend almost exclusively on prolixity in published research, a requirement which reduces both the time available and the incentive to give a proper consideration to the communication of the subject taught. We would urge that in appointments to academic posts, the ability to teach should be given due weight. We suggest that those who intend to enter teaching in the higher education system should be required to undergo some form of training in methods of communication. The problem would be somewhat eased by reducing the amount of research done in time that should be devoted to teaching by the provision of more frequent 'sabbatical' leave.

37. In the Training Colleges there have for many years been complaints that the time-table was too heavily loaded with compulsory lectures and that students were allowed much too little time for personal study, private reading and preparation. One of the purposes of the three year course is to provide more time for this personal education, and we hope that the new course will be so organised as to allow this. In some Colleges students feel that they are not given enough direct instruction in teaching methods as a preparation for their teaching practice; there are also complaints that the standards of the special subject courses in the College are not high enough to engage the full interest and development of entrants who have already taken Advanced level studies in those subjects. Many of these difficulties spring directly from the small size of many Training Colleges, their isolation, the limited numbers of staff they have for each subject and the difficulties of completing a course of study and training as teachers in the short space of two years. Undoubtedly many of these problems should ease over the next few years, as the Colleges increase in numbers of students and variety of staff, and as their isolation is broken down.

38. The difficulties in the Technical Colleges are partly the converse of these. As the tutorial system is still not extensively used in Technical Colleges, the problem is mainly that of the quality of lecturing, and how far the lecturer should try to help individual students with their problems during lecture periods. In view of the rapid pace of industrial changes it can be extremely difficult for full-time staff to keep abreast of developments which they should be incorporating in their lectures. Because of the acute shortage of staff it is almost impossible for teachers to take periods of leave to return to industrial posts and refresh their knowledge. Sandwich course students who regularly return to their firms sometimes find that they know more about the industrial applications of what they are learning in College than their lecturers do.

39. In all branches of higher education the need for better libraries is increasingly acute. A good library is an essential part of the equipment of learning and much better provision is needed. Much of the strain on library facilities could in our opinion be removed with the provision of private study or reading rooms and use of the library for reference purposes only. Many students at present utilising library facilities require only a quiet place to study.

(c) Community

40. It is a truism to say that a balanced course and good teaching facilities do not make a university education. An essential element in all higher education is the growth of experience and the development of ideas arising from life in an academic community. In our experience of the student world, two important factors in the growth of community have been the pursuit of common interests and the creation of common loyalties, but there are many others and they will vary from place to place. Without community there can be no higher education as we envisage it and those responsible for the development of our system should ensure that everything is done to favour its growth.

41. At one level, community develops when people work together in a laboratory, or in departmental or inter-departmental groups. It has always been recognised that a fundamental factor in the development of community has been the provision for students, and staff, to live in residence together. It is a matter for serious concern that the rapid expansion of our institutes of higher education is not accompanied by an equally rapid expansion of residential facilities. The situation in the universities is serious: the situation in the technical colleges is more so, and the latter, by the nature of their studies, probably stand in greater need. While we welcome the generosity of private donors who have founded residential accommodation, the problem is clearly one for national financing on a bold scale.

42. Some of the more advanced Colleges are making progress with the provision of student hostels, but the basic approach to their design and equipment is often wrong. A students' hostel should not merely be a dormitory block designed to

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provide beds for the maximum numbers for the minimum cost. It must provide common rooms where students and staff can meet, where visitors can be entertained and informal meetings held. It must provide a decent refectory, a reading room and at least a small periodicals reference library; if the Hall is conveniently near the main College buildings, it should include some rooms suitable for tutorials and small seminar groups. Makeshift accommodation of a totally unsuitable kind must be rapidly replaced; a large house which can be converted into a hostel for some twenty students, although it can provide a better environment for living and study than a conglomeration of Nissen huts, is socially, economically and academically inferior to a properly equipped Hall.

43. We believe that large scale national financing is necessary to improve the position and local experiments should be encouraged. Local co-ordination and national finance should be used to develop hostels and residential Halls of many experimental kinds, to be used by students from all the Colleges in an area; in some places the demand will be such as to make it necessary to develop student villages, or a student quarter similar to the Cité Universitaire in Paris which would provide accommodation for students from many different types of College. In some places there have for many years been joint associations amongst the students of Colleges in the area, who have developed joint activities and acquired joint premises; we think this tendency could well be extended to joint housing. We would repeat that these large areas of student houses should be well provided with central facilities, with dining halls, libraries, common rooms and reading rooms, proper provision for students' physical and mental health, and with adequate sports facilities.

44. Some college authorities attempt to improve matters by providing Union and sports facilities. But in not a few of the universities and university colleges these are quite inadequate. And again, compared with the universities, who have the benefit of a higher residence ratio, the provision of Union and sports facilities in technical colleges is hopelessly inadequate or even non-existent. In the training colleges, the Students' Union often carries on its activities on a shoestring budget. The development of a fully active Students' and Athletic Union is dependent on finance. Some colleges' Unions are fortunate in having a compulsory fee. Many rely on voluntary subscriptions. If community life has any meaning for higher education much better student facilities must be developed in our colleges.

45. Unfortunately, it is not yet everywhere accepted that students in Training Colleges and Technical Colleges should run active student societies and associations. The payment of a University student's fees is recognised as including payment of Students' Union fees. The same attitude should also apply to students in other Colleges.

46. The absence of community or collegiate life is often interwoven with lack of autonomous status in many Colleges where the college authorities are inevitably absorbed in their relations with contending outside interests such as those of industry, the local Education Authority or Departments of Government. In many Colleges of Technology, of technical studies, commerce or art, the ruling public concept is still one of a training centre for outside interests and not of an educational community. This is particularly true in Colleges which take a high proportion of sandwich courses and block release students. Where the pressure from industry is such that the College has to agree to organise end-on sandwich courses it is impossible, as we have pointed out above, to develop a sense of College corporate life.

47. In our view the lack of means to generate and maintain the sense of community in institutions of higher education is a serious defect in the system that should be corrected as far as possible in future developments. A continuous expansion of the opportunities for contacts with fellow-students and members of the staff is essential to the broader education we should be striving for.

(d) Adjustment and failure

48. In any year, there are students who find it difficult or impossible to adjust to college life and studies. Some merely suffer from depression, others from serious breakdown. It is impossible to generalise about the causes of such problems but recent evidence suggests that many who seek the advice of college health officers are having difficulty with their studies through being in courses to which they are not suited. This would suggest that greater guidance is needed on the types of course available and suitable in the sixth forms. In this context, we believe that pre-university courses can do much to help and educational plans for the future should encourage interest in them.

49. With the increasing demand for higher education and the growing importance of paper qualifications for employment, the problem of wastage has become socially and educationally more serious. Many views have been expressed on the causes and it would be difficult to analyse the prime factors in failure. It is interesting to note however that there does not appear to be a common wastage factor—the wastage rate varies considerably in different branches of the system. Any attempt to remedy the situation would seem to us to require special attention to the following points.

50. The selection process is a fundamental part of the system and greater attention should be paid to this. No one should be encouraged because of academic achievement to enter a course for which he is psychologically or temperamentally unfitted. The drive to find the people with the best marks in examinations may not be in the student's own interest and we would therefore suggest that more use could be made of psychological testing techniques, as is done in many branches of official and business administration. There is much to be said for more care in the selection of foreign students due to language and other special problems of environment. Wider dissemination of information on the structure and implication of college courses would assist greatly in removing unnecessary anxiety.

51. Above all, better arrangements are needed for much freer transfer between institutions. We do not believe that a student who, for example, fails a university examination, has shown that he or she is not able to benefit from some other form of higher education. Opportunities for transfer between institutions need to be revised.

52. On the question of intake and its relation to later years of the course, many students think that in some Departments a conscious policy of selection at the end of the first year is used, and that more students are accepted at the beginning of the course than can be provided with places, e.g. for laboratory practicals, in the later stages of the course. We cannot say what substance there is in this belief, but no doubt the Committee will be receiving evidence from Universities on this point. A further point which may be significant is the possibility that examiners within a faculty may adapt their marking schemes to a given assumption of failures; this is an idea touched upon in several reports on student performance recently published* which also raise numerous enquiries about selection and failure rates.

53. Amongst Training College students, the rate of wastage is very low. It is widely considered—even amongst the students themselves—that the rate of wastage is so low that it calls the standards and contents of the courses, and the value of the qualification gained, into question, and it may be that the national demand for teachers has had too great an effect on the standard of course given.

54. There are however several other aspects of this question we think should be considered. Training Colleges are almost entirely residential and the teaching staff normally live in or near the College. Although many students feel that the number of compulsory lectures could with advantage be lowered to enable more

* e.g. R. R. Dale 'University Standard'—Universities Quarterly, 1959, Vol. 13 ii; N. Malleon 'Student Performance at University College', *ibid*, 1958, Vol. 12 iii; K. Austwick 'G.C.E. to B.A.' *ibid*, 1960, Vol. 15 i.



wide personal study, all students normally have reasonable numbers of tutorials and adequate opportunities to discuss their studies with their lecturers. This is extremely valuable as it helps personal grasp of the subject and enables the teachers to give personal guidance and detect weaknesses and remedy them. Within each College and also between Colleges, there are ample opportunities for students to be transferred during their course to a different subject or specialisation.

55. The intake of students each year is closely related to the total capacity of the College and there is no question of students being accepted at the beginning of the course whom the Training College cannot accommodate for the whole period of three years. Selection takes place, broadly, at the start of the course, and not during the course.

56. We think that University wastage rates are academically serious in the sense that they are much higher than we believe they could be if the courses allowed for more personal teaching and for residence. We have compared the figures given by UNESCO* for this country and others, and it appears that in the U.K. the ratio of yearly graduates to total student numbers is much higher than elsewhere. It may be, however, that other considerations such as the relative content and length of degree courses, and the extent to which students are able to study full-time and consecutively, are important factors in the above assessment and we must recognise the defects of a system which produces so many discords.

IV. STRUCTURE OF INSTITUTIONS

57. The problems upon which we have commented in the preceding paragraphs are, in our view, largely due to the subjection of a traditional structure to continuous and severe stresses due to the expansion of numbers and the growth in the extent of knowledge. Unless determined efforts are made to deal with these defects, the expansion expected in the next two decades will aggravate the situation and much of what has traditionally been accepted as a sine qua non of higher education will be lost. While we have suggested certain remedies that might be applied within the existing structure, the solution of these problems mainly depend on the future forms of higher educational institutions. We believe there is a need for considerable experimentation with a variety of patterns if we are to create a system that will be suited to the needs of the last quarter of this century.

58. We would first of all say that we believe the primary aim should be to extend to all branches of higher education those principles that are considered fundamental to what is understood by a university education. We fear that at the present time, with the hardening of faculty barriers, even some of our Universities seem to be moving away from these principles. We look with interest to see how far the development of 'schools' in the University of Sussex will remedy this situation.

59. The urgent need is for the founding of more new universities. We advocated to the University Grants Committee† the full development before 1970 of up to ten new Universities arising from the need to double the intake of students to Universities in the present decade. Beyond 1970, a further large expansion will be needed; a minimum provision of 300,000 places would provide University education for rather less than half the numbers of qualified candidates that is, about the same proportion that enters at the present time.‡

60. There are not a few cases where colleges are sited in close proximity to existing university foundations. Where this is so, we feel that every effort should be made to create living links between them and develop a common academic community.

* UNESCO, 1960, 'Facts and Figures', cf. Tables 7 and 10.

† Memorandum to the U.G.C. on the Expansion of University Education, 1960/1970. N.U.S., January, 1960.

‡ 60,000 entering Universities, average length of course 5 years (see Para. 11); 45,000 entering 3-year education for teaching; 30,000 entering advanced sandwich courses averaging 4 years; 25,000 overseas students entering courses averaging 4 years.

The siting of new universities would seem to provide an ideal opportunity for integrating existing non-university colleges into a broader structure.

61. It should be possible to select now some twenty areas where Colleges of various kinds are already well established and to designate them as centres which will develop in the next ten years to a point where, from 1970, they can become collegiate Universities of a residential type. It should not be difficult for the pattern of new faculties to be adapted to some extent to embrace the studies pursued at such Colleges. In such cases this would considerably assist the study of many subjects now inadequately catered for in small local Colleges, such as architecture, commerce, industrial relations, fine arts, physiotherapy and occupational therapy. With a view to increasing opportunities for specialist research particularly in the arts, one aspect of our higher education system which needs urgent review is the number of research awards available; in this respect, the present numbers of State Studentships, for example, are derisory.

62. In cases where a number of smaller Colleges catering for a limited range of disciplines are in reasonable geographical juxtaposition or have local links, we would suggest that provision be made for bringing them together and integrating and broadening their courses to encourage their development towards a university type of structure. There is no reason why colleges which are part of the same campus in all but name should not become more closely associated, e.g. the City of Hull Training College and the University of Hull are virtually on the same site.

63. In some cases Colleges have already established a strong sense of identity as specialist institutions. Thus opinion on whether the Colleges of Advanced Technology should become more closely associated with Universities is divided. Many feel that the Diploma in Technology is a distinct specialist qualification publicly established in its own right and that there is a sound case for continuing to develop these studies in separate establishments. On the other hand, most students feel that the range of studies in the College will have to be very greatly extended before the Colleges can offer a really broad education of the University type. Experience indicates that, in the initial stages at least, any new subjects introduced to broaden courses must have a fairly clear relationship to the technological subjects studied, and must form a legitimate part of the examination course. Our information suggests that students of technology have not, generally, shown a very great interest in voluntary courses in the more liberal arts, either because of lack of interest or because of overcrowded syllabuses. The Colleges are already developing successfully ancillary studies in such related subjects as industrial psychology, applied economics, industrial relations, and economic history, which go part of the way to meeting the need. We wish to propose that they should also develop courses designed as an introduction to the teaching of engineering. Further, we believe that advanced studies in fine art should be concentrated in the Colleges. We believe that the linking of applied science and engineering with the arts—painting, music, sculpture and architecture—could be most valuable. These are disciplines which have in common a long training in the mastery of techniques leading to an eventual individual expression. They are not primarily theoretical, academic and disinterested. They are all essentially committed to the society of their time.

64. Development trends in the British economy indicate that we may expect the ratio of administrative to production personnel to rise steadily and that the supervisory grades of the future will require a more adequate basic education. We believe that a rapid expansion of higher commercial and management studies is called for. While we see no objections to incorporating these disciplines into university courses, it would seem that at the present stage, mutual benefit would accrue from their being associated with the Colleges of Advanced Technology. We receive frequent complaints from students at colleges of commerce, or in technical colleges that cater for a wide range of lower studies, that their studies are too narrowly vocational and again the syllabus and type of course provided ought to be closely examined.

65. There is a clear feeling amongst students at Colleges of Advanced Technology that the status of their Colleges is an uneasy compromise. There is a strong demand for full national financial and academic autonomy, and for the ending of the present direct influence of the Local Education Authority and the Ministry of Education.

66. With the granting of autonomy and after the developments we have proposed, the question of whether or not the Colleges should be linked with Universities or acquire full University status might be thought to be of small practical importance. However, in any system where parallel types of education are developed it is necessary to ensure that there are the fullest possible opportunities for transfer between them and for this reason among others we think that the Colleges should acquire University status without unnecessary delay. Clearly the final form which the Colleges would take would be a matter for them to decide, but there are a number of alternatives which we should like to mention. Colleges in one area could be linked together as Colleges of a University; thus several new Universities would be founded, for example of the South-West (Bristol and Cardiff); Midlands (Loughborough and Birmingham); of the North (Salford, Bradford and Rutherford), and of London (Battersea, Chelsea, Brunel and Northampton). Alternatively, each College might become the nucleus of a new University; or each might become a Faculty of an existing University. There is the further possibility that they could become Colleges of a national Federal Technical University. In our view, of these suggestions, the first is perhaps the best if only on the grounds that a sense of identification with an area may foster the development of the institution.

67. In relation to Training Colleges and Departments of Education there are many questions of the content and status of studies which are of active concern to students. These have become more pressing in recent years. The longer course of education has been introduced at the same time as rapid expansion of the size of many Colleges has enabled them to recruit a wider range of well qualified lecturers and tutors. There has also been a marked rise in the entrance qualifications for Training Colleges; most of their students now look for special subject studies well beyond the standard of Advanced level, as well as a more thorough study of education and the techniques of teaching than was possible in the two year course. The history of the Training Colleges is one of varied association with the Universities, and many students wish to see this association continued and expanded.

68. We believe that the Colleges will steadily increase the numbers of their students who are well able to reach degree level, either in specialist subject studies or in a group of subjects related to education and methods of teaching. A few Colleges have for years offered concurrent degree and Teaching Certificate courses, and their numbers are likely to expand. The spread of concurrent courses was probably hampered in the past by the fact that the general course of training for the Certificate only lasted two years; with all students in future studying for three years in the Colleges the latent demand for qualifications of degree level is increasing.

69. This is not to say that we believe that all Training College students will in the future wish to take degrees, or be able to do so. It is not desirable or necessary to encourage a very wide development of degrees of a new type specially devised to meet the needs of every Training College student. No doubt many students will not go beyond a point equivalent to Intermediate exemption, but this standard should be open to them as a step towards future degree studies they may wish to follow after some years of teaching experience.

70. We hope that this expansion of opportunity could be carried out within the present framework of the University Institutes as this would be preferable to an increasing spread of the London External degree. The degree examinations for which we have proposed many Training College students should enter would be those of the Universities with which at present each Training College is linked in the University Institute. The Universities should conduct the examinations for the

Teaching Certificate. Thus there would be a triple system of University qualifications for potential teachers; the three year degree for advanced specialist teachers, the compulsory postgraduate Diploma in educational psychology and method, and the three or four year general degree or certificate. This system would have many advantages, not least that it would offer greatly improved possibilities for transfer both of students and of staff.

71. Apart from the question of the academic status of the methods of educating teachers, there is the wider question, of great concern to students, of the general environment of study. We believe that a system of educating teachers in isolation from students of other disciplines who intend to enter other careers, is most harmful. We are not convinced that the concept of a cloistered and dedicated profession is very valuable either for students or for teachers. Within the broader academic framework we have proposed we hope it will be possible for the Colleges to take into residence students of other faculties and branches of study, and to develop vocational courses for careers other than teaching.

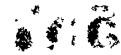
72. Some of the subjects in the training college curriculum already have a close affinity to the fine arts and there is much to be said for linking the two where possible. A further group of studies that seems particularly suited for association with the training colleges is that of the practical social sciences. There are indications that social welfare activities will continue to expand and develop and there is need for a much greater provision of higher education in this field. We look on these suggestions as stages in the development towards the establishment of a fuller university type of education in these colleges.

73. Where new Universities are being founded, we hope that these will be generally collegiate in character and that they will, as we have already suggested, include where possible, existing Training Colleges, as founder members of the University. In many cases, the geographical location of training colleges precludes any close links between the students and the community of the university and its department of education. In such cases there is much to be said for the colleges forming part of the new groupings that we suggested above. In the complete absence of any means of broadening the range of the college, it would be preferable for it to be closed and other provision made for its teacher training in association with one of the new universities or other college groups.

74. One of the consequences of the inadequate breadth of studies in many institutions is that students are genuinely concerned about the comparability of courses and qualifications, a matter frequently raised at our conferences. We believe that a general broadening of studies, as suggested above for academic reasons, would have the effect of giving greater comparability of qualifications.

75. In relation to Technical College courses, we understand that the College authorities in general regard a good Ordinary National Certificate in three subjects as being equivalent to two Advanced level passes in G.C.E. Both these types of qualification are acceptable for entrance to a Diploma in Technology course; it is not clear, however, that both are acceptable for entrance to a B.Sc. degree in engineering. Both the Diploma in Technology and an honours degree are acceptable qualifications for postgraduate courses and postgraduate awards, and have equal status in relation to Associate Membership examinations of the professional institutions. The relation between these two qualifications and the Higher National Certificate and Higher National Diploma is however not defined. Some students taking these latter courses feel that their value is not sufficiently recognised either for further qualifications or amongst employers in industry. Many students, particularly those in larger Regional Colleges, feel that the distinction now drawn between their College and the Colleges of Advanced Technology is not clearly based, and that the distinction is impeding the full development of their Colleges, both in relation to the range of courses offered, the qualifications of staff, and the provision of student residential accommodation and Union buildings.

76. Concern has frequently been expressed also by student teachers that their final certificate has a low status educationally. The introduction of the three



year course will do much to correct this and a broadening of faculties as recommended would remove much of the difficulty. It has been said many times at our conferences that the ultimate aim of all branches of higher education should be to provide a standard that is universally recognised; that differences should be in the discipline studied, not in the breadth of education provided. We believe this can only be achieved by the radical re-adjustment of many of our existing institutions along the lines we have suggested so that ultimately the higher education of teachers is directly comparable to that of lawyers and of technologists to that of theologians.

77. It is our experience that there remains the problem of provision for an increasing number of people who have no wish to pursue the normal university specialist's course but who would benefit from an education beyond that which is obtainable in the fifth and sixth years at school. It seems to us that there is a strong case, on individual and national economic grounds for making some such provision. It would appear that some form of two-year course is needed. We do not believe that an extension of studies at school is practicable or that this would provide the right type of environment. Nor does the establishment of separate colleges for this purpose seem desirable. It would be preferable for such a course to be provided in the environment of full higher educational institutes. This could be done by means of the two year general course suggested previously or by making it possible to take an examination in many colleges after following two years of study of a more general selection of subjects from existing specialist syllabuses. The two years should culminate in an examination for a nationally recognised diploma or certificate.

78. We have confined our proposals to full-time study, with which we believe the Committee is mainly concerned. However, it is obvious that there will be a very great demand for part-time studies. Automation and new forms of energy will decrease hours of work and raise the general standard of living; there will be more leisure time. As the struggle to earn a living becomes less arduous, people will increasingly wish to develop their own skills outside the immediate range of their work. Interesting employment will become the province of the qualified man; there will be an increasing demand for amateur knowledge in the arts and human sciences. We believe this will be a general social trend amongst people whose numbers will stretch far beyond those for whom we have said full-time higher education must be provided.

V. THE TREND FROM LOCAL TO NATIONAL INFLUENCE

79. It will be seen from the above that we believe that a greater degree of co-ordination of all branches of the higher education system is required than at present exists. This is a view regularly expressed at our National Councils and other conferences and we do not believe this to be out of line with developments over the past decade.

80. Firstly, there has been a breakdown of the former concept of local catchment areas providing students for the local University and Colleges.

81. The transition from local to national patterns of higher education has been imperfectly realised in the system of examination for entrance to higher education. Formerly there was a regional link between school education and higher education in one area which was reasonably well served by the regional Advanced level of G.C.E. or H.S.C. examination. This regional system has very largely broken down owing to the concentration of higher education facilities and the increased movement of students, but the system of regional examinations remains. At present, the G.C.E. examinations just like those for Ordinary National Certificate do not represent one standard of attainment, nor do they cover the same syllabus in each subject. This very greatly complicates study both in the schools and in the establishments of higher education. For students, it has the very major disadvantage that at least a part of the first year of higher education has to be spent in co-ordinating work done in school with the syllabus expected for the advanced course.

82. We believe that there is a need for national co-ordination of studies both in schools and in establishments of higher education.

83. The transition from local to national interest has been very marked in the development of policy over student awards. The acceptance of the principle that the accident of where a student resides should not affect his financial entitlement to higher education has been comparatively recent, and is not yet fully implemented. We believe that the appointment of the Standing Advisory Committee is a significant move towards nationally assessed and administered awards, but we believe that these awards cannot be properly administered through Local Education Authorities and we hope that there will be a rapid move towards administration through a central authority; this has already been put into operation in Scotland, and we believe that a similar system should be extended to England and Wales, and to Northern Ireland.

84. One obvious need which would be met by such a system is the severing of the link between local Colleges of technology and other advanced subjects, and local students. Whilst Local Education Authorities retain control over the development of many such forms of higher education, and also control the administration of awards to students in their areas, there will be a tendency to channel local students into local colleges. We believe that this damages the best development of national resources.

85. A further aspect of student awards is the influence of local policies and attitudes on students' peripheral needs. It has been nationally accepted that students should receive a basic maintenance award, and this is generally implemented locally. Equally, it has been nationally accepted that students should receive a vacation maintenance allowance, that Union and other fees should be paid, and that allowances for vacation courses, extra periods of study, and certain extra costs should be met; these other needs have not been generally implemented by local authorities. In particular, the standard of facilities provided for student life varies greatly throughout the country, and will continue to do so whilst local policies prevail in this field.

86. The need, accepted after long debate, for a central clearing system for university admissions is another indication of this trend. If the best use is to be made of the varied talents that will become available in the envisaged expansion of higher education, it is urgent that similar methods be adopted for institutions and groups of colleges that will remain outside the university structure for some considerable time. As closer parity is achieved and a more truly national structure developed, the competition to enter other types of institutions will become more intense and the problem become as acute as for the universities.

87. Formerly the influence of industry on higher education was comparatively slight, and activated mainly by the liberal generosity of individual industrialists. Many of the civic universities drew largely in their early days from the generosity of local industrialists. Many Halls and early buildings, and endowments show this generosity in their names. The links between industry and higher education have in the last ten years become increasingly close and in the absence of co-ordinated national direction have, in some cases, begun to distort the national pattern of higher education. This raises many questions of direct concern to students.

88. Not only in the area and Regional Colleges, but also in the Colleges of Advanced Technology, the employees of one firm often predominate amongst the students in the College. This can mean that the firm has a strong influence on the development of student life in the College, as it controls not only how much money the students receive, but also the amount of leisure time they have. For example, a firm may pay its students on an hourly basis and insist on detailed time-keeping of attendances at each lecture. The curriculum may only cover subjects which are narrowly related to the firm's particular product. A firm may virtually

dictate not only the length of time students spend in College, but also the organisation of the College year. A dominant firm may remove its students unless the College introduces the system of end-on sandwich courses, which are strongly disliked by the College authorities and also by the students. The end-on course destroys any possibility of corporate life within the College; it also very greatly lengthens the teaching year for lecturers, which has its effects on the quality of their teaching and the extent to which they are able to take a personal interest in the individual progress of students. Six-month or three term sandwich courses, however, can be organised in such a way that there is a substantial overlapping of students in the College, which enables some corporate life to develop in the College. They also enable the College to observe a reasonable vacation period, which is essential for the staff and for the maintenance of buildings and equipment.

89. Commitments of this kind to the wishes of a particular firm reduce the autonomous status of the College, which becomes merely a full-time training centre for employees and not an institution of higher education. It has been said that the influence of the Local Education Authority would provide a counter-balance in the Colleges' development to the weight of industry. We do not believe that this counter-balance exists; often the large local firm, or a consortium of major firms, has very wide influence in the area, and is able to control the development of a College. We believe that there is a need for national control of training for industry, in order to enhance the independence and autonomy of the Colleges. We have already referred to the need to ensure that the Colleges of Advanced Technology should proceed to full University status. It is essential that this should be done, among other reasons because they should have fully autonomous status if they are to continue to develop not merely as training centres for industry but as educational institutions in their own right. Without the maximum autonomy they will not have sufficient status to be able to take charge of the education of their students who will presumably continue to be in the main employees of firms whilst they are in College. It is necessary in this way to resolve the present division of loyalties and responsibilities of the students.

90. Relations between industry and the Universities affect students in a variety of ways. Within the framework of University autonomy the practice of accepting industrial research projects has become widely and unquestioningly established. We think, however, that there is a clear line beyond which these contracts should not be encouraged and can be harmful—the line drawn between researches whose results are generally available, and those where the results are made available only to the sponsoring firm. Such projects can destroy the balance between research and teaching in the Universities.

91. More immediate effects of industrial influence are felt if, for example, a firm subscribes funds to a University to build a Hall of Residence on the stipulation that the Hall shall accommodate a fixed percentage of students from a particular faculty. It is a fundamental reason for providing Halls of Residence that they should enable students of differing faculties to mix and understand each other, and this reason is negated if the majority of students in a Hall are always from one Faculty.

92. Industrial scholarships for undergraduate study are normally given on terms which do not tie the scholar to return to the sponsoring firm. Many students believe that it is important to maintain this principle, as it is not one of the functions of a University to train a person to meet the requirements of a particular firm.

93. We believe that over the next twenty years many new Universities should be established. It is essential that they should not have to rely from the outset on a high proportion of industrial money. It is of course necessary that a University should draw some of its money from sources outside the University Grants Committee, from trusts and foundations as well as from industry.

VI. NATIONAL CO-ORDINATION

94. Our comments have indicated that we are gravely concerned at the condition of higher education in this country. The future of our nation and of its people will, we believe, depend to a great degree on the way in which our system of higher education is developed. We believe the case for fuller national co-ordination in this development is indisputable and that there are many instances where it is accepted and operated. Local administration now merely tends to encourage anomalies and increase divisions between the different branches of higher education; broadly, the concept of the 1944 Education Act of 'a national system locally administered' is no longer appropriate. We have given long and careful consideration to this problem of national co-ordination, especially insofar as it affects the basic principle of academic freedom which is fundamental to our education system. Our conclusions are as follows:

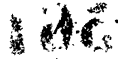
95. We wish to propose that the Government should appoint a Board of Higher Education, whose function should be to present an annual budget for the development of higher education to the Government, and to account for it to the Government. The duty of accountability to the Government which the Board would hold would include a duty to publish adequate annual statistics. Such a Board would bring all higher education under national control and would co-ordinate and encourage joint projects between the various branches of higher education.

96. Further, we propose that four Grants Committees should be appointed which would receive money from the Board for the development of the Universities, Colleges of Technology, Training Colleges and of co-ordinated research. They would not be directly accountable to the Government, but would present annual reports to the Board. We propose this structure as a means of combining financial autonomy for the institutions of higher education with better provision of information about their development. We think the stage has been reached when the major forms of higher education should be financed in a uniform manner. A general result of this financing structure would be to remove the influence of Local Education Authorities from the development of full-time higher education, and to bring about a substantial rise in the degree of autonomy which higher educational establishments would enjoy.

97. The Research Grants Committee would take over from the U.G.C. financial responsibility for researches in the Universities beyond the initial stage. It would also be responsible for research in the Colleges of Advanced Technology. It would have powers of enquiry into the terms of industrial research contracts.

98. Concerning research financing, we have proposed an alteration in the present structure because we do not think it is desirable that research projects which are established—but whose costs nevertheless fluctuate considerably—should have to compete for finance with other projects included in the U.G.C. quinquennial grants. A more difficult problem is that industrial finance can impede autonomous development or endanger the autonomy which formerly existed. The problem has doubtless reached its present proportions largely because of the uncertainty of Government finance. We propose that the Research Grants Committee should have powers of enquiry into research contracts; that it should also be able to insist on changes in contracts, or to refuse contracts if their terms made this desirable. Such a power may be seen as an infringement of autonomy; on the other hand, the financing of a higher educational establishment is so complex that any contract however carefully planned and financed it may be by a firm, makes use of facilities provided by central funds for the general advancement of knowledge and not for the private information and advancement of one firm at the expense of its competitors. The Government should therefore have greater powers in this defined field.

99. The Committee for Colleges of Technology would allocate finance for the development of Colleges of Advanced Technology in the wider context we have described, and would probably also cover most of the Colleges now known as Regional Colleges.



100. Responsibility for the development of other Colleges, and for transferring them when appropriate to the relevant Grants Committee would rest directly with the Minister of Education. In many branches of study, for example the Colleges of Commerce, Occupational Therapy, and Adult Education, there is a clear need to build larger centralised Colleges to replace the present network of small local courses with strictly limited facilities.

101. Further we wish to propose that the Government should appoint a National Advisory Council on Higher Education. Its function should be to advise the Government on the development of higher education, and to receive views from many bodies concerned with specific aspects of higher education, such as the Advisory Council on Scientific Policy, the National Advisory Council for Education in Industry and Commerce, the Secondary Schools Examinations Council, the National Advisory Council on the Training and Supply of Teachers, the Research Councils, the National Research Development Corporation, and the Committee of Vice-Chancellors and Principals and other organisations, like our own, which represent those who work within the framework of higher education.

102. The establishment of a Board of Higher Education and of a National Advisory Council on Higher Education would separate the two functions of financing and advising and this could only bring a healthier outlook on higher educational problems. The present higher educational structure offers much better chances of success to some students than to others. Yet in a future society where the breadth of educational opportunity is such that education becomes an instrument of social stratification, it is of the essence that all those who succeed in reaching one stage should have a fair chance of succeeding in the next. This is not to say that the standards should be lowered, at any point, but that the methods of teaching and learning, and the general environment of study, should vary far less than they do today. For example, if a nearly completely residential structure is desirable for Training Colleges, is it not also needed for Universities and Colleges of Technology? If teaching methods within the Universities urgently require review, do not equally methods of teaching and of training lecturers for teaching in Colleges of Advanced Technology? If many courses are too intensive and too short but an extra year cannot be provided, could students make better use of the vacations, and how should they be encouraged to do so? We believe that there is an urgent need for co-ordinated advice to the Government on problems such as these, and a formal channel should be created.

103. Experimental developments of new types of College and groupings of Colleges and courses are extremely desirable and will become more so. Within the present structure it is possible to set up experiments, but there is no sufficient means of considering the value of their results, or of arranging links between them and the traditional branches of higher education. The offering of advice to the Government on such questions should be a function of the Advisory Council.

104. One very important task which we hope the Council could fulfil is that of stimulating public interest in higher education and informing the country of the full scope of development needed in all branches of higher education.

VII. CONCLUSION

105. It may be thought that we have not made proposals embodying sweeping changes and visionary concepts. The development of education is an organic process which moves by the impetus of individuals, through experiment and example. It grows from the structure already existing. The main problem is that of size and good facilities, and the main conditioning factor is finance.

106. We have considered many suggestions for different types of rapprochement between the branches of higher education, and have put forward some of these to the Committee, to avoid a future deepening of divisions between increasingly narrow special studies, and the loss of common background and understanding.

107. The struggle to provide education for the large postwar age groups has been won in the schools but lost in the Colleges. Universities cannot be built overnight

on emergency plans. The needs of the future are now so clear that plans can be made and put into effect in good time to provide better educational opportunities for children now in the nursery. Unless we meet the challenge which is now confronting us with bold planning and foresight, the next generation of children will be educationally disinherited before they even see the light of day.

VIII. SUMMARY OF RECOMMENDATIONS

1. All people qualified and able to benefit from a course of higher education should be able to do so (para. 4).
2. By 1978 we estimate that 650,000 places will be required (paras. 5 to 13).
3. The provision of Halls of Residence is an essential part of higher education (para. 16).
4. It is necessary to reduce the emphasis on specialisation in courses (paras. 16 to 23).
5. Continuous review is needed of the divisions between disciplines and faculties; new sub-divisions are needed to avoid overcrowding of content and syllabus of courses (paras. 22 to 26).
6. Syllabus content in many courses is too great and must be revised (paras. 24 to 27).
7. The Factory Acts should apply where applicable to laboratories and workshops in institutions of higher education (para. 28).
8. Sandwich courses should be developed which provide for two or three years continuous study in College, with one or two years in industry when the student remains in contact with his tutors (para. 29).
9. End-on sandwich courses should be strongly discouraged and where possible replaced by courses providing at least six months in College (para. 30).
10. Overspecialisation should be remedied in the following alternative ways:
 - (a) extending the length of academic courses (para. 31);
 - (b) entrance to higher education should normally be at 19 after three years in the sixth form, and on an examination in seven or eight papers (para. 32);
 - (c) providing a two-year course in all institutions of higher education leading to a national diploma, which students would take before entering advanced specialist courses of higher education (paras. 33, 77).
11. Separate 'liberal arts' colleges giving either a two-year course or a four-year degree course as in America, should not be established (para. 34).
12. Appointment to teaching posts should be made in part on ability to teach and candidates should be trained in methods of communication; this is at least as important as ability to do research (para. 36).
13. There is a widespread need for better libraries (para. 39).
14. Everything possible should be done to encourage the growth of community sense (paras. 40 to 41).
15. Halls of Residence must be more than mere dormitory blocks (para. 42).
16. Local experiments in providing joint residential accommodation for students from different Colleges in one area should be encouraged (para. 43).
17. Much better facilities must be provided for student life and activities (para. 44).
18. Better guidance should be available to sixth-formers on the varied opportunities in courses of higher education; pre-university induction courses should be encouraged (paras. 48, 50).

19. Psychological testing might be more widely used in selection (para. 50).
20. Opportunities for transfer between institutions should be greatly extended (para. 52).
21. Selection during courses of higher education should be discouraged and initial intake more closely related to places available throughout the course (para. 52).
22. There is a general need for experiment with varying forms of higher educational establishment (paras. 57, 58, 60).
23. More new Universities must be founded; the minimum provision must be 300,000 places before 1980 (para. 59).
24. Many existing non-university Colleges in some twenty areas to be designated should also be linked together and expanded over the next decade as the foundations for new collegiate Universities (paras. 60 to 62, 73).
25. Awards for higher degrees in the humanities must be greatly expanded (para. 61).
26. The Colleges of Advanced Technology should receive full autonomous University status either
 - (a) as Colleges of say four regional Universities, or
 - (b) as Colleges of a national Federal Technical University, or
 - (c) as separate nuclei of new Universities, or
 - (d) as Faculties of existing Universities (paras. 65, 66, 89).
27. The range of studies in the C.A.T.s should be considerably extended (paras. 63, 64).
28. Training Colleges should normally offer concurrent degree and certificate courses; the minimum academic teaching qualification should be equivalent to Intermediate exemption; there should be a triple system of University qualifications for teaching, comprising the first degree, the compulsory Diploma in Education, and the concurrent course (paras. 67 to 70).
29. The Training Colleges should offer residential courses for students not entering teaching (paras. 71, 72).
30. Completely isolated colleges which serve no specially localised purpose and cannot reasonably be greatly expanded should be closed down (para. 73).
31. The Regional G.C.E. Examination Boards should be replaced by one national examining board (paras. 79 to 82).
32. Local Education Authority administration of awards should be replaced by administration through a central authority (paras. 83 to 85).
33. Applications for admission to Universities and to other branches of higher education, should be centrally handled (para. 86).
34. Industrial training should be better regulated in order to check the dominating influence which firms can exert on Colleges (paras. 87 to 89).
35. Industrial research projects should be nationally controlled (paras. 90, 97, 98).
36. Industrial gifts for the building of Halls of Residence should not include conditions governing the faculty distribution of students living there (para. 91) nor should industrial scholarships tie students to sponsoring firms (para. 92).
37. A Board of Higher Education should be appointed (para. 95).
38. Four Grants Committees should be appointed (paras. 96 to 99).
39. The Minister of Education should be directly responsible for the rapid development of certain Colleges and for transferring them when appropriate to the relevant Grants Committee (para. 100).
40. A National Advisory Council on Higher Education should be appointed (paras. 101 to 104).

ORAL EVIDENCE

given by

Mr. J. Gwyn Morgan, Mr. A. Hale, Mr. R. Watson,
Miss Slater and Miss Draycott

on behalf of

THE NATIONAL UNION OF STUDENTS

Wednesday, 11th October, 1961

Chairman: May I start by thanking you for the trouble you have taken in preparing this excellent memorandum; it is, if I may say so without committing the Committee to agreement with any of your conclusions, a well-reasoned and sensible document. You apologise at the end for not being visionary, but it seems to me that you have traversed in an illuminating way most of the subjects which concern this Committee. Is there anything you would like to say at this juncture, by way of further illustration of your intentions, before we start to ask you questions?

Mr. Morgan: We did not make sufficiently clear in the memorandum the method we used to obtain the views expressed in it. In the first instance we set aside one afternoon at our last conference at Belfast in April to a discussion of the ideas which we were going to express in our memorandum. We had there a complete cross-section of the membership of our Union from every kind of college, from the smallest college of art to the largest university. We also held two special conferences, one in the north of England and one in London, which were devoted entirely to discussing matters which we were going to raise in our memorandum. Apart from this, we helped to organise regional meetings, many of which arose from spontaneous growth of interest. Students in various parts of the country wanted to contribute something to our memorandum, and organised meetings and invited us along. We have also had individual consultations with every kind of member, and we have heard a very wide range of views. The memorandum is therefore the result of a great deal of consultation. The other point I would like to

make is that we have re-read the memorandum recently, and we can see in it some evidence of undue haste; we would like to explain that we wanted to complete it in this particular time, partly to ensure that the people who attended the meetings all over the country were still in the Union.

Chairman: May we go through some of its salient features? On the need for increased higher educational facilities, perhaps there is not much need to linger on the quantitative aspect. The Committee has had many submissions of this kind, although you have made a tougher attempt at reaching orders of magnitude than many of our witnesses. I can assure you that a statistical team in Whitehall is working on this, with assistance from outside. I think that to proceed at this stage to dot your 'i's and cross your 't's would be a waste of time. It would be more interesting, from our point of view, to get on to section III, where you have perhaps two leading motives, one of which we can perhaps dispose of easily. You are worried about the influence of firms on certain technical colleges. We take note of this, and we agree with you that these things should be watched. Turning now to the larger question, you and your advisers seem to take an adverse view of the tendency to specialise in courses of all types. Do you find that this applies to all your members? Does it apply as much to arts courses as it does to technological courses? What about the intermediate area?

Mr. Morgan: We have the impression that this permeates the whole structure. Certainly we have had university students from every kind of

faculty putting forward the view that there is over-specialisation. It is particularly true of technical colleges, and it is certainly true, also, of the intermediate levels, where it is perhaps felt even more than in the highest realms.

Sir Philip Morris: What do you mean by intermediate?

Mr. Morgan: I mean people who are going to gain access to universities, in most cases, but are not going to take honours courses.

Mr. Hale: At our conference at Queen Mary College, student after student from colleges of commerce and management studies got up to say that more and more was being loaded on to their courses. In their view their courses were becoming much more strictly technical than educational. We challenged several of them on this and asked them particularly about their tutorials. We asked what the tutorials were used for, and how effective they were in giving them a wider perspective of their subject. Many of the engineering and technical students said that in their tutorials they mainly discussed how to solve problems which they had failed to solve in the laboratories. There did not seem to be any attempt, even in this tutorial period, to discuss the broader aspects of the subject.

Chairman: There are two grounds on which specialisation can be condemned on the ground that it carries a subject to a point beyond the needs of what might be called the intermediate grade of students. The other ground is that it makes the student feel that, inasmuch as he has to concentrate on a very narrow field, he is not getting the most out of a university education. Which complaint do you find most prevalent?

Mr. Hale: At the conference in the south, which was the larger of the two, we had the impression that these scientists, technologists and students of commerce were concerned that the overloading resulted in a restriction of their time. I think they were also trying to indicate that this inability to get to the broad horizons was tied

up with the whole structure of the course, that it was partly due to overloading the syllabus; they thought the course should be altogether more broadly based.

Mr. Morgan: The short answer is that the second complaint you mentioned is more prevalent than the first.

Sir Philip Morris: I have had the impression that you think technological courses are too confined to training in special techniques related to special occupations.

Mr. Hale: Yes. At our regional conference in the Bristol area we spent about one and a half hours on this particular point, and the impression we had was that it is not education they were receiving, but training.

Sir Philip Morris: Is that a proper attack against specialisation? Is this defect, to which you are calling attention, inherent in specialisation?

Mr. Hale: It depends on what you mean by specialisation.

Sir Philip Morris: The gun you are shooting off is aimed at a lot of targets if you are saying that this is a common weakness in anything which is specialised. Do you think it need be?

Mr. Hale: I think the interpretation of specialisation, which was put on this, was that people were being channelled into a narrow field.

Sir Philip Morris: But you think it is too limited in a particular manner?

Mr. Hale: That is the impression we have.

Chairman: What is the remedy for this?

Mr. Morgan: If a technologist is being taught every day about one-tenth of a machine, and is a great expert on one-tenth of a machine, this does not give him much relationship to life or to the rest of the machine. I do not think liberal courses are any good. They are roundly condemned everywhere we go. They are an attempt to impose on people, who are not basically interested in them, some kind of pill to soften the harshness of

technology, and they are much resented. They simply do not succeed in most cases.

Mr. Hale: One college of technology said that their liberal arts course started at an hour when most of the boys were in the laboratory, and they were not prepared to leave the laboratory to go to the course.

Mr. Morgan: If someone is studying engineering, why does he not study the social implications of engineering and the development of it? Why does he not study the relationship of the engineer to society, in all its aspects, and there are many. These things would interest people, as well as giving them a proper attitude to their subject, and this is the kind of thing that we would like to see introduced.

Chairman: It is not quite as easy as that, is it, because some of these things you ask for are not part of an organised system of knowledge? Would you agree that it is bad to prescribe for undergraduates, as distinct from graduates, subjects which have no recognised literature?

Mr. Morgan: I can see that it is rather a daring concept for our traditional educational system, but it is one that is well worth examining.

Mr. Hale: At a conference at the College of Advanced Technology in Wales, the point was made by several students that they were very happy to attend the courses which were called liberal arts in several of their colleges. They were not liberal arts as I understood the expression, but were essentially management applications of their technical courses. Some of them were doing subsidiary economics, some of them were doing management studies; they felt that this broadened them out to some extent, and gave them some indication of the wider implications of their special subject. They were using standard texts.

Sir Philip Morris: Do most of the suggestions and criticisms come from the technology students themselves? Is this what they think would be good for them, or is it what other students think would be good for the technology students?

Miss Slater: I think this comes to a large extent from the technology students. There were only technology students at the conference in Wales, and it was clear that many of them resented the liberal pill. But they were getting great benefit in many colleges from such studies as management and social studies, and the application of their studies to social problems.

Mr. Shearman: The C.A.T.s are new institutions and have only run about one full course. Therefore, much of the programme of work must still be in an experimental stage. I wonder whether the students gave due weight to that consideration in their criticism.

Sir David Anderson: Would they be prepared to accept lower technical standards than they have now? If the courses are going to be substantially broadened, the technical standards must come down.

Mr. Morgan: I do not accept that completely. I do not think that the overall technical standards would come down, but rather that in one standard they would no longer reach the same peak.

Sir David Anderson: In certain subjects they would be below the present level?

Mr. Morgan: If they study one aspect of technology today, and then go and work in industry, they will often find that this specialised field may have developed in the six months that they have been in college, so what they have learned is merely an educational process. We think that when they leave college they should not be trained for one particular job in industry, but their minds should be so trained, and their development of character and temperament should be such that they can adapt themselves to the techniques in industry. We are more concerned with preparing the mind for a job later on than with preparing a person with the techniques of the job he is going to do.

Mr. Hale: There has been considerable pressure for extension of the course.

Sir David Anderson: Perhaps you could meet it that way, by extending the course?

Mr. Hale: We mentioned in our memorandum that it might be desirable to move to a four-year course.

Sir David Anderson: What about the C.A.T.s? Would they go on to a five-year course?

Miss Slater: The impression I have from members of many Colleges of Advanced Technology is that there is much support for a thicker sandwich course, with at least one full year in the college instead of six months, rather than an extension of the actual duration of the course.

Sir David Anderson: You suggest in your memorandum that students of technology might spend a period in college full-time, with supervised full-time training in industry. Would you also apply that to university students who were studying technology in the university?

Mr. Hale: The problem we were concerned with there was the end-on sandwich course.

Sir David Anderson: But if your proposal is good for students of technology in C.A.T.s, presumably it would also be good for students in the university?

Miss Slater: There is the difference of the kind of degree obtained at the end of the course. I would expect that engineering degree students would benefit from periods in industry. The sandwich course is basically connected with a Diploma in Technology, and we are recommending this system because the industrial training is an intrinsic part of this course.

Chairman: Let us switch over from technology to the humanities. Do you consider that courses in the humanities are over-specialised? What about students of history?

Mr. Morgan: It is true that the arts students complain rather less than the technologists, but this may be because they are mistaking the breadth of course. What they interpret as breadth of course is, in fact, overloading of course, which is not quite the same thing. But my own experience may be thought relevant. I read classics and I was particularly interested in philology. I could have

benefited a great deal from studying philology as a pure subject, if it could have been linked up with my particular subject of a Latin author who was interesting philologically. But the clearly defined limitations of my course meant that I could not link up in this way. There is evidence that there is specialisation even in the arts, which narrows a person's viewpoint more than he would like. A person pursuing an honours course gets glimpses of many fields, some of which would no doubt be unprofitable for him, but some of which would be worth pursuing in an educational sense, and which are linked closely enough to the central theme of his study to be rewarding in terms of being examinable. But I would point out that there are arguments for specialisation, for example in physical geography. At my university they specialised in anthropological geography, and the students who were interested in physical geography would have done better to go elsewhere. This brings in the influence of the actual professor and his staff, and their particular bent and the way in which they incline students towards their own specialisations. This has been done in some cases at an alarmingly early stage in a university career, when students have been told: 'Get a pass mark in this subject, but you want to get really good marks in that field, because you can go on and develop it.' Students accept that thinking, their professors being the eminent gentlemen that they are.

Sir Philip Morris: Is this always a bad thing?

Mr. Morgan: No. I said there were two aspects.

Chairman: Do the arts students ever complain that they are not initiated into the elementary mysteries of science?

Mr. Morgan: They complain that there is no chance of their doing so. There is, however, not much likelihood that they would put their words into practice. I think students of the arts show little desire to study science.

Chairman: What is the opinion of the National Union of Students? Is it a

desirable thing that there should be these two cultures?

Mr. Morgan: No, indeed not, but it is a very difficult problem to solve. Basically, I think the root of it is in the schools' system of education; perhaps an extended sixth form course could help.

Dame Kitty Anderson: May I embark on another topic which is related to specialisation? Would you think that, if Sixth form courses were widened, every subject should be examined? Might this not inhibit the freedom of the school to experiment? How do you think schools could be encouraged to experiment and to persuade universities and other bodies to accept their estimates of what they are doing?

Mr. Hale: We feel that the pressure to specialisation is coming from two outside sources, namely, from industrial and career demands, and also from the universities. We cannot see any solution except to propose some system of examination which would have to be accepted. We felt that, if it was left open for experimentation, the demand for specialisation would come from above at the university level and the graduate level, and from employers outside, and freedom would still be abused. This was why we felt that there was need for some examination system with an element of compulsion on the people who created these demands.

Sir Philip Morris: Does the examination system ever successfully fulfil the function that you are now assigning to it? It can be used in any way, can it not?

Mr. Hale: Yes. Except that if the examination system includes a broader range of compulsory subjects, and that compulsion is accepted outside, it may help.

Dame Kitty Anderson: I have a horror of textbooks of general knowledge.

Mr. Morgan: We did not envisage general knowledge textbooks. I think the result of broadening the subject matter would be to force people to find out more about things which they would not be able to get from standard textbooks. They would therefore have

to go and read for themselves, and look more closely at responsible newspapers, foreign reports, and so on. If this were achieved it would help to give a general broadening.

Sir Philip Morris: There are two main views on this subject which both aim at the same objective. One view is to confine sixth form work to two 'A' levels with a limited amount of time, and to try to add to the two 'A' levels subjects which will make the sixth form education more meaningful and more human. Another view is that it is necessary to have four 'A' level subjects, so that everybody is obliged to spread his sixth form education over a comparatively wide area. To which of those two systems do you think student opinion wants to move?

Mr. Hale: The problem of four 'A' levels is that the papers have to be very comprehensive and in the event students can select and concentrate on certain aspects of each subject and thereby neglect other aspects. I think this could be a serious disadvantage in the two 'A' levels proposal also. I think some attempt must be made to introduce some form of compulsory spreading.

Sir Philip Morris: Do you support four 'A' levels?

Mr. Morgan: No. We support a longer sixth form course with more than four examinable subjects continued beyond 'O' level.

Miss Gardner: Are students on the whole in favour of staying on longer at school? My impression is that girls do not want to say longer; they want to leave at seventeen.

Mr. Morgan: Most students, when they enter university, feel that they were at school longer than was necessary, but after two years at the university many of them will say that they wish that they had stayed longer at school.

Miss Gardner: Is this because they feel that their intellectual background was inadequate or that they now realize that they were not sufficiently mature, socially and emotionally, to face the stresses of adult life?

Mr. Morgan: I think it is a combination of both. One of the questions here is



the preparation at the school for the university. We have been so appalled at the ignorance of some people in schools who advise sixth formers about life in a university that we have launched an extensive campaign for pre-university courses. We have run two ourselves, and we have helped with several others.

Mr. Hale: There are two problems. One problem is the lack of information going into sixth forms from the universities. We have run courses for two years now. We have submitted questionnaires to students to find out how much information they are getting, and many of them seem to be in the dark about university places. They have very little idea of what professional courses or degree courses they can follow. The other problem is that many of them have not much idea of the sort of environment they are going to, of the distinction between university study and school study. Many of them have indicated to us that they are straining at the leash in the sixth form. At the last conference they showed a profound uncertainty about the environment they were going into. They were scared about the much greater independence they would have. We have had group discussions in order to answer their questions. We are not much impressed by the large-scale pre-university course which is run, where a series of top-level people give a series of addresses. We have tried to make it as informal as possible, so that we can get a group feeling during the week-end. We have a team consisting of a senior academic, a junior academic from the administrative side, and perhaps one sixth form teacher. It emerged from the answers to our questionnaire that school leavers found it most helpful to be able to talk to people who had just come out of the university, and to discuss the purpose of a university. We went on to deal with academic work, extra-curricular activities and the practical problems of a university.

Sir Philip Morris: Do you think it is better and more important to do it at that stage rather than at the time of admission to a university? In my university we spend a week on this.

Mr. Morgan: There is the difference that your activities are localised in

terms of what the freshers get at your university, and the problems confronted by them there.

Sir Philip Morris: That is what they want.

Mr. Morgan: I agree that is what they need. The other approach is also important, in that it gives them a more general picture at a time when they are able to think about it.

Sir Philip Morris: Did you not find them an intelligent crowd? I did.

Mr. Morgan: Average.

Mr. Watson: Intermediate.

Mr. Hale: Many of them said they would like some sort of orientation course at the beginning of their third year in the sixth.

Sir Philip Morris: Directed to their personal problems or the difficulties of choosing which university to go to?

Mr. Hale: These are two distinct issues and they were concerned about both. They wanted some orientation to prepare them, because there was a frightening sense of independence in the prospect of being cut off from a teacher. There is also a very great deal of confusion about the choice of university. Many schools seem to have contacts with only a few universities, and there seems to be a great deal of uncertainty about where they should go and which is the best degree course for them.

Dame Kitty Anderson: Is this because so many are first generation students? Is not this a transitory problem?

Mr. Morgan: To some extent. I agree that being first generation students has something to do with it. This does not get over the fact that the reception for the course which we run is tremendously enthusiastic, which shows there is a lack of information in sixth forms.

Chairman: This is interesting and valuable information.

Mr. Hale: I think after November we will be able to produce a report on the two conferences we have had. We have made tape recordings of them and have also issued questionnaires.

Dame Kitty Anderson: I would be very interested to hear your views of the effect of much earlier marriage on women's recruitment to higher education.

Mr. Morgan: This is a difficult question, on which strong and differing views are held by our members. I think that a larger number of women are becoming aware of the fact that more opportunities are available to them in what were previously the exclusive provinces of men, and consequently they are more prepared to stay on in higher education. There are also women who get married and continue with their studies. I think that the number of married people at universities has probably increased over the last five years. I think, too, that it is also becoming accepted that a woman with a degree will continue to take up a profession, at least in the first years of marriage. In those areas such as teaching, where there is a shortage of recruits, they are not induced to stay longer than 2·8 years—the average life of a woman teacher. But there should be no differentiation. If the men are prepared to lengthen their course, and we are repeatedly hearing that they want to lengthen their course, then I think that women will take up the same attitude.

Chairman: What is the attitude of the National Union of Students to marriage in undergraduates, both men and women?

Mr. Morgan: We have no policy which covers every aspect of this, but, generally speaking, we think that where a student is married before he begins his course, he should not be deterred from taking up the course because he is married. We think it is hard on the public if a student gets married in the middle of his course, for no other reason than that he cannot wait for three months until he finishes. We have always said that this is not something which the State should subsidise. However, one cannot generalise; the circumstances vary so much from case to case. I am afraid that some students have been treated rather harshly. Each case should be considered on its merits.

Sir Philip Morris: They are.

Mr. Morgan: Many students come to us with a new variety of hard luck story, and most of them are genuine; it is a difficult problem. We would like a malleable system in which each case could be considered on its own merits by people who both understood the responsibilities to the State, and were sympathetic to the human problems involved. We find that the age limit of twenty-five, before marriage allowance can be claimed, is harsh in many cases. Generally speaking, we think that marriage is a very popular institution and it is going to increase, so that cognisance should be taken of it by the people who are going to decide on grants.

Mr. Hale: We find that the third year tends to be a crisis time from this point of view.

Mr. Morgan: I think that married students are tending to get the roughest deals, in terms of financial support. I have seen them really suffering. I have seen them living at a shocking standard.

Sir Philip Morris: Are you thinking of undergraduates or postgraduates?

Mr. Morgan: Both.

Chairman: Would you say that, on the whole, the married state was a distraction from intensity of study?

Mr. Morgan: In many cases it acts as a spur. It gives an added sense of responsibility and many married students mature much more quickly.

Mr. Hale: It is the pre-married state which may be a distraction; this starts from the first year onwards. Bedford College (London) has been discussing this with us and will shortly submit evidence to you on the particular problems of women's colleges. We feel that we have not been able to give adequate coverage to this particular problem in the generalised memorandum, and we discussed the question with them to see if they would like to say something from the women's angle.

Chairman: We shall be very glad to see this memorandum. May we now turn to another question which concerns us very closely? You argue



that it is desirable that the quantity of higher education should be increased until in 1980 there will be a much greater population in higher education spheres than at present, both absolutely and in relation to the relevant age groups. Have you given consideration to the fact that this would mean, at any rate at the undergraduate stage, a slower progress to what you would regard as a proper staff/student ratio than would be the case if the expansion were less rapid? I am not arguing against expansion; I am trying to bring to the surface what seems to me to be a difficult choice.

Mr Morgan: I agree that this is a dilemma which runs through many aspects of our memorandum. I think that we either try to get more places at universities or try to create a situation in the universities where everyone admitted gets a rounded education, which necessarily means an increased staff/student ratio. We would feel that there is no point in increasing the places if they are not going to be much good, and we would go for quality first. But I think there are facilities which could be more advantageously used than they are at present.

Chairman: Do you take the attitude that improvement on the qualitative side is essentially bound up with the introduction of more tutorial methods?

Mr. Morgan: We think that more tutorial methods ought to be introduced to help in the qualitative development, but that is only one of many aspects which could be improved. We appreciate the value of tutorials; we define tutorials as being meetings of a tutor with two other people. They could be supplemented by seminars, which we define as groups of up to ten or twelve people at a maximum, where there could be discussion on various matters; this would be more helpful than the present rather stereotyped lecturing system at most universities.

Miss Gardner: To me, seminar implies graduate work. I would call undergraduate work a class; I am not certain that a tutorial should involve not more than two students and a class

not more than twelve. This surely depends on the subject being studied, the nature of the people and the nature of the teacher. In the post-war crisis at Oxford I sometimes turned what used to be a single tutorial into a tutorial for four, and I did not feel that it spoiled the work; on the contrary, it sometimes improved it. Many undergraduates feel it is a great strain to be with a tutor alone, or even with one other student, and are happier with a group of four. Are you not too rigid about this?

Mr. Morgan: We are arguing for what in our opinion is the ideal on that. We also think libraries must play an important part in this; library facilities are sometimes inadequate, though many people go to libraries to have somewhere quiet to work. If students were given rooms where they go for private study, the overcrowding in libraries would be lessened.

Sir Philip Morris: I have made a number of experiments with rooms such as you have in mind but I cannot get anybody to use them. The idea that they will come back at six, seven or eight o'clock at night is good enough in theory but I find they always have something else to do.

Mr. Morgan: I think that, with the increased number going into lodgings, there will be a demand for this.

Mr. Hale: In my experience at the L.S.E. the study rooms were usually crowded.

Sir Philip Morris: Are you talking of the evening?

Mr. Morgan: The peak time is just before the examinations.

Chairman: At the School of Economics, our lights do not normally go out until ten o'clock.

Mr. Hale: The library at the L.S.E. is normally well filled at even the off-peak period; in January and February the pressure is very serious.

Sir Philip Morris: In London the student usually studies until he goes away, does he not?

Mr. Hale: Many of us used to come back in the evening.

Sir Philip Morris: My experience is that people do not come back. They may stay on, but they do not come back.

Mr. Hale: This may be a reflection of the distance from their lodgings. People who live in Wandsworth or further out are not likely to come back.

Mr. Morgan: In one or two smaller university towns the facilities are well utilised but they are not enough.

Chairman: As you know, the Hale Committee is investigating teaching methods, but the subject is germane to this Committee's deliberations. Is the National Union of Students convinced that the lecture, if not an obsolete institution, ought to be on the way out?

Mr. Morgan: In most of its present forms, yes. With all due respect to them, lecturers now forward views which are in most cases obtainable from textbooks. Lecturers themselves have told us that they are tired of giving the same lectures year after year. They would much prefer to put forward some of their research work and their own views, which might prove more stimulating to the students. We like the idea of a lecturer giving a lecture on something in which he is basically interested, and trying to get across some of his enthusiasm rather than talking about something which the students can easily find out for themselves.

Mr. Hale: This should not be divorced from the recommendations on seminars. Assuming lectures are not places to give the basic information, the basic guidance has to be given somewhere and, in our memorandum to the Hale Committee, we said that the basic guidance should be given in seminar groups.

Chairman: It can be admitted that many lecturers are not what they ought to be and tend to bring the habit of lecturing into discredit. But if lectures were to be discontinued altogether in the universities of this country, the organisational problem of providing proper education with the present student numbers would be most intolerable. This side of paradise, we shall

have this institution in some form or other. I wonder whether your propaganda would not be better directed to improving the lecturers. A lecture ought to be more up-to-date than a text-book.

Mr. Morgan: Yes.

Miss Gardner: To say that the student can get the information from a text-book implies a great deal of devotion, industry and ability on his part. I would think he needs the lecture to highlight the textbook for him, by repeating, for instance, points which the lecturer knows are usually pitfalls for students. I would suggest that showing people how to use a textbook, and lecturing on something which is not in the books, are complementary. The problem with tutorials is that they can be exhausting for the tutor, who goes from one student to another teaching the same subject. The majority of students will make much the same observations about Hamlet, and teaching staff would be worn out if they were overloaded with this type of instruction.

Chairman: They would spend all their vacations recovering from the ordeal, and would not get on with their own work; it is a vicious circle.

Mr. Morgan: There are good lecturers of course, who give stimulating lectures. We also mentioned the question of improving lecturing technique. In many professions people are expected to train themselves; we realise that no amount of effort will go far without natural ability, but lecturers should at least develop the ability they have to the point where it is most effective in a lecture room.

Chairman: I fully agree.

Mr. Hale: At the conference of all the technical colleges in our membership, considerable concern was shown about the failure of lecturers to keep up-to-date with current progress in industry. Students coming in from industry often find that they come back to the college with a greater knowledge of certain techniques than the lecturers have. I presume this is partly inevitable. Our solution would be that the lecturers should be allowed to go back into industry and maintain much

closer contact. On the training college side, we had a number of complaints at the recent Training College Conference that many of the lecturers in special subjects were not taking students much beyond the field of study of the sixth form.

Dame Kitty Anderson: Did they mention any specific fields?

Mr. Hale: No.

Mr. Morgan: A number of Principals were also present; they were honest about it and differed widely from each other in their views.

Sir David Anderson: Would you be prepared to expand the view set out in paragraph 34 of your paper, in which you oppose the establishment of liberal arts colleges? You say that they would have 'disastrous effects on our whole system of higher education.' Would you tell us what those disastrous effects would be?

Mr. Morgan: We are basing ourselves on information about liberal arts colleges as they obtain in America, the model which has perhaps been most developed. We tend to think that liberal arts colleges lower the status in the particular fields of study they cover. This would seem to us disastrous, because we persist in the belief that, for all the needs of the nation to expand technologically, the humanities must be maintained as a vital element in our educational system.

Mr. Shearman: What is the basis of this information about America? How many of your members have first-hand experience of these colleges?

Sir David Anderson: 'Disastrous effects' seems a little sweeping. Are there no good liberal arts colleges in America?

Mr. Morgan: We based this on the evidence presented to us by our counterpart in America, the United States National Students' Association, which covers a vast part of America. Perhaps the result would not seem so disastrous to other people, but those who drafted our memorandum felt that 'disastrous' was the right word because it would tend to split the universities.

Sir David Anderson: I am not clear where the disaster would befall.

Mr. Hale: Is not one of the dangerous effects of this kind of development that people should have the impression that, if they want higher education, they should go to a liberal arts college, and the colleges come to be regarded as specialised institutions? To separate institutions in this way would deliver a serious blow to the whole system of higher education. That is the problem that concerns us.

Sir David Anderson: You think that all institutions of higher education should be comprehensive, like comprehensive secondary schools?

Mr. Hale: Not quite.

Sir David Anderson: But somewhat along those lines?

Mr. Morgan: We do not want to split up institutions, to make them less comprehensive than they are now. The creation of liberal arts colleges may lead to their denigration and a general feeling that they are second-best; this is what seems to be happening in America.

Sir Philip Morris: May I ask one question about recommendation 28 in the summary? Could you tell us something about your ideas for a concurrent degree?

Mr. Morgan: I think at the College of St. Mark and St. John in London the course is concurrent and it seems to be working effectively.

Sir Philip Morris: But it is not fully concurrent?

Mr. Morgan: No; but under the circumstances it seems to be working well.

Sir Philip Morris: That is what you have in mind?

Mr. Morgan: It would be adequate. We also hoped that this might be developed in a number of ways to make it, in particular, more accessible to students in every part of the country.

Miss Gardner: What is your members' view of the opportunities offered by

various universities beyond the first degree? Are they on the whole satisfied that, in most cases, the only course available is research? Is there any general feeling that this is not necessarily the best preparation for university teaching, particularly in arts, and that other forms of graduate study might be preferable? Alternatively, do they believe that the present method, which is mainly to give a second degree by thesis, is the best that can be devised?

Mr. Morgan: I hope my comments on this will not be based too much on my personal experience. I was chairman of our postgraduate working party, and we concerned ourselves with the question of postgraduate awards, in the first instance. I was appalled by the discrepancy between the number of awards available for science students and the number available for the humanities. I think that if I had a third class honours degree in chemistry, I could have got a research grant; but, as it was, I had to get a second or a first to get a research grant in classics, and even then I was competing fiercely for the half-dozen at my college. This is an irksome situation, although of course one appreciates the national dilemma.

Sir Philip Morris: How long ago was this?

Mr. Morgan: Two years ago.

Sir Philip Morris: You know that this has been steadily improving over recent years?

Mr. Morgan: Yes, so I am told. It has not improved greatly, however. I also think that the basic awards made by the D.S.I.R. and the Agricultural Research Council are more or less in line; there are not many complaints of discrepancies between kinds of awards. The opportunities are infinite for scientists, but there are very few for art students.

Miss Gardner: I was thinking of 'opportunity' in the sense of what the university offers you.

Mr. Morgan: The university will offer you something in the field in which it specialises. In the arts you tend to specialise in something which may be the speciality of the department.

Chairman: May I reformulate Miss Gardner's question? She is asking whether your Union has given thought to the possibility that, rather than specialising in narrow aspects of research, there is a place in the system of higher education for university training beyond the undergraduate degree.

Mr. Morgan: I think there is. I think it would be popular because of the status attached to a higher degree. Many students feel that, because of the increasing number of people going up to universities, it is desirable to have a little extra to qualify them for a job. In the technical world, a doctorate carries more weight than the M.C.T., although the M.C.T. course may be more developed than a particular research degree course; students prefer to have a doctorate because of the status attached to it.

Miss Gardner: Is there any demand from the National Union of Students for a second degree of a different type?

Mr. Morgan: No; we have formulated no policy on this point.

Miss Gardner: They feel that the only thing to do is some research towards a Ph.D.?

Mr. Morgan: They have been brought up to think about it in this way.

Chairman: They have not taken cognisance of developments which have taken place in certain universities, whereby master's degrees may be taken by examination rather than by dissertation?

Mr. Hale: I recall this arising at one conference, where there was discussion on the question of getting broader knowledge of some particular aspect of a field, rather than submitting a dissertation of great detail on a very small aspect of the subject. At this particular conference, there was some feeling that a broader approach would be valuable.

Chairman: This may be one way towards the four years which some of you want.

Mr. Morgan: I think such a development would have to start with the education of people in the universities.

Miss Gardner: If it were offered, do you think students would find this attractive? Oxford is offering this with its B. Phil., and in certain fields it seems very popular.

Mr. Morgan: I think a degree course of that kind would be attractive, if its purpose were explained clearly. Its appeal would of course depend also on the relationship between this particular kind of study and professional demands.

Sir David Anderson: I was interested to note in paragraph 63 the suggestion that advanced studies in fine art should be concentrated in C.A.T.s. Would it follow from that that the Royal College of Art ought to be incorporated in Imperial College and should the Birmingham School of Art be incorporated in the C.A.T. in Birmingham?

Mr. Morgan: I think you are exaggerating our viewpoint here. There are, in our view, many elements which could fit into the Colleges of Advanced Technology, elements where there is a certain common basic approach to the academic field and to life itself. For instance, architecture already exists in the Welsh College of Advanced Tech-

nology and at Bristol; such subjects as sculpture and civic design are closely related.

Mr. Hale: This argument follows on the case which we make for integration, and in the preceding paragraph we argued that association was needed. Many of us would like to see a closer association of other sorts of colleges, but in particular we feel that an association between fine arts colleges and technical colleges would be a good basis for such association.

Sir David Anderson: Concentration is not quite what you had in mind?

Mr. Hale: Probably not.

Chairman: The idea of a college with Leonardo da Vinci as director is a splendid one.

Mr. Shearman: I should like briefly to record my appreciation of what you say in paragraph 78 about the expanding need for part-time studv.

Chairman: We are very grateful to you for the pains you have taken in preparing your evidence, and the skill with which you have presented your case.

MEMORANDUM

submitted by

PROFESSOR H. C. DENT

7th June, 1961

THE FUTURE ORGANISATION OF TEACHER TRAINING

PREFACE

This is a personal memorandum, committing no one save its author. Its purposes are, first, to examine briefly some proposals that have been made recently for the future organisation of teacher training in England and Wales; and, secondly, on the basis of that examination to offer a few constructive suggestions.

In the preparation of this memorandum I have been principally influenced by two thoughts: first, that, especially in a period of rapid expansion, structural change in the teacher training system can be justified only by reasonable expectation that it will facilitate the production of better teachers; and, secondly, that in England and Wales successful reform has come almost invariably by way of evolution, not upheaval.

EXAMINATION OF PROPOSALS

The proposals I shall examine are eight in number.

1. Retain the existing organisation, but encourage adaptations of this in response to changing circumstances and to pressures both internal and external.
2. Make the training colleges into a self-contained and autonomous service, self-governed through a Training Colleges Council, and financed by the Treasury, or the Minister of Education, through the medium of a Training Colleges Grants Committee comparable with the University Grants Committee.
3. Transfer the financial administration of the training colleges to the University Institutes of Education.
4. Make the training colleges constituent or affiliated colleges of universities.
5. Merge the training colleges with the Colleges of Advanced Technology to form new universities.
6. Broaden the function of the training colleges to include also the training of other categories of social service workers.
7. Change the training colleges into 'Liberal Arts Colleges', that is, colleges of general higher education which students enter without commitment to a vocational choice.
8. Employ selected schools to undertake, in co-operation with training colleges or university departments of education, much of the practical part of the training of teachers.

Proposals 6-8, it will be seen, are of a different order from 1-5, in that they affect directly only the internal organisation of training establishments; they do not necessarily involve any change in the structure or in the control of the training system.

Proposals 2-5, on the other hand, necessarily involve the detachment of the L.E.A. colleges from their Local Authorities, and the surrender of, at least, some measure of control by the bodies owning Voluntary Colleges. Of these four proposals I consider No. 3 both unrealistic and unwise. Unrealistic, because University Institutes of Education have no powers in their own right to accept such a transfer; they are bodies acting under powers delegated to them by the universities of which they are a part. To implement this proposal would involve either making the Institutes independent of their universities, and thus destroying their *raison d'être*, or offering the financial administration of the training colleges to the universities. The universities would almost certainly not undertake it; they have too much else on their plates, and in any case are without experience of training college administration.

Proposal 4 can also, I think, be dismissed out of hand. The great majority of training college students are not intellectually of university calibre. To subject them to normal undergraduate courses could only do them harm. To give them *ad hoc*, that is, lower level, academic courses would stamp them in the eyes of their fellow members of the university as inferior students. This would not only be bad for their morale, but would reflect adversely upon the teaching profession.

(The foregoing paragraph should not be taken to imply that no training colleges should become university colleges. In the final section of this memorandum I shall suggest that some should.)

At first sight proposal 5 appears to be, at least educationally, quite logical. A College of Advanced Technology is, in fact, a collection of vocational training schools. To bring into it a teacher training college would be merely to add another. Actually, the proposal is open to the same objection as number 4, because the C.A.T.s have been specifically created to do work of graduate and post-graduate levels only. The proposal has the added disadvantages that, first, it would meet the most widespread and violent opposition from the training colleges, and secondly, these two parts of the educational system know virtually nothing of each other, and have never worked together. To bring them into partnership would no doubt be ultimately to the benefit of both sides; but to expect such a partnership to come quickly to fruition in the present turmoil of expansion is to ask too much. There is, however, a good case for merging the four training colleges for teachers of technical subjects with C.A.T.s; in fact, this would appear to be the sensible thing to do.

Proposal No. 2 has attractive features. It might well enhance the status of the training colleges; it would certainly free some of them from restrictive L.E.A.s. But it has, in my opinion, one absolutely fatal disadvantage; it would inevitably loosen, if not sever, the links between the universities and the training colleges which have been so painstakingly forged, especially during the past dozen years, and which I believe are universally valued by, and valuable to, the training colleges. The defects of a teacher training system not in contact with university education became abundantly manifest in the 19th century; it would be folly to court them again.

This leaves proposal No. 1 in the first group, and the three proposals of the second. Among the latter I think No. 7 must be ruled out. In a Utopian society it would be ideal; but at present our country cannot risk it. We must have a steady and adequate flow of *committed* recruits to teaching.

Proposals Nos. 1, 6 and 8 can, I think, be run together as one. I regard Nos. 6 and 8 as among the desirable developments I would wish to see emerge early if the existing organisation of the training system were retained. I would welcome the introduction into some teacher training colleges of students intending to be adult education tutors, youth leaders, community centre wardens, child care and guidance officers, or probation officers. I do not believe that the administrative problems posed would prove too difficult; but I would expect that colleges providing for a variety of vocations would either have to be fairly large (say, 450 students upwards) or be more generously staffed than colleges training teachers only.

SUGGESTIONS FOR CONSIDERATION

My principal suggestion is that the existing structure of the teacher training system be retained. I see serious objections to each of the other proposals I have examined, and I cannot find convincing arguments in favour of any, at least during the present period of expansion.

But my advocacy of proposal number one is subject to the condition that the existing structure of the teacher training system be considered ripe for modifications, some of them substantial. I am definitely not arguing merely for retention of the *status quo*.

Two modifications I have already suggested: that some training colleges should train not only teachers but also other categories of social service workers; and that the training colleges for teachers of technical subjects should be affiliated to Colleges of Advanced Technology.

A third modification—to which I attach great importance—is the devotion of a relatively small number of training colleges wholly or mainly to the training of graduate teachers, whether by post-graduation courses or by courses of concurrent undergraduate education and professional training.

Compulsory training must be imposed upon graduates and 'graduate-equivalents' as soon as possible. School teaching is today far too skilled an occupation to be entrusted to untrained persons; and a university course of study is definitely not a training for teaching.

In the present era of university expansion, which clearly will continue for many years, the universities cannot be expected to expand their education departments sufficiently to undertake the training of all, or perhaps the majority, of graduates wishing to become teachers. Nor do I think they should, or need be, asked to do so.

Moreover, there is in the training colleges today a significant, if perhaps not large, number of students who are intellectually capable of taking university degrees. This number may be expected to increase, both absolutely and relatively, if, as is generally anticipated, the competition for university places grows keener.

Training colleges have given both one-year courses of professional training to graduates and four-year courses comprising under-graduate education and professional training for teaching for over 50 years, but on a relatively small scale. What I suggest is that the scale be enlarged to the extent that the training colleges undertake the education and training of a majority of graduate teachers; and that this training be concentrated in selected colleges, not dispersed over many. This would demand something of the order of a dozen colleges training graduate teachers only.

Colleges selected for this task should, I think, become colleges of universities. I do not wish to press that they necessarily become constituent colleges; possibly some form of affiliation which reserved to the colleges a measure of autonomy, especially in respect of curricula and syllabuses, might be a preferable arrangement. Such an arrangement could perhaps be most easily made between a training college and one of the new universities now in process of creation.

A fourth modification I would suggest is the transformation into general colleges of the specialist colleges of housecraft and physical education for women. So long as the normal training college course was two years, while that of these colleges was three, there was perhaps some justification for the extreme form of segregation forced upon the latter—though it should be noted that several general colleges have for years provided specialist courses for housecraft teachers. Now that the normal college course has become three years, there is no justification for such segregation. The establishment of highly specialist 'wing' courses—in physical education among other subjects—in general colleges is a further argument against the perpetuation of single subject specialist colleges.

Fifthly, I think a much larger number of training colleges ought to devote themselves wholly to training primary school teachers. There are at present not more than nine colleges which do so, whereas all the 24 University Departments of Education, 23 training colleges (one general and 22 specialist), and all 16 Art Training Centres are engaged wholly, or very largely, in training secondary school teachers. This is utterly out of proportion. I realise, of course, that there will always be fluctuations in the relative demand for primary and secondary school teachers, and that consequently the training establishments as a whole must be able continuously to adapt their output to meet the current needs of the schools. But until the school leaving age is raised to 19, there will always

be more children in primary than in secondary schools ; and I cannot emphasise too strongly the (literally) fundamental importance of the Primary School. To have a substantial number of training colleges concentrating all their resources upon primary education, instead of dispersing them over a wider field, would, I believe, greatly benefit not only the Primary School but all branches of public education.

Finally, since all L.E.A. colleges are now financed from a national pool to which all the local authorities contribute in proportion to the number of children in their school rolls, the perpetuation of college government by single L.E.A.s seems no longer justified, especially as the students in every college come from a wide geographical area. The L.E.A. which originally provided the college must reasonably be regarded as *primus inter pares* or the governing body but not, I think, to the extent of holding a majority of the seats. Each college should have its own governing body, not shared with any other college. There should be representation on this of other L.E.A.s than the providing one, of the University and its Institute of Education in whose area the college stands, and a substantial number of members co-opted because of their knowledge and/or experience of public education, including teacher training.

I realise that in so brief a memorandum as this only the bare bones of the argument can be presented. But I realise also that members of the Committee on Higher Education will have hundreds of memoranda to read.

ORAL EVIDENCE

given by

PROFESSOR H. C. DENT

Wednesday, 11th October, 1961

Chairman: First, Professor Dent, I have to thank you for your very interesting and well-considered paper. May I ask whether you would like to say anything in supplementation of it before we begin our discussion?

Professor Dent: I would like to emphasise one point, namely that a great number of different kinds of teachers are required, and that therefore there should be a great number of different institutions preparing them, institutions integrated both with each other and with the whole structure of higher education.

Chairman: Thank you ; may we proceed straight away to the part of your memorandum where you put forward suggestions for our consideration? Your first suggestion is that some training colleges should train not only teachers but also other categories of social service workers. What categories have you in mind?

Professor Dent: I have in mind tutors who are going into adult education work, child guidance, possibly also occupational physiotherapists, workers in juvenile delinquency in approved schools, in Borstals, child welfare workers of all kinds who are aiming at qualifications comparable with those of teachers. I would certainly include youth leaders, community centre wardens, and so on.

Chairman: What sort of conditions of admission would you impose?

Professor Dent: Nothing lower than the existing minimum academic qualifications. I should also want to enquire very closely into their temperamental qualities.

Mr. Shearman: Your suggestion would involve providing for specialists on the college staff would it not? Occupational therapy, for instance, involves medical specialists ; I wonder how far it would be economic or useful to add to the staff of a predominantly educational institution

these miscellaneous high-grade specialists?

Professor Dent: Would the institution necessarily be predominantly for teachers? I take your point that there would have to be considerable groups of students to make the staffing economic. I would concede that one college might well be predominantly for teachers but that another college, such as the one recently established at Leicester, might well be predominantly for youth leaders. I believe it is generally assumed in the training colleges that a minimum of fifteen students a year over a three-year course is necessary to make a sizeable group. I should be inclined to work on that basis.

Dame Kitty Anderson: Might it not be better to keep an even balance between the various vocational courses, lest one with the majority of students swamps the others?

Mr. Shearman: I think Professor Dent is envisaging some big colleges, in which case that might not be a difficulty. Would some of these specialist departments not be cut off from other highly specialised courses such as medicine, with which they would be better associated?

Professor Dent: I think we should guard against starved departments, and that is why I would insist upon whatever is judged to be the minimum entry of students in each case. But this sort of arrangement works well with the domestic science colleges, who also take in institutional management students.

Dame Kitty Anderson: Those two disciplines are very close together.

Professor Dent: Yes ; I think the studies should be allied. I am not suggesting that all these specialities should go into every college.

Chairman: Particular colleges would specialise in one direction?

Professor Dent: I would suggest, say, a maximum of three of such different occupations.

Sir Philip Morris: You say the number of training college students who are intellectually capable of taking university degrees are in a minority at present, but that the number may be expected to increase. Do you see any difficulties in trying to cater for a growing minority of degree students?

Professor Dent: There are difficulties of course, but I do not feel that they are very serious, if, as I suggest, colleges are to be set up whose business it is to prepare graduate teachers.

Sir Philip Morris: You would try to avoid having graduate and non-graduate courses in the same colleges?

Professor Dent: Yes.

Sir Philip Morris: Why?

Professor Dent: First, on the basis of the difference of intellectual calibre, which has an effect upon general social meetings and discussions. I would fear that graduate and non-graduate students in the same college would tend to form two cliques, the non-graduate clique and the graduate clique. Further, I hold that university education is a specialised, highly intellectual discipline and I think it would be a hindrance to students working for a degree to be in the same college as other people doing entirely praiseworthy things but not of the same high quality. I would add that I would like here to see the same principle of mixing the occupations applied to youth leaders, probation officers, and so on, who wanted to include a degree as part of their qualification for undertaking their work.

Chairman: In the system of the future, in the great run of teacher training colleges you would not encourage the more talented students to read for a degree? If they were conspicuously talented you would take them out and put them in other colleges where concurrently graduates were receiving finishing training as teachers? Is that the pattern you advocate?

Professor Dent: I doubt if there would be much transfer. I think the possibility should exist, but the choice should be made when the student entered college. It would be made partly by the student and would be made finally, of course, by the authorities of the college, who would judge that this student is or is not potentially a graduate. I feel strongly, however, that there ought to be opportunities for non-graduate students later, if they so desired and were able, to go on to degrees. That would be by exempting them, on the basis of their teachers' certificate or higher qualification, from part of the work.

Chairman: That I understand. But what happens in a teacher training college if, on interview at the beginning, the college authorities decide that a person is fully capable of reading for a degree? Is he passed to go elsewhere, or is he allowed to pursue these studies under the same roof as people who are not reading for degrees?

Professor Dent: He should be advised to seek admission to another college.

Chairman: This runs counter to many submissions which we have received, which argued that a fair proportion of the students now coming into the average training college are capable of taking suitably devised degrees, and urged that we should recommend that facilities should be extended.

Professor Dent: I would take exception to the phrase 'the average training college'. I think the point is important. Some training colleges have a high proportion of such people, some colleges are already giving concurrent training and degree courses. Fifty per cent. of the present student body of one London college are doing that work.

Chairman: Under your scheme students who are not taking degrees do not go to the college?

Professor Dent: I am strongly in favour of having colleges which devote themselves wholly or mainly to that work. They should, in my view, be in a different relationship with the university from the other colleges, though I would wish a university relationship for all the colleges.

Dame Kitty Anderson: It is argued by many people that if you are going to be a teacher it is good for you to be mixing with people who are at different standards in academic disciplines, because this unites the educational system within the college.

Professor Dent: I cannot accept that. I think the teaching profession is too large and too varied. There can be a corporate feeling, just as among civil servants there may be a corporate feeling, but the range of ability is almost as great. It is now an enormous profession, over 300,000 strong. I think we would be pursuing a will-o'-the-wisp there.

Mr. Shearman: The standard of the product from the schools is rising, the school leaving age is rising, and the standard of preparation for advanced work is rising; further, one can envisage, and perhaps already see, some signs of university degrees changing in structure and content. In suggesting that only a minority of students would be capable of taking a degree you seem to imply that the situation is fixed in some way. As the standards in the schools rise, there will be a demand for more highly qualified and more highly prepared teachers. Ought we not to set our sights higher? As I understand the pattern you have in mind, a considerable proportion of students will be trained for primary school teaching in isolation, in separate colleges, and almost by definition will not get degrees; is it not possibly true that primary school teachers need to be as intellectually mature and intellectually equipped as other teachers?

Professor Dent: As a general principle, yes; but when you face the facts, no. I know many colleges in what might be called the second division of the league. They are turning out very good teachers—they are all girls as it so happens, but the argument applies both ways—very good teachers indeed, but to try to force them through a university degree or anything approaching the intellectual rigour of a university degree would be to destroy them as teachers.

Dame Kitty Anderson: Let us suppose these segregated colleges exist. What happens to the young woman who sets

out with the desire to teach in a primary school, and alters her opinion when she gets to the training college and wants to go into a secondary modern school, and has to leave that college and go to another one? Would you not be prepared to have a mixture of students in the college?

Professor Dent: I am quite prepared to accept that position.

Dame Kitty Anderson: But you do not agree with it?

Professor Dent: I would have every kind of variety, but it must be accepted that a mixed college of this kind would be a very large college.

Miss Gardner: I can understand that there is a size above which a college is too big, but is there not also a size below which it is too small?

Professor Dent: Yes.

Miss Gardner: Is it not a danger that, for the training of the specialists you have in mind, the institution might be too small?

Professor Dent: I suggested a maximum of three different functional preoccupations: if there were the minimum number of entrants for each year; that would amount to a college of size. That I regard as the absolute minimum, and I would not wish for the absolute minimum. I believe, while not being too picky about figures, that the college should have something of the order of three hundred to four hundred students. It makes a difference whether it is going to be a co-educational college or a single-sex college, but to get a live community numbers of that order are necessary. I would not mind their being somewhat larger than that. I know one college of five hundred which has a very strong sense of community. I would not favour colleges going up into four figures. This is purely a personal opinion; it is not based on any evidence.

Chairman: Would it be unjust to represent your attitude in this respect by saying that you are against the comprehensive training college?

Professor Dent: I am; I think it would be an unnecessary dispersal of resources.

Chairman: What perplexes me a little is this balance of argument in connection with the comprehensive training college versus the highly specialist one. Do you carry this principle into other walks of higher education? Would you be against the idea of a comprehensive university?

Professor Dent: Yes.

Chairman: May I ask you to do expatiate a little on this?

Professor Dent: First I would not like this to be interpreted as snobbery. I regard these teachers as good teachers. Some have to deal with the higher levels of learning, some have to deal with the arts and the crafts. They are all good. My primary objection to the comprehensive university or any other comprehensive establishment of higher education is that it has to be inordinately large. The feeling of community in the student population and in the staff is lost when institutions become swollen in size. Further, I think an institution so swollen is in danger of forgetting its primary purpose. I consider the business of a university to be high intellectual discipline. The primary purpose of the teacher training college is to train teachers. If a degree is a necessary part of their equipment then provision should be made to give them a degree.

Chairman: Supposing you carry your principle to its logical extreme, with complete functional differentiation; it may be true that the properly trained teacher is as valuable a member of the community as the honours mathematician, or historian. But, human nature being what it is, will not that institutional structure give rise to artificial values, a false hierarchy, a sense on the part of some: 'I have only been to a teacher training college', and on the part of others: 'Yes, but I was at such-and-such an institute of technology'?

Professor Dent: Yes. We have always had that with us. I am not carrying it to the extreme. I am suggesting it should be taken to a considerable length. I think the answer to your point lies in the remuneration and esteem accorded to the teaching profession. I see no reason why there should not be highly qualified

specialists in the primary schools; in fact the primary schools are in urgent need of them. But they are not necessarily people who have taken a university degree; they are people who have other estimable qualifications.

Chairman: But in the alternative world the teacher who was not capable of a degree would have grown up side by side with the people who were going on to degrees, and it would be only at the end that the sorting out took place.

Professor Dent: I know that is a strong argument. Human nature being what it is, I think all we can do is to take the strongest measures we can to avoid any snobberies of the kind you have in mind. The historical tendency to regard the primary element in the educational structure as the lower element is one which has to be combated.

Mr. Shearman: Is it impossible altogether to envisage lifting the standards of some of the second division colleges in the direction of the standards of the best colleges?

Professor Dent: Which standards are you going to raise? One college I know is doing excellent work in some of the arts and crafts; their standards are higher than some of the more highly reputed colleges. But if I may come to your main point, first, they are small colleges, they are rather isolated; secondly, they have difficulty in filling all their places with students possessing qualifications above the absolute minimum. This fact becomes known, and consequently the staff who apply to such colleges is on a lower level, except perhaps in one or two of these specialities for which the college has become known. It is a snowballing business.

Mr. Shearman: Do we have to rest content with things as they are?

Professor Dent: No

Mr. Shearman: It might be that some colleges would have special courses in arts and crafts alongside the other courses. We have other major pre-occupations, with science and mathematics for instance. We need, do we not, better teaching of those subjects at the early stages? But, that apart,

would you think something should be done to raise the intellectual outlook and standard of the majority of training colleges?

Professor Dent: I am not sure about the majority, but I do agree that there should be training for specialists for instance in science and mathematics; that is one reason why I do not want to see everybody forced through a university degree course.

Mr. Shearman: I am not necessarily thinking of precisely the existing structure of university degrees.

Professor Dent: You have instanced the teaching of mathematics in the primary school. There should be wing courses in some of the training colleges for teachers of mathematics in the primary schools. Such a course requires a great deal of practical work. These students would have to do a great deal more, not necessarily of school practice in the conventional sense of the term, but they would have to do an immense amount of practical work. The course which should be devised for such students would be totally different from any degree course which obtains in this country; it would be very different from the great majority of the existing training college courses and only a relatively small minority of students would be capable of taking it; but I have met them.

Mr. Shearman: Are you suggesting that the teaching of arithmetic in primary schools should be a specialist subject in the hands of a specialist teacher?

Professor Dent: Yes; with a considerable amount of research being done by those people. And when students emerge with that qualification they should have an allowance on their salary which is comparable to the degree allowance.

Mr. Shearman: Would this not present great difficulties in many primary schools?

Professor Dent: We accept this kind of differential at graduate level already.

Mr. Shearman: I am questioning whether we can or ought to treat arithmetic in the primary schools as

a highly specialist subject; if the school does not have a specialist teacher in arithmetic what does it do?

Professor Dent: I think it must have one. I regard the primary school as the most important part of education. If you do not get things right there the other parts of education are hamstrung later on. I would suggest that there should be highly qualified specialists for various branches of teaching in the primary school.

Mr. Shearman: You would reproduce generally in the primary school the pattern which you now have in the secondary school?

Professor Dent: I would not reproduce the pattern in the secondary school, because the pattern there is that the specialist teaches a subject and teaches no other. The specialists in the primary school would be teachers who would take other subjects, but who would primarily be of use to the rest of the staff. I would not want to suggest any pompous title for them, but it might be 'director of mathematical studies' in that particular primary school. We cannot expect that the run-of-the-mill teacher in a primary or a secondary school to be a highly qualified specialist; there are too many of them.

Sir Philip Morris: Would degree courses in training colleges remain concurrent?

Professor Dent: I think they should be concurrent.

Sir Philip Morris: And you think it is practicable to retain them as concurrent?

Professor Dent: I do. I am against the three-year degree followed by the one year of professional training.

Sir Philip Morris: Previous experience has been that when degree work starts the concurrent and integrated course begins to disappear and the course becomes consecutive. That could be described as a strong natural tendency. Would you think that this strong natural tendency should have its way, or do you think it can be successfully combated? It has not been hitherto.



Professor H. C. Dent

Professor Dent: I agree. That is one reason why graduate training should for the most part be retained in training colleges, because they are colleges with a vocational purpose. The tendency has been not only for courses to become consecutive but also for these institutions to gravitate towards university departments. I know I am tilting against history, but I am suggesting that we should make history.

Mr. Shearman: We have been told from certain quarters that in Scotland there is a revolt on the part of graduates against being sent to the training colleges for training.

Professor Dent: I am familiar with the Scottish system, but think it is so different from the English system that no useful deduction can be drawn from it. The primary difference is that all the men have been to a university. Possibly we can draw a conclusion from that. But we can also draw it from the English experience, that, having got the degree, the diploma year is then regarded as a boring period that has to be got through. I consider that the basic weakness of the Scottish position is that the colleges of education are not linked with the universities; they are a self-contained body, virtually self-governing through their representation on the national committee. That may be all right for

Scotland. It may be that the fact that, with the exception of the few women who are to teach the infants, they all go through the universities is sufficient compensation. But the discontent of the graduates suggests that the system is not satisfactory. It seems to me one more argument against the end-on degree, to proceed with a growing tension to a high level of academic achievement, and then thankfully sink into the college, where you must necessarily start at the elementary work again. It seems to me to have every disadvantage.

Chairman: So that if we were starting from scratch, you would build on our present system rather than on the Scottish system?

Professor Dent: Yes.

Sir David Anderson: May I ask Professor Dent whether he thinks that a very large training institution might grant its own degree?

Professor Dent: I am against it. I am one of those who believe that the university is the body to grant degrees and that if colleges do so it leads inevitably to a debasement of standards.

Chairman: Professor Dent, we are very indebted to you.

MEMORANDUM

submitted by

THE NATIONAL FROEBEL FOUNDATION

27th September, 1961

INTRODUCTION

The National Froebel Foundation exists to promote a certain conception of education which covers the entire field, from the earliest years to the continuing need of even the most developed minds to go on learning and growing. But one consequence which flows from that conception is the far-reaching importance of the earlier years (at one time very much neglected); and the Foundation has tended to focus its main work on that period. Accordingly its practical connection with higher education has lain chiefly in the field of teacher-training, more especially in relation to the earlier years. That training it sees indeed as pivotal, and this will be stressed later. However, the general aims which it contemplates are such that they can succeed only if they direct our entire educational course from the beginning to the highest formal level. Thus the Foundation believes that its standpoint has considerable significance, not for teacher-training alone, but for the character and needs of higher education as a whole.

That standpoint is at present largely accepted for younger children, but often wrongly assumed to be applicable only to them. Its far wider bearings can perhaps be best illustrated, in a preliminary way, by reference to one of the main problems of higher education; that of our so-called 'two cultures', scientific and humanistic. We should say that a vital problem is indeed involved, but it needs formulating very differently before we can begin to deal with it. The problem is not one of only two separate cultures, but of quite a number, each largely cut off from the others, and all from their common roots. The antithesis: 'scientific' versus 'humanistic' is a doubly false one, because (a) science is a humanity, or, if we like, a major civilised achievement of the human mind, in exactly the same sense as literature, philosophy, history, law, etc.; (b) for the purpose of the antithesis 'science' is equated with physical science, as if the human ones were not, once more, sciences in exactly the same sense, though at a less advanced level, and much more obviously *akin* to the other humanities. Physical science simply represents an extreme case of the strong forces inherent in our present educational scheme which make for the creation of a series of separate cultures, each form of educational specialisation producing its own. We should, however, hold that the level of higher education is much too late to remedy this—that our real trouble is at the earlier and middle levels where our current educational methods *foster* cultural fission instead of seeking to prevent it—and that higher education can only successfully counteract the centrifugal forces inherent in specialisation if it can *start* from the right build-up and *use* this to *consolidate* the idea of a single common culture consisting of fully communicating parts. (We may here recall that, as Froebel himself put it, education must from the start be 'the education of the whole man'.)

Since your Committee is expressly concerned with long-term *principles*, it is hoped that the following brief summary of the Foundation's basic educational views, and the consequences which these, if valid, would entail for higher education, will not seem irrelevant to your task. The present statement will not attempt to go beyond broad general principles, since the various bodies actually engaged in higher education are better placed to discuss more specific issues.

I

Education, as a socially planned process within a democratic society (more particularly normal full-time education), has a dual aspect: (i) It is something which the society *owes* to every new member (a matter, as it were, of historical trusteeship). (ii) It is also something which, for genuine democracy, it *needs* from each such member. In the first aspect, the object of education is to open up to every

child such participation in the society's communal civilised heritage as lies within his power. From the second aspect the aim must be that as fast as he grows into sharing in that heritage, he shall grow also into understanding and accepting the indispensable 'sharing' rules, through which alone a democratic community can maintain its way of life.

The Foundation holds that if these aims are to be met, the education of every child needs to be (A) all round (B) individually integrative all the way through (C) a co-operative social process which of its own nature will make strongly for social integration. These requirements go closely together and largely depend on one another. (B) depends on (A) for the material to be integrated; (A) on (B) for all the meaningfulness of that material; and both on (C) for stimuli, help and lasting success.

(A) 'All roundness' means that children must have every opportunity of access to all main forms of human activity and achievement: knowledge and understanding; imaginative expression and creation; making things and planning enterprises; human relations, institutions and problems; and so on. And this is no impossible or Utopian aim. Most young children are naturally 'all round'; that is, interested, or ready to be interested, in almost everything new; full of questions and puzzles; eager for fresh activities and skills, new experiences and new realms of experience. Presently of course they will increasingly learn to narrow their field by their own election; but a long enough phase of all-roundness is essential precisely so that they may find their way at length to the most satisfying personal choices.

(B) However, nothing that is offered to the child, or comes his way, is genuinely *educative* unless he can join it up with a connected structure already in his mind. Authentic mental growth can only take place by progressive integration of what is new with what has already been *integratively* built up earlier. We are thus referred *inward* to what is happening in the child's mind, and *back* to the first foundations of this building up process, which can only be properly understood if we follow it right through. The present is hardly the place for developing this theme, but reference should here be made to the penetrating contemporary researches of Professor Jean Piaget and his helpers, which in the view of many of us have newly illuminated the whole story of our intellectual development.

All that can be noted here is the points that bear most closely on the further argument of this memorandum, as follows:

(i) The foundations of all later integrative learning are laid when the child, during his first year, forms some rudimentary schemes of different kinds of action and the results they bring, and combines these together into a first integration-base. This is then rapidly expanded and organised, until by the end of the second year it has become a structured psychic whole on which he can draw for a wide range of successful purposive behaviour, because it in fact embodies the main features of the world immediately around him.

(ii) All further integrative learning, and indeed all directed thinking, is thereafter based on that scheme. It is essentially a working model of a world of different kinds of objects and happenings in a framework of space, time and causal order. This model continually gets extended in space, and presently also in time; it is more closely filled in, now in one area, now in another; it is arranged and ordered in a variety of different ways; and it is constantly being corrected, now in detail, now in some larger way, as flaws and errors in the model come to light. The outcome is an almost immeasurable expansion and transformation of the original nucleus. But its basic structure (always a world of objects and happenings in space, time and causal order) remains substantially unchanged, and indeed is more and more taken for granted as just the nature of things. We are usually only conscious of whatever fraction of the scheme we need for our immediate purpose; but we are conscious of it as a fraction, and can, if we wish, readily extend it in any direction, and as far as we may desire. Integrative learning

becomes simply the progressive incorporation of more and more material into this implicit scheme. (Even advanced physicists and philosophers, who do not think it the final word, still work with it for all purposes other than advanced physics and speculative philosophy.)

(iii) The basic *methods* of such learning also undergo only refinements and differentiations whilst in main substance remaining unchanged. From the first year onward they are a continuous active alternation of physical and mental factors: exploring and discovering, manipulating and experimenting; combining, constructing and inventing; comparing, connecting and soon also distinguishing; arranging and ordering; noting errors and searching for the needed corrections; later, thinking up possibilities and trying them out; testing ideas and beliefs for dependability; and so on.

(iv) By the school-entering age a vast amount of learning on these lines has already been achieved, even though there is unlimited scope for more. But this scope can only be realised if (a) the basic law of real learning is respected, namely that any new material that comes to the child must get integrated with the connected scheme already in his mind; and (b) it is accepted that such integration must be effected by the child himself, and in the earlier years always by a close combination of physical and mental activity. This, however, presupposes that the new material comes to him in some way that makes him *want* to master it, since otherwise there will be nothing to evoke the essential *active effort*. And that in turn means starting from his own questions and interest, that is, his own wish to know or understand.

In other words, in school we must begin where his own learning processes have so far brought him, and carry him on from there. Our great advantage is that what before was a matter of chances and brief snatches, with little thought-out adult help, can now be converted into a series of regular advances on a planned front. And we can deliberately aim at steering these in the most valuable and rewarding directions. We can provide experiences, suggestions and infectious enthusiasms which will stimulate children into *wanting* to grow into most of the chief domains of our civilised heritage. They are after all made of the same human stuff as those who built it up, and still more as those who have valued and thereby preserved it. Each such realm responds in fact to interests, needs and drives which are equally real in us all. And therefore we can take it that, rightly encouraged and guided, most children have it in them to grow into appreciation of some of these domains, and often into active pursuit of others.

(C) It is plain that if education is to assume this form it must be given the chance of falling into a co-operative social pattern. Learning that is both all round and integrative will most readily occur when children work together in groups, on joint enquiries or on jointly planned enterprises. They will then constantly stimulate and help one another through the free play of discussion and argument, and through contributing each his own information, suggestions and ideas. But they will thus grow also into the *ways and rules* of group achievement. Most of them will readily fall into the rhythms of the joint pursuit of common aims: the call for taking counsel together and being receptive to differing views; jointly deciding on courses of action, agreeing on their respective parts in these and carrying them out responsibly; practising mutual acceptance and adjustment and subordinating oneself to the aim to be achieved, and so on. There will quickly be set up among them a 'public opinion' that will deal with any one whose behaviour is 'spoiling' things, that is, threatening the enterprise with failing or breaking down.

Organised team games operate in a similar way; compliance with the rules usually follows from joining in the game, since it can only *go on*—and yields its satisfactions—on those terms. But they are self-contained, closed wholes (though we always hope that there will be *some* transfer from them). Any joint enquiries or enterprises need the same attitude if they are to get anywhere; by way of contrast, however, they are open-ended, do not depend on set rules but generate their own, and are capable of freely growing and spreading. The co-operative way of grappling with problems, launching enterprises, or seeking any desired goals—with its great

heightening of powers, successes and rewards, but also with its inherent *rules*—can become an ingrained habit and a way of life. The most effective means of meeting the demands of active learning is thus also a direct road towards those attitudes of mind which a democratic society most needs from its members.

II

The foregoing are the principles which, in the Foundation's view, should shape the basic planning of education and therefore also the training of teachers. The first requirement, as has been noted, is that children's natural integrative learning processes should be taken over when they enter school, and helped to develop in every sort of way. And this means providing a variety of stimulating situations and experiences which will give rise to questions, and then aiding the children to work their own passage, wherever possible, to the answers.

However, that is only one stage—though a vitally important one—towards opening up for the child his share in our common civilised heritage. Eventually he must come to *see for himself* how much more this has to offer him; in particular, a direct participation in all that the community has already found out about everything that interests him. That participation, however, now sets its own terms and demands quite a different approach from that of his own findings out. He now needs to change over to a process of orderly taking in of a large body of mainly verbal material offered to him in a ready-made form. And that is something for which he is not educationally ripe without a long prior build-up. It is largely worthless to him if he cannot fully integrate both the new material and the new method of learning with his previous very different ways. To get him prepared for this, the full Primary School period is certainly not too long.

What is needed in effect is that the child should learn to grasp how those structures of ready-made verbal knowledge come about, what manner of thing they are, and how they are *related* to his own ways of learning. That can only be achieved by gradually leading on his own enquiries (whether they arise in or out of school) into more sustained and consecutive forms; by letting them develop in the most various directions so as to extend his sense of what there is to find out about; by familiarising him with different ways of finding out; and by making him ever more aware of all the preliminary knowledge and the tools he needs for a full answer to the very questions he himself has asked. This must all be learnt by him in his own integrative way, as something he has himself encountered and has come to take in as part of himself. And at the same time all his own direct explorations and discoveries, piecings together and fillings in, must have made his background scheme of things much more explicit, much fuller, and more closely linked up. In effect he should have got together a much wider and more representative picture of his world, into which eventually whole new contexts of knowledge can be organically fitted.

At the age of 11 or 12 he may then be ready to begin that fitting in, provided he receives the right understanding help. This means that new knowledge should always be presented to him as an answer to specific questions or problems, or at least as the outcome of a clearly-formulated quest; and thus as something that (a) had to be found out, and (b) was found out in certain definite ways. Different 'subjects' must signify for him from the start simply what has come to be known about different parts or aspects of his own familiar world (whether the earth and its story, or human beings and some particular portion of their history, or various kinds of recurring physical happenings and their relations, or human social or political institutions, etc.). Thus systematic subject learning must be felt to be no more than an extension of each individual's own direct learning, that is, as an intrinsic part of the process of developing and organising his single comprehensive picture of things. And the one test of success in this will be whether the continuity and singleness of the picture is in fact maintained.

Higher education would then merely have to continue what had thus been well begun. It would of course have its other aspect of advanced vocational *training*, and for that purpose must necessarily turn to some form of specialisation. But in

so far as it also remained *education*, its main aim would be to develop further every pupil's or student's existing whole picture of the world. That is, to turn it from something largely taken for granted into a series of organised perspectives capable of joining together into a single organic whole vision, of which each only represents a component part. The *specialised field* of each group of students would thus automatically be kept within its right place and proportion in the whole. Such an aim, however, which is difficult of attainment at the best, can certainly not be achieved unless all its conditions are met. The purpose of the present memorandum is to suggest that the trend of our current educational scheme is strongly in the opposite direction.

III

The trouble is that at the very basis of so much current practice there lies what this Foundation regards as a radically false notion of learning; namely as the *response* (if all goes well) to *being taught*. That then means the teaching of classes in class-rooms by mainly verbal instruction demanding attentive listening and following, and the learning up of various separate 'subjects' in separate compartments. This process commonly starts at latest in the first year of the Junior School, and is continued throughout. And it joins together, under the one heading of 'teaching' and in the one category of school 'subjects', two very different things, viz. fields of direct integrative-educative importance like history, geography or arithmetic, and various others which—at least in large part—are essentially a matter of *training in performances or skills*. These latter, and in particular the conventional and mechanical elements in 'learning' to read and write, belong to the basic tools of education rather than being education itself. But, the use of the same terms, tends to assimilate all these 'subjects' to one another, and the 'learning' of what should be genuine bodies of vital knowledge and understanding becomes too often something remarkably like the 'learning' of the names of the letters, or the spelling of words.

We do much nowadays to counteract and correct this tendency; yet the fundamental notion of learning as a response to teaching remains*. The goal, in fact, in each separate field, is still the transfer to the mind of the pupil of a particular connected body of knowledge existing in the mind of the teacher. We may make every sort of attempt to help the process of transfer by concrete illustrative material, practical contacts, etc.; but the aim, which we duly test for, is that the pupil shall end up with a structure of verbal knowledge corresponding to the teacher's. This, *if* fully successful, will in fact become an integrated whole; but in the main only as an *internal* structuring of that particular field.

Such an educational assumption produces the results which we ought to expect. In a large proportion of cases the 'structure' built up in pupils is only a frail memory one, which breaks up again almost as soon as the teaching stops. In others the subject 'takes'; real and lasting thought-structures are achieved and in some instances carried on as a lifelong pursuit. But the penalty for the original false start is that these structures tend to remain self-contained and apart. The true fundamental kind of integration, that is, with each individual's own real learning-history and his own resulting picture of the world, gets no chance.

What happens in fact is that from the moment when formal subject teaching takes over, it *substitutes* itself for all the child's natural learning processes, breaks them off, and puts the goal of separate verbal subject structures in their place. And in the measure in which these are achieved and, by later specialisation, one or another is more and more intensively developed, we build up our social mosaic of separate and non-communicating 'cultures'. We build up individual split minds too, dwelling partly in our common world, as they cannot help doing, and partly in that of their special choice, but too often living essentially *divided* lives.

* In spite of the admirable suggestions contained in the Primary School Report of 1931 it is only in a few schools that the Junior School curriculum as a whole is considered 'in terms of activity and experience rather than of knowledge to be acquired and facts to be stored.'

There are moreover other consequences arising from the unhappy impact of formal school teaching on the child's real learning life. In many cases this life largely withers away; 'learning' is what the school is for, but as there practised, it ceases to *mean* anything. In other instances children discover outside school their own further channels of self-education; through reading and literature; through stimulating personal contacts, talk and discussion; through music or the arts; through enquiring and reflective responses to all that happens around them. For those children in their turn, however, a contrast is then set up between all the educative experiences outside school which they feel really matter, and the superficial and external sort of thing which their school 'learning' seems by comparison. That in itself indicates how far the latter has gone astray. School learning should surely be at least as real as anything outside. The forward movement of minds should be of the same kind within the school as without; each should feed and enrich the other; and they should constitute a single process of mental growth in knowledge and understanding, breadth and depth, appreciation and vision, insight and wisdom. Sometimes of course this happens. A teacher may open up for some pupils (through, for example, literature) the most quickening and illuminating experiences of their life. But these are the exceptions; for far too many children school and school learning *means* little or nothing, yet our socially planned education has failed in its first purpose if they have not *felt* it opening up to them the heritage of our race.

IV

Given the foregoing viewpoint, it is clear that any influence on the future of higher education which it might merit would need to pass through the training, or higher education, of teachers—but of teachers on *all* levels, including those of higher education. The following is an attempt to draw the conclusions which here seem to ensue:

(1) First, for *all* teachers of children up to 15 or 16, it is plain that something going well beyond current assumptions and far more demanding would be required.

(i) The central focus of study would have to be

(A) The integrative learning process as a single, continuous cumulative whole:
its fundamental beginnings, which support and determine all that follows
its main course up to school-entry age
its chief ways and means, aims and direction, thereafter

(B) The aims and tasks of planned education; guidance of the learning process towards

(a) all-round sharing in our civilised heritage—and eventually an all-round view of this

(b) free individual choice, according to personal bent, of preferred special interests—leading in many cases to particular vocations, in others at least to sustained personal pursuits.

This double focus would be essential to enable teachers, first of all, to understand the *process* in which they were to join and which they were to foster, steer and guide; and, secondly, to grasp the *goals* to which they were to steer it, the main routes that led there and the steering resources at their disposal.

(ii) The study of (A) though the teacher's most direct concern, would naturally have to be set in the right framework of understanding of children's mental and physical development as a whole. The learning processes advance by continual interaction with feeling and striving, imagining and doing; and of course they depend always on the right physical conditions. They can be crippled if something goes seriously wrong with any one of these factors, from affective disturbances or emotional blockages to organic ill-health or handicaps, or adverse external conditions. In any case, however, the child is a single person, and what we should most seek for him is a single harmony of growth in which his emotional, physical and intellectual life constantly foster and advance one another.

The teacher has therefore to achieve some grasp of the typical overall pattern of human mental growth, and of the main conditions on which its failure or success depends. And he must thus be enabled to enter with sympathetic insight into the full mental life of the children with whom he is dealing, both individually and in their varying groupings. For this purpose, however, he would need psychological understanding, not only of them, but equally of his own interplay with them, and so of himself and his own part in that interplay. And he would also require some knowledge of the influences exerted by different family and social settings and furthermore by the main structure and institutions of the whole surrounding society, which so pervasively, from earliest childhood, shape the mental life of us all.

(iii) The successful study of (B) would demand of teachers

(a) initial wide general interests and sympathies, ready to be further developed and to move forward progressively towards the needed synoptic vision of our civilised heritage as a whole

(b) some personal selective interest which could be pursued in depth and which, largely differing from teacher to teacher, would ensure for children a variety of help in arriving at their own right choices.

(2) For teachers specially interested in younger children, particular emphasis would fall on

(i) all roundness of interests and sympathies, so that the most varied spontaneous stretchings-out of the children could meet with some response, and stimulating new directions of interest could be readily opened out

(ii) the psychology of the earlier years and the great importance to the child at that time of *phantasy* and its free expression through every sort of channel

(iii) the need for special understanding and skill in helping children to master the basic tools of reading and writing—and above all in building up through all their other interests and activities a sense of strong need for these tools, so that even the more mechanical elements would get invested with a true forward-looking meaningfulness.

(3) For teachers anxious to specialise in secondary school work, topic (iii) above would naturally drop out, and (i) and (ii) would need less stress, whilst the time which thus became available would be required for

(i) a higher standard, suitable for systematic teaching, in one or two 'selective interest' subjects, as referred to in (1) (iii)

(ii) intensive study of the *transition* from *ad hoc* 'topic' enquiries to systematic 'subject' study, and of the ways in which the principles of integrative learning can continue to be met

(iii) some careful study of the psychology of adolescence, in its bearings on 12–15 year olds

(4) For *all* teachers within the above range, the scope of the demands which they should be able to meet would certainly call for

(i) a training period of at least four years, both because of the range of theoretical ground to be covered, and because this could not be brought to the right level of true insight unless the training included sustained practical contact and experience with children

(ii) the building up of a clear appreciation by the teacher that even after qualification his own training or education could not be allowed to stop. He would need to go on learning both from his experience and from that of others; developing his own understanding and perspective; and interesting himself in the progress of human civilised achievements. And as with other responsible high level professions such as those of doctors, scientists, engineers, etc., teachers would have to keep in live touch with every new development in their field

(iii) the establishment of a *research attitude* towards their work, particularly in Primary Schools and the earlier years of Secondary education. Teachers would not be carrying out the kinds of set, clear-cut teaching programmes at present current, but would be 'pathfinding' much of the time. There would in fact be a marked 'research' element in their work, and it would be very valuable both for them and for education generally, if they were fully aware of this element and made the most of it. They would thus see their work as a continual trying for the *best* ways of achieving their ends, and would naturally want to keep records of how each idea or plan fared, what suggested it, what they hoped for from it, how they applied it, for how long and to what group, and how finally each idea worked out. Any findings that appeared of wider interest would be circulated through the professional journals, discussed at group meetings, etc., and from time to time a good many schemes of co-operative research would without doubt emerge. Full liaison would obviously be maintained with larger-scale professional research, both in the educational field and in any relevant psychological one, for the benefit of all parties. It might well be, however, that a widespread research-spirit among teachers themselves could do more for the practical progress of education than anything else.

(5) In return for the foregoing, the community would need to recognise what exacting demands both of particular knowledge and of general education the teaching profession had to meet; and how greatly all our future success and progress depended on those demands being met. Accordingly the profession would have to be attractive enough in status and prospects to draw candidates of the right calibre, and fully on a par with our other most highly trained and responsible vocations. The places where teachers received their vocational education would rank automatically with other 'University' institutions and, wherever possible, form part of a larger University whole and share freely in its life. And a teacher's qualification would naturally take the same 'degree' form as for other learned professions, and would in fact involve an Honours standard in Child Development and Theory of Education, together with a high standard in one or two supplementary subjects.

(6) To meet the objection that all this would be quite impracticable because of the sheer number of teachers needed, the qualifying examination could be taken in two parts, the first at the end of say three years. Success in the first part would allow candidates to act as assistant or associate teachers. That would fit in particularly well with methods of Primary education based not on classes but on groups or (a little later) on co-operative teams; these could be fairly large if run by fully qualified teachers in conjunction with well-prepared assistants. A proportion of the latter might not feel able to go any further, but it would naturally be hoped that a large number would eventually proceed, through part-time studies, to full graduateship.

(7) As regards higher level teaching, from 15 or 16 to the age of entry into Universities, C.A.T.s, or Teachers' Colleges, this largely tends to fall within the province of specialists who have taken a degree or high level technical or professional qualification in their own field. Out of those who thereafter want to make teaching their main profession, a number would at present take a one year's special training course. In the light, however, of the conception of education here advocated a good deal more would be required. Ideally, of course, for all those who could decide early enough about their future vocation, a teachers' college would be the right place, and would need to include facilities for carrying students with a strong bent towards subject specialisation to the requisite high level. For those who only turned to teaching as a profession after obtaining their own 'subject' qualification, and had in mind specialised work with pupils of 15-16 onward, proper training for this profession would be obligatory and should cover a course of not less than two years. And for *every* would-be teacher who proposed to deal with adolescents between 15 and 18—whatever his previous training, inside a Teachers' College or outside—a close study of the psychology of adolescence

would be regarded as essential. It is not possible here to take up this large theme, but no *psychological* approach to the teaching of adolescents can leave out of account their intense preoccupation with their own inward problems. and with all the successive crises of 'growing up'. Unless teachers achieve a large measure of sympathetic understanding of these problems and of the parts they themselves may play in them (however 'impersonal' their subjects and even, as they believe, their own attitude) everything they are trying to do may fail, either visibly at once, or even more far-reachingly, through some later revolt or total rejection.

(8) Finally, with regard to University (or C.A.T. or equivalent) teaching the present viewpoint would make axiomatic what should be plain enough anyway: namely that knowing a subject is not a sufficient qualification for teaching it. Often enough, it just has to serve, and on the near adult level, it *can* do so, even if far from ideally. And there are always teachers who do not need more than their own native gifts; for lucid and telling presentation, for the forestalling of difficulties, for infectious enthusiasm, etc. But in the normal course if anyone, as a main part of his profession, undertakes to 'teach' some large body of knowledge to successive groups—sometimes swarms—of students, he should surely, for a start, want to secure some professional understanding of the 'teaching' process. It is not as if success could be automatically relied on. There is a great deal here that badly needs to be understood. Even mere communication has its stumbling-blocks that merit study, but successful *teaching* should penetrate much more deeply and permanently. In effect, no one who seriously contemplates it, anyway for *educational* ends, should be let off some intensive course, even if it is only over a few months, in the basic psychological facts of the learning process. But these must then be the facts of true integrative learning, by which some specific fresh structure of knowledge and understanding becomes an organic part of the whole-structure of an individual mind; and not of our habitual happy-go-lucky substitutes for it.

V

The foregoing suggests some concluding comments bearing on the aims and work of higher education as such.

What has been contended is that this work, in its educative as distinct from its training aspect, must seek to carry forward everything in us that makes for connected perspectives, and in the end for a single whole vision of our human estate. The argument has been that we are initially well launched on this, because all our needs for foresight and planned action impel us, first, to build up in our minds a basic working scheme of our world, and then, by continued active learning, to extend and develop it further. But this process, instead of receiving every possible aid, is on the contrary very often educationally interrupted and even *disrupted*. If we replaced the traditional interruption by the maximum of carefully thought-out help, we could set the stage by say the mid-teens for the true consummation of the work, namely the progressive replacement of the earlier implicit model (with its vaguenesses, gaps and general sketchiness) by a more and more explicit and well-organised vision. This would then serve as a continuous balancing correction of the centrifugal trend which is apt to emerge anyhow as our individual choices develop and which gains further force as we go forward with our vocational training. The tendency for our specialised interests to break away from the main stem of our mental growth would thus be held in control, and they could, on the contrary, make their own distinctive contribution to that growth.

If, however, the task of higher education is formulated in the above way, it could be argued that its accomplishment must become more impossible every day. Almost every form of human knowledge is incessantly expanding; all other modes of human achievement are constantly multiplying; and our vast, far-flung human world has now become a single interconnected whole, all the complexities of which our perspective needs to embrace. In these circumstances we might well seem to be moving faster and faster to a state where our unifying task will become hopeless and our higher-educational problem thus insoluble.



The answer to this, we believe, is precisely that the danger is unescapable only in so far as specialisation is allowed to break up our world. On the present conception of education, specialists, of whatever kind, would have been enabled to maintain full continuity between their world and our common one. Therefore it would come much more easily to them than at present to translate their work back for us into terms that we could follow; and all the more so since we in turn should be so much better prepared to meet them part of the way. Moreover, every specialist is himself a layman in relation to almost all others and would thus, for most purposes, share the receiving end with the non-specialist rest of us and know just what was needed there. We should all be alive to the limitations of the simplified views which we could alone hope for in most fields; but there could be a continuous social circulation of important new advances in knowledge and achievement in terms which would enable most of us to keep our vision moving forward as a single organic whole.

The need for this sort of circulation has indeed become so clear and pressing, and our interest in it so great in spite of all our centrifugal trends, that a growing volume of valuable effort already goes into meeting it. However, in comparison with the need, the scale of the present circulation is still far too small, and its channels are much too narrow, clogged and ill-prepared. And just because of the inexorable advance of specialisation, the need itself is becoming ever more urgent. Our belief is that it can only be properly satisfied if it is foreseen and planned for throughout education, and that this calls for something like the conception of education here put forward.

Moreover that conception can perhaps contribute a further unifying suggestion of its own, for the purposes of higher education in particular. Should this not *always* include a perspectival study of the one topic which is common to us all and which, from its own angle, brings everything else together; that of the central story of integrative learning itself? Each of us goes through it afresh, from the first piecing together of our earliest scheme of our world, through every subsequent expansion, up to the most developed whole view which we manage to attain. If we were enabled to form in our minds both a clear overall picture of the course of this personal story and an organised sense of *how* we have done all our building up and real learning, this could surely carry us further in shared understanding than almost anything else. And since for each of us it is his own story, it should be capable of interesting everyone whom higher education can reach. For many, moreover, it can for a second time become a fascinating personal interest, in their capacity as parents; and for no few in a third way, as teachers on every sort of level. Here surely is the most permanent unifying key within our grasp for the common maintenance of a single, integral vision.

ORAL EVIDENCE

given by

Mr. N. Isaacs and Miss E. Jebb

on behalf of

THE NATIONAL FROEBEL FOUNDATION

Wednesday, 11th October, 1961

Chairman: May I begin by thanking you and the National Froebel Foundation for this interesting document. I wonder if there is anything you would first like to say by way of supplementation of it?

Mr. Isaacs: I do not think there is anything we want to add.

Chairman: Then I would like, if I may, to tempt you on to the ground of its application. This Committee has to think in terms of recommendations affecting different parts of the structure of higher education; we have to think of universities, of training colleges, of Colleges of Advanced Technology and various kinds of professional training. You have urged us that there are certain ideas which apply all round, and that it is a deficiency of our present arrangements that these things are not sufficiently appreciated. I wonder whether you could help us by directing your criticism to existing arrangements, by telling us what the application of these principles would involve by way of change in institutions of higher education.

Miss Jebb: First, I think we must go back to the basis of the educational system. We think that what is wrong at the moment with the whole structure of education is the bottom of it, and we believe that no fundamental improvements in higher education can be made until the whole background of primary education is tackled. I think we have sufficiently emphasised this in the first part of the memorandum, and in the other part, which is concerned with the training of teachers, we have made specific recommendations which, if fully carried out, reach even to university education.

Chairman: Although we have become painfully conscious as we pursue our task that all is not well in the sphere

of primary and secondary education, we have, at any rate in the first approximation, to carry on in our sphere as though we could assume that the right policies will be pursued lower down. It is not that we deny your proposition that things have to be right at the bottom before they can be right at the top. It is simply that we have to work on the assumption that we may hope improvement is going on simultaneously elsewhere. The two spheres link up of course in the teacher training colleges, and we have not neglected your recommendations for a rather larger view to be taken in these institutions.

Mr. Isaacs: The practical stress lies essentially on various radical reforms in training, on the raising of the status of teaching, on a different, much broader and more focussed type of training for teachers, a longer period of training, and on the suggestion that training in teaching is required for teachers at higher levels, both at the fifteen to eighteen level and even at the university level. These are some of our main practical recommendations through which we hope—if they are eventually realised—that a movement of reform would run right through the system. That would be the point at which we think it should begin. About present syllabuses in universities, one or two suggestions have been embodied here, particularly on the last page. We have suggested that if the lower stages are right, the universities, apart from their vocational training, could concentrate on developing a synoptical kind of vision.

Chairman: Let us start from the main focus of your interests, the teacher training colleges, and proceed from the recent change to the three-year course. Is it the submission of the Froebel Foundation that the three-

year course is at present being developed in directions which you would regard as being inimical to the principles which you have laid down here?

Miss Jebb: I think it is in some colleges. There has, however, been a tremendous improvement in the training colleges in the last twenty years. In general the teaching is now of a much higher standard, and I am sure there is a large element now working towards the ideas which we have outlined in our memorandum.

Chairman: Do you think that the course should be four years rather than three?

Miss Jebb: Yes, we do.

Chairman: It would help us if you could expand that a little.

Miss Jebb: First, I think that three years, though much better than two, is too short a time in which to give students who are intending to teach both the background of higher education which they need for their actual teaching and the understanding of the whole process of learning, the whole psychological background, which they need if they are going to implement what we have suggested as essential for the teaching of young children. Second, I think that in many training colleges there is a grasping after equivalent status with the university graduate. This means in many cases that more stress is given in the three years to specialist subject-matter, at the expense of other things which we think training colleges should concentrate on, namely, the understanding of children and the learning processes. These are the criticisms I would make.

Chairman: As I read your memorandum and your recommendations I asked myself: what does this mean in terms of specific instruction? What is the nature of the course or the training through which you would impart this fundamental attitude? Is it a two-year course in a particular branch of psychology, or is it a multiple course with some pure psychology and something else included?

Miss Jebb: The actual organisation of the three-year course, and still more

of a four-year course, has been a matter of profound conference in training college circles. Many of us believe that, at any rate for the primary school teachers, it is of importance that they should, within a four-year course, and indeed from the beginning of their training, learn about the psychology of children. I think that they must also learn a good deal about the social background in which children are brought up. They must have practical experience with children, and they must also of course continue their own education at a higher level.

Chairman: I can understand that this is essentially a concurrent course.

Miss Jebb: It is a concurrent course. What you want to know is what proportion of time should be given to the various aspects of it?

Chairman: I would like to think of it in terms of teaching, the allocation of the teaching week, and the reading they should do. They start at scratch. There are well-known works on child psychology and the teaching process. They should all read them, presumably?

Miss Jebb: Yes. You say they start at scratch and begin reading, but in fact they cannot begin reading profitably until they have had a little experience. I think you will have realised that we believe strongly in the replacement of the lecture method by the group method of discussion and seminars, but reading would certainly go on *pari passu* with this.

Chairman: I was not attaching great importance to lectures in themselves at this stage.

Miss Jebb: I am emphasising the fact that we believe some practical work with children should go on hand in hand with teaching.

Chairman: Yes. I am being persistent about this, partly because of your reference to the grasping after equivalent status with the universities. I was wondering to what extent the realisation of the principles which you lay down was incompatible with the three-year training course having to some extent a possible equivalence with a

degree course. Do you regard these two courses as going in completely different directions?

Miss Jebb: I do not think so. We believe this study of the process of learning is a subject in its own right.

Chairman: We are asked to consider institutional structures and their appropriateness for realising the larger aims of educational policy. We have received many representations that teacher training colleges, now that they have a three-year course, should be allowed to train some of their students as for a university degree, and that perhaps even university degrees might be awarded. We are also receiving suggestions that there might be university degrees in education, with, say, three main subjects, of which Education was one. I am wondering to what extent you would be in harmony with these submissions and to what extent you would want to argue against them?

Mr. Isaacs: Generally speaking we would be in harmony with that, but we would want to go further and turn training colleges into essentially university institutions, regarded as in every way on a level but perhaps, because they are free of any crippling tradition, even setting an example in methods, in differences of methods, in the practical abolition of lectures, for example. We conceive of training colleges as a potential kind of university, working closely with other universities or other university institutions, but themselves constituting a kind of university on the lines of the American liberal arts colleges but much better, with a higher standard but with a not too dissimilar kind of philosophy. Would you agree with that, Miss Jebb?

Miss Jebb: I would agree with that. I would emphasise that the trouble with a great many training colleges at present is that they have a slight inferiority complex, and that in order to compensate for it they are striving after status. This is particularly true of those colleges where students have been trying to continue to work for a degree with their training. I think that is bad, because it has meant that they have thereby sacrificed what we should regard as an essential part of vocational training.

Chairman: Your submission would be that the nature of the degree is wrong?

Miss Jebb: Yes.

Chairman: Rather than the aspiration for a degree-possessing status?

Miss Jebb: I am not speaking about the aspiration as such. I would urge the point we made in our memorandum, that until the teaching profession has a status comparable with that of medicine and of the law no fundamental improvement in education is possible.

Mr. Isaacs: The great majority of two-year colleges have been suddenly endowed with an additional year. They worry about the best way of using that year, but are still much influenced by the long tradition of the two years' training, which to our mind has always been completely inadequate. They should now start thinking afresh. We hope that your Committee will look at the whole question afresh, and might even be prepared to start from first principles, without being unduly concerned about the details of the present curricula. I do not know whether it would be within your scope to examine the curricula of different training colleges, and consider whether the time is being allocated to the best advantage. I did not think that was within your scope, and have therefore not prepared myself to discuss this in detail.

Chairman: Let me dispose of any misapprehension: it is not. I was looking for a point of contact between what is within our scope and the general principles which you were laying down. The question of degree status and the nature of degrees is certainly a point of contact.

Mr. Isaacs: We think that the degree should not be a kind of external or outside additional qualification, but a degree in what it is the business of training colleges to train in, namely, Education, with other subjects laid round it, judged by the yardstick of their serviceableness to the main idea of Education.

Chairman: Let us suppose that a university were to have a degree in Education, capable of being taken in the university or in the associated training colleges, what would be its content?

I am not asking you to lay down a detailed curriculum, but rather to say whether the subject of Education, the content of which we will leave undiscussed in detail, should be the whole of such a degree, or whether there should be a degree with perhaps three subjects, one of which should be Education?

Mr. Isaacs: I think child development, the theory of Education, and a third subject of the student's choice should be included, in order to give the student the opportunity of specialising in some one field of knowledge which would give him access to a world other than that of the content of Education. May I refer in that connection to a conference which took place a fortnight ago, under the auspices of the British Association and the A.T.C.D.E. on approaches to science in the primary school? One of the points which emerged most clearly was the absence of any provision in most training colleges for the training of intending teachers in the principles of science. I think it was the general consensus of opinion of the representatives of education authorities, inspectors, headmasters, and so on who were present that it was urgently necessary to provide additional facilities in training colleges for that aspect of the course. This sort of development could easily turn into something which we might be critical of, because there is not time in the training college course to take up any one science except as a special subject. It is not possible to give a great deal of time to science, but the course should bring out the way in which science fits into the process of education as an essential part of the training of every teacher, through an understanding of what science stands for, how it comes about, and how it fits into the human story, and what it has achieved. I would regard this as an essential part of both the theory of child development and the theory of education.

Chairman: Might it not be argued that the conception which you have developed, in regard to the degree in Education, although obviously splendid and exalted, might be rather beyond the scope of a good many students whom you would want to

train as teachers? The books I have read on the subject seem to me to be rather difficult. Would the young men and women in training colleges be able to get much out of them? It may well be that since our young days the subject has been made more palatable to less adventurous intellects, but I can nevertheless conceive of this criticism being made.

Mr. Isaacs: Are we not also suggesting strongly that the quality of possible candidates for the career of teaching should be raised? Are we not suggesting there is a kind of benign circle, which we want to establish in place of the present vicious one? There should be higher status, a higher level of capability and interest on the part of the students, and therefore a greater capacity for taking in the content of the higher course. There should be suitable prospects at the end to uphold the interest and drive of a sufficient number of candidates.

Chairman: How rapidly would you think this could be achieved? We take our scope as being up to 1980, with some degree of precision, and beyond 1980 with rather less.

Miss Jebb: I think it would be reasonable to take that date. But are you doubtful whether there is enough intelligence to go round?

Chairman: No. I was not suggesting that.

Miss Jebb: I think it is probably true that in all professions there are what you might call the also-rans, those who just get in at the bottom, and I am afraid they will always exist. But as a teacher of training college students I have been immensely surprised to find how, given the right stimuli, women who may not have had a particularly glorious school career develop, how by the end of the period they have reached a standard which in my view—and I speak also as a university teacher—would be equivalent to that of a graduate.

Dame Kitty Anderson: You believe that through the training and teaching of young children many young women find not only their vocation but also their academic development?

Miss Jebb: Yes, exactly.

Chairman: Are there any administrative measures which would be conducive to a more rapid spread of what you would regard as sensible and suitable methods for the training of teachers?

Miss Jebb: I think that more generous allowances for extra years of training, and more development of sabbatical years of study, would be very helpful. More opportunities for teachers to come back to whatever institution is appropriate to pursue their studies and to re-think their principles in terms of experience would also be very valuable.

Mr. Isaacs: Yes. I would also like to think on more radical lines. A rather strong wind of change should blow, and result in an almost complete re-consideration of the training programmes. This is not intended as a criticism. The colleges have been confined within the two-year course and have only just gained the extra degree of freedom and ability to experiment. I think something more radical is required. We stand for the philosophy of education, in the light of which practically the whole of the training in many training colleges should be reconsidered. If I may refer again to the recent conference, one reason why the British Association organised it was because it was known that in the training colleges many lecturers in education, in particular, were far from regarding this point of view with favour. At the conference we tried to get across the ideas which we felt should be introduced in many training colleges. While some training colleges agree with the views for which we stand, for a very large number of the colleges adoption of these ideas would mean a radical re-consideration of the curriculum as a whole, changes in method, changes in subject, changes in emphasis, changes in textbooks. This would take time but we urge that a start should be made.

Dame Kitty Anderson: If the period of training were to be lengthened to four years, bearing in mind the present social pattern of early marriage, might it not be argued that it would be wiser to deflect young women from teaching in primary schools and to encourage young men to take up this teaching instead?

Mr. Isaacs: Would that not happen if sufficient status and prospects were attached to teaching? In our experience men are becoming more interested at that stage now that it has acquired a little more dignity and status. It used to be assumed that the kindergarten was a nanny's business, or suitable for a young woman who was not fit for anything else. We have been trying to raise its status and make it something intrinsically more interesting. The emphasis in our memorandum is calculated to produce that effect, to make this field more interesting and attractive to young men as well as to young women. We think that, if the active method of learning were carried through the primary school and the training colleges, the attainment of a higher level would be much easier for those who have not a very high IQ. Synoptic views which are brought into relationship to one's own development are something many are capable of who would not be capable of taking in a body of abstract doctrine. We think there are various ways in which we can bring leverage to bear to produce our result. I attach particular importance to the possibility of making something intelligible to children by starting from where they are, and lifting them through something which they themselves can take part in, lifting them very considerably higher than you can hope to do by subject teaching.

Dame Kitty Anderson: Is the development of training colleges for men who would become teachers of primary school children to be encouraged?

Miss Jebb: I think we are all facing the problem that there are not enough women teachers. But we should not overlook the fact that an increasing number of young women go back into the teaching profession after their families are beginning to go to school. I would like to emphasise the importance of the married woman teacher in the primary school. Thirty years ago hardly a local authority would appoint a married woman; it was very much frowned upon. Seeing my own married students at work, I am tremendously impressed by the contribution they can make, especially in the infant schools, very largely

through their understanding of children and their experience of motherhood. I think this immensely important and I should be very sorry to see any procedure at work which would discourage suitable women from going into the teaching profession.

Dame Kitty Anderson: I was asking because of the need for continuity at the primary school stage of teaching.

Mr. Isaacs: May we meet this by saying that we are in favour of encouraging young men, but not in favour of discouraging young women? If we encourage young men sufficiently we may alter the proportion without necessarily losing any of the young women who are interested.

Miss Jebb: I agree.

Chairman: Do you hope that the reforms you advocate will come about, as many changes come about, by energetic talk, organised conference, controversial articles in journals and so on, or is it something which some

organ of central or local government can itself bring about, and if so, in what way?

Mr. Isaacs: Our vision was that the Committee on Higher Education, might publish a powerfully worded report which, if we succeeded in making our point, would include it among the kinds of radical change which it would recommend, and that the process would thereby be set in motion. We believe various minor trends are moving all the time in the direction of our thinking but they are in need of a great deal of support, of strengthening and quickening. Our hope is that some contribution towards this may emerge from this Committee. We do not expect the Committee to recommend too sudden or revolutionary a change, but perhaps to lend their influence to this or to some part of it.

Chairman: Thank you very much for the trouble you have taken, for your memorandum, and for the interesting discussion we have had.

MEMORANDUM

submitted by

SIR JOHN COCKCROFT

5th July, 1961

1. OPPORTUNITIES FOR QUALIFIED SCIENTISTS

The evidence in the Crowther Report, together with the most recent evidence collected by the Committee on Scientific Manpower of the Advisory Council on Scientific Policy, suggests that we need to about double the output of University level scientists and engineers during the period up to 1972. The long term estimates of demand were based mainly on forecasts by individual industries. They provided for some surplus of scientists and engineers in view of their increasing diversion to management and other employment. Taking account of the fact that the proportion of the 18-19 year old age group going to Universities and Colleges of Advanced Technology is much lower than in most advanced countries, the programme of expansion of Universities to 170,000 and of the C.A.T.s to 13,000 does not seem to go beyond the probable future requirements of the country.

The feasible expansion rate is likely to be limited mainly by the availability of high quality staff. Thus a recent enquiry made by Professor Merrison and reported to the Committee on Scientific Manpower shows that at present only about 170 Ph.D.s are produced each year in Physics, and of these about 50 stay on to teach in Universities. To provide for a doubling of University teaching staffs in Physics in ten years and to provide for wastage will require an input of about 100 University teachers a year.

Additional teachers might be obtained by:—

1. Making greater efforts to secure the return of University graduates going abroad on Fellowships. At present over 30 Ph.D.s in Physics go abroad each year. The U.K.A.E.A. and D.S.I.R. make an annual recruiting visit to the U.S. and Canada to interview British holders of Fellowships and to offer posts when available. The Universities should join in this.

2. Making greater use of graduate research assistants now working in Universities with the support of D.S.I.R. funds.

3. Making greater use of staff of Government establishments, such as the N.P.L., the National Institute for Medical Research and Harwell for part-time teaching. The total graduate scientific staff in these Institutes is several thousands, and there are many hundreds well qualified to do University teaching.

4. Making greater use of staff from industry as part-time teachers in Colleges of Technology. The wish of the Manchester College of Science and Technology to appoint part-time 'Extraordinary Professors' from industry has so far been blocked by opposition in the Senate of the University of Manchester.

2. THE BALANCE BETWEEN TEACHING AND RESEARCH

I consider that young creative scientists in their twenties and thirties should have a light teaching load so that they can devote most of their time to research. Nevertheless, three to six hours teaching a week is good for them and their students. As they grow older and less productive in research, they should devote more time to teaching and University administration. With staff/student ratios of 1/8, there ought not to be any serious problem in arranging this. In general I think that the present balance between teaching and research is about right.

3. SUITABILITY OF COURSES

(i) With the rapid development of science, I think it is desirable to postpone some of the advanced teaching to a first postgraduate year. The advanced course would only be taken by the better students going on to do research work in industry or the University. The year's work could be recognised by an M.Sc. and used as a qualifying year for those wishing to do research. This kind of course is already being given in some University Departments.

(ii) We need new kinds of courses for students of mathematics who intend to go into industry or schools. There is at present a serious shortage of mathematicians in the schools, and this is due to the output of mathematicians not having increased with the demands. Most of the mathematicians are produced from Oxford, Cambridge, London and Manchester (515 out of 763). At the other end of the scale, Cardiff produces only 5. Many Headmasters consider that there are plenty of potential candidates for posts in mathematics, but they are discouraged by the high standards and abstract nature of mathematics courses in the Universities, and they are often barred by the requirement to obtain a distinction at 'S' level in the G.C.E.

We require in addition to existing Honours courses lower level courses in Universities suited for those going on to school teaching and industry.

(iii) As the number of students in science and technology increases, there will probably be some lowering of standards of entry. There would then be a good reason for more 'General Honours' courses where the subjects are taken to a lower level but greater breadth. Many of these courses should be interdisciplinary. The Cambridge Natural Sciences Tripos Part I in which three or more subjects can be taken in three years is a good example of a course suitable for school teachers.

4. DISTRIBUTION OF FUNCTIONS BETWEEN SCHOOLS AND HIGHER EDUCATION

(i) The decline in the standard of teaching in mathematics and science in many schools, particularly girls' schools, may require a reintroduction in some Universities of a first-year course of intermediate standard designed to make up for the deficiencies of Sixth Form teaching. This extra University year could replace the third year in the Sixth Form in schools not staffed to do advanced teaching.

(ii) The present competition for entrance to the Universities has raised the standards of entrance requirements, and this has led to increasing specialisation in the schools. The evidence for the present specialisation is given in the Leverhulme Report 'The Complete Scientist'.

The Open Scholarship examinations of the Colleges of Oxford and Cambridge seem to be specially responsible for the specialisation. The Open Scholarship examination papers are set at a very high level. These Open Scholarship examinations are being taken by an increasing number of students, since it is widely believed by Headmasters that the only possibility of getting a bright boy from a small school into Oxford or Cambridge is through the Open Scholarship examinations for which anyone can sit, and Scholarships and Exhibitions are awarded solely on academic merit.

However, the number of candidates is now growing so fast that the present Open Scholarship system is likely to break down, and some preliminary sieving of candidates will have to be made based for example, on performance in G.C.E.

An alternative method of entry into some Cambridge Colleges is through a Group Entrance Examination. The candidates allowed to take this examination are selected on the basis of school reports, G.C.E. performance, etc. The papers are set at a lower level than the Open Scholarship papers, and there is a general paper to which weight is attached. All candidates sitting the examination are interviewed. It would be possible to award Exhibitions on this examination, leaving Scholarships to be awarded on the results of the first or second year examinations in the University.

If this became the only method of entry, the incentive for specialisation in the schools would be reduced at the expense of making it more difficult for the Colleges to pick out the flyers. From a national point of view, the latter disadvantage does not seem to be serious.

5. CLAIM OF A LIBERAL EDUCATION IN RELATION TO PROFESSIONAL EDUCATION

Most employers of scientists consider that it is important that they should be literate, able to read at least one modern language, able to write and speak well. They look for qualities of character and leadership which will enable the scientist to be capable of leading a group of research workers by the age of thirty.

This opinion is supported by a recent survey of the Institute of Chemical Engineers of the skills used by their corporate members. From this they found that the time devoted to management, languages and writing was much greater than the corresponding periods devoted to social studies in the Universities.

Institutes such as M.I.T. devote more time to training of engineers in the social sciences than most British Universities.

I believe that more time should be devoted to general education in the Sixth Form of schools and that Departments of Engineering should devote some time to social sciences.

6. IMPLICATIONS OF THE ACTIVITIES OF PRIVATE FOUNDATIONS

The grants of Private Foundations such as Ford, Nuffield, Rockefeller, Wolfson are having a very beneficial effect on making up for the shortage of funds for new developments available from Government sources. This support has been especially beneficial in providing funds for living accommodation of students. They also seem able to identify new growing points in science and to support them more quickly than most Government Institutions.

A substantial amount of support for scientific research in Universities comes from industry. I consider that this is beneficial in a period when U.G.C. and D.S.I.R. support is inadequate. Apart from this, I consider that Colleges of Technology gain by having close contact with industry, and that they should undertake research in problems important to industry. If the research were adequately financed, three or four thousand research students of technology could make a powerful contribution to industrial development. The great research schools of M.I.T. and Cal. Tech. have had a most important influence on the development of advanced technology in the United States. This kind of work cannot, however, be done on a shoestring.

There are considerable advantages in a student spending a year in industry before going on to a University to read Science and Engineering. The student has an additional year to mature; he is able to mix with workers on the shop floor more easily than in later years; and he gets an appreciation of industrial processes which can be very beneficial in his University work. He is usually able to continue his education by day release study in the local Technical College.

The provision of Scholarships by private and nationalised industries to support students during their years at the Universities is growing due to the desire of industry to get a greater share of the best graduates. The acceptance of a Scholarship does not commit a student to work for the donor firm afterwards. I consider that at its present level this practice does no harm.

7. HIGHER EDUCATION OF WOMEN

The shortage of mathematics and science teachers is far worse in girls schools than in boys schools, so that girls are handicapped in studying science. They provide a source of scientists and teachers which is so far only partly tapped. This situation is in complete contrast to that in Russia where Universities seem to have almost equal numbers of men and women students of science.

I think that much could be done to improve science teaching in girls schools by pooling Sixth Form teaching or by sending girls to Sixth Form science classes in boys schools. This seems to be opposed by many Headmistresses.

8. RE-EDUCATION AND TRAINING

Much more should be done to provide courses of re-education. Modern technology develops so fast that training in specific engineering technologies is obsolete within a few years. There are now many one year postgraduate courses available in Universities for further education. Industry seems, however, to be reluctant to release staff for such purposes.

Shorter courses of several weeks' duration on specialised subjects are more popular. The D.S.I.R. ought to provide grants for re-training older technologists.

9. RESIDENTIAL FACILITIES

We ought as a long term policy to provide residential accommodation for a much higher proportion of students. Nottingham is aiming to house two-thirds of their students, and this is a good target.

10. OVERSEAS STUDENTS

The proportion of overseas students in Universities is now about 10 per cent. To provide for the urgent needs of graduates for under-developed countries, this proportion ought to be increased. The Ashby Commission on Nigerian Education suggested that Nigeria needed to send about 600 students to overseas Universities for training as teachers if their requirements were to be met by 1970. They would need to send other students for professional training. Taking this as a typical demand and taking account of the contribution of other countries to such training, it would seem to be reasonable to increase our proportion of places allotted to overseas students. A 1 or 2 per cent increase would be valuable if this increase were devoted to the needs of emergent Commonwealth countries.

11. ACADEMIC FREEDOM

In planning the expansion of the Universities and C.A.T.s, there should be some central co-ordination to ensure that we do not develop new departments in subjects which are already adequately provided for. Thus there seems to be no case for new Departments of Classics, Oriental Studies, Theology, Botany, Zoology, Medicine, and Agriculture. It would be better to develop the borderline subjects and inter-disciplinary subjects. There is at present too much duplication—two Departments of Nuclear Engineering in London where one would suffice; additional departments starting research in Nuclear Physics where the subject is already well provided for. The U.G.C. is now doing more forward planning and co-ordination, and this is to be welcomed.

12. NEW INSTITUTIONS

(i) Distribution of responsibilities between Universities, University Colleges of Science and Technology and Colleges of Advanced Technology

I understand that the objective of the U.G.C. is to expand the numbers of students of technology in University institutions from 15,000 to about 28,000 by 1972, and that the Ministry of Education are planning to increase the number of students in the C.A.T.s from the present level of about 4,000 to at least 13,000 in the same period. I consider that the C.A.T.s ought not to plan for greater numbers than these until we have some definite proof that they are achieving the high standards hoped for.

I understand also that the C.A.T.s are planning to increase the number of students doing research in technology to about 5,000 in the same period; about the same number planned by Universities. I consider that this plan of the C.A.T.s is too ambitious and further that we may not have the financial resources to support this great increase in research students on an adequate scale.

(ii) Future status and government of C.A.T.s

C.A.T.s seem at present to be suffering from a feeling of inferiority. They do not like the Dip. Tech. and wish to award a degree, e.g. B.Tech. Some of them are showing signs of wanting to abandon the Sandwich Courses, which are one of their distinctive features and one of their greatest opportunities. They are also hankering after doing 'pure research'—no doubt again for prestige reasons; for example, one C.A.T. has started to do research in academic nuclear physics, which is already more than well provided for in Universities. I consider there are plenty of interesting problems in applied research which they could take up in collaboration with industry. This indeed was the original intention.

(iii) New institutions

With the growth of University students of technology from 15,000 to 28,000, the three University Colleges of Science and Technology in London, Manchester and Glasgow seem likely to grow to numbers of 4,000–5,000. They should therefore become independent University institutions. This is particularly important in the case of Glasgow which seems now to be hampered in its plans by its association with the University.

I consider that they should have powerful postgraduate schools, but this will not be possible without a large increase in grants for research to provide not only for the substantial increase in numbers but in the level of grants for research equipment for research workers. At present about £300 p.a. per research worker seems to be available for research equipment and supplies from U.G.C. funds and about an equal amount from D.S.I.R. and other sources. This is quite inadequate.

In addition to the expansion of these three major Colleges of Technology, I consider that we should be prepared to join in founding an International Institute of Science and Technology which is now being considered by the Killian Commission, a Commission appointed by N.A.T.O. with the support of the Ford Foundation. The Commission is considering the foundation of this Institute as a postgraduate University about 2,000 strong. The discussions now proceeding suggest that it might have 8–9 departments of an interdisciplinary character, e.g. Departments of Materials Technology, Earth Sciences, Light Sciences, Applied Mathematics, Management and Social Studies.

The report of the Commission should be available for consideration by the Council of N.A.T.O. by the end of October, and it will then have to be considered by Governments. If the project is approved by Governments, it will be advantageous to U.K. to site the Institute in this country and to make use of some of the powerful facilities and staff of one of our major Government establishments. This could overcome the principal difficulty in the proposal—the necessity to provide additional high quality staff for such an Institution in a period when our resources will already be overstrained.

ORAL EVIDENCE

given by

SIR JOHN COCKCROFT

Friday, 13th October, 1961

Chairman: Sir John, before we begin to ply you with questions, is there anything that you would care to say in supplementation of your very interesting memorandum?

Sir John Cockcroft: I set out simply to give some personal views on the topics which you raised. I deliberately did not go outside that field. You may perhaps like to raise some other questions and I will try to answer them.

Chairman: I think we would certainly like to go outside that field, but I suggest that we first proceed to discuss your memorandum. I see that in your Section 1, you put the seal of your approval on the programme for the expansion of the universities to 170,000, and the C.A.T.s to 13,000 places. I am tempted to ask whether it has occurred to you that this might be a somewhat inadequate programme. We have received representations from various quarters that it is so.

Sir John Cockcroft: Perhaps it is, if you compare it with the programme of the other major countries, with Russia and the United States. But I think that our programme must be limited by our capacity to collect together the necessary number of high-grade university staff. If we were to go beyond this target within ten years we might be in difficulty in that respect, judging only by the single sample which I have mentioned, that of physics. This sample investigation which was made by Merrison, as you will remember, showed that the number of Ph.D.s qualifying in physics departments seemed at present too few to support the expansion of physics departments, if the ratio of about one-third going into university teaching were to be maintained. On the other hand I think there are ways in which we could improve the situation, and I have suggested some of them in my memorandum.

Chairman: Some evidence has suggested that, although doubtless we

always ought to strive for improvement in the staff/student ratio for all students, in present circumstances the most urgent need might be for an improvement in the staff/student ratio in graduate schools; that while it was very desirable to take care of undergraduates, there were other ways of conveying instruction to them which might give rather more elbow-room to the staff. If one reflects on the way in which knowledge is imparted in continental institutes and universities, one may feel that if a need for a higher proportion of places were disclosed, the country should meet it.

Sir John Cockcroft: The argument for the higher staff/student ratio is that, with a ratio of about 1:8, the staff have time for research; they can get away for sabbatical terms and work in, say, Geneva or Stockholm. Research is helped a great deal by a generous staff/student ratio; I would be sorry to see it lowered.

Sir Philip Morris: Are you hesitant about the pace of expansion, or are you doubtful of the national need for it? Alternatively, are you doubtful whether the country can produce more people with the necessary ability?

Sir John Cockcroft: Such evidence as we have from the Scientific Manpower Committee suggests that this rate of expansion is about right, that is, if you believe what industry says about its requirements over the next ten years. Of course, you cannot be sure that industry is right, but, on the assumption that it is, 170,000 places in universities is not an unreasonable figure. I do not think you can forecast how industry will develop after that. It may become increasingly technical and scientific and require a still higher proportion of trained people. We have postulated a substantial increase of trained people in industry, and these figures are based on that.

Chairman: How much reliance do you place on what industry foresees in this respect?

Sir John Cockcroft: I do not place much reliance on forecasts beyond three years. The Manpower Committee's forecasts over two periods of three years have been reasonably accurate. But this has been because some industries greatly exaggerated their requirements and others underestimated; on balance we came out about right. I do not think you can attach a great deal of importance to individual estimates.

Chairman: I am halted by the reflection that I know of no period in economic history where extrapolation based on what industry had to say had any probability of being right.

Sir John Cockcroft: I would agree with you.

Chairman: That being so, if one had to advise Government about a period longer than three years, one would feel inclined to proceed more on the basis of what seemed to be the proportion of the relative age groups capable of benefiting in some way?

Sir John Cockcroft: Yes.

Sir Philip Morris: Do you think there is an argument for good husbandry of human material, for getting the best one can out of it?

Sir John Cockcroft: Yes. I think we can do much better in training technicians, the middle level of the scientific population.

Chairman: That is where the increase would probably come, would it not?

Sir John Cockcroft: I think so.

Mr. Shearman: Is your view about the number of university places based on the need in the scientific sector?

Sir John Cockcroft: Yes.

Mr. Shearman: If in certain other fields the increased figures have been seriously underestimated, that would be taken into account in your estimate?

Sir John Cockcroft: I would not be competent to speak about that.

Chairman: I would now like to lead on to your suggestions for easing the bottleneck. I think your first suggestion is one which does not give rise

to any difficulty; and I think the second is fairly straightforward. It is the third which raises controversial issues. I would be very indebted to you if you could expatiate on this. We have had strong recommendations that the staff of government establishments, such as the National Physical Laboratory are, in relation to the total national requirements for teaching and research, underemployed. It has even been suggested to us that the National Physical Laboratory might be made the nucleus of a technological university, or a similar institution. Have you thought especially about this problem?

Sir John Cockcroft: I think certain establishments, like the National Physical Laboratory, or Harwell, or the National Institute for Medical Research, have many high-grade staff capable of high-level university teaching. I would like to see more of them offered at least honorary posts in universities as lecturers or professors; but there is, I believe, a reluctance within the universities to go very far in this direction.

Chairman: What is the attitude of Cambridge?

Sir John Cockcroft: Some university members here may be able to throw more light on that than I can. I did my best when I was Director of Harwell to promote this, but without great success. We were able to arrange for some of our staff to give short courses of lectures in the universities; and of course individually they gave a large number of specialist lectures, but they did not hold honorary posts.

Chairman: Are they allowed by any university to supervise graduate research?

Sir John Cockcroft: I believe there are at present about forty students doing Ph.D work at Harwell. I think they are supervised by their professors. But at least half a dozen at Harwell are being supervised by Harwell staff, and I believe there are a few at the National Institute for Medical Research. I think the principle could be greatly extended.

Chairman: What is the position in London, Sir Patrick?

Sir John Cockcroft

Sir Patrick Linstead: It is a controversial matter, particularly in the medical field. I would say that the reluctance of universities is based on a fear that their best students would be bled off into government research establishments, where they could earn large salaries—large by research student standards—and could get their Ph.D.s, and that, if this were possible, there would be no reason for them to stay at the university to get their Ph.D.s on a grant of £300 a year.

Sir John Cockcroft: They do not get large salaries in government establishments. They get the £300 grant, with perhaps a maintenance award to help them to live away from home.

Sir Patrick Linstead: I know this is true of Harwell. Nevertheless I think the reason for reluctance is there, and a proposal that a member of a research establishment's staff should be made a Recognised Teacher and supervise Ph.D.s is looked at with suspicion by the universities on these grounds. The suspicion may not be well based, but it creates the difficulty.

Sir Philip Morris: I think Sir Patrick is right. I would like to ask if you have considered what purpose would be served by honorary posts. Again, why put Ph.D. students in a research institute which has its own particular jobs to do?

Sir John Cockcroft: On the first point, I was assuming there would be a shortage of university teachers of higher grade, and, if that is so, why not make more use of the staff of these establishments? They could be given leave of absence for a term and give a course of lectures, and the normal university staffs would be supplemented in a valuable way.

Sir Philip Morris: But the staff shortage is not greatest in the lecturing field, is it? There is no great difficulty in providing for undergraduate lecture courses; the difficulty is in providing for tutorial work, for the individual care of students and for laboratory work, and particularly for laboratory work in the third year.

Sir John Cockcroft: Yes.

Sir Philip Morris: Honorary attachments are very difficult to make use of in a university, except by way of

refreshment, if they are for a short time and for graduate students. I do not disagree with the interchange; I would like to see more of it. You are right in saying that the discussions with universities are largely abortive. There must be a reason for this, and I think it may be that the discussion of purpose has been insufficiently clear, that the advantages of doing it have not become obvious and agreed between the people concerned.

Sir John Cockcroft: I think the major advantage is in helping to remedy shortages. From the point of view of the research establishments, it would also be good for their young researchers to go for a term to give a course of lectures in the university and take full part in university teaching.

Sir Patrick Linstead: We have nine people in this category in my college at present. I see no difficulty here. If we run into a staff shortage, this would help to solve it.

Sir Philip Morris: How far could this be an alternative to doing Ph.D. work in research establishments?

Sir John Cockcroft: I think the argument for doing some Ph.D. work in the research institutions is that there are facilities there which do not exist in the universities. A distinguished member of an Agricultural Research Council unit outside Cambridge, who had recently moved from a university department, told me that the facilities were incomparably better at the A.R.C., and considered that some research students should be sent there because they could be able to get on with their work so much better.

Sir Philip Morris: Would this be for the whole period of postgraduate study?

Sir John Cockcroft: I think the university would probably insist that the student spent at least one year in the university laboratory.

Sir Philip Morris: And the arrangement is now possible?

Sir John Cockcroft: Yes.

Sir Philip Morris: The crux of the controversy is not about the student who shares his studies as between a university and a research establishment; it

is about the employee of a research establishment. He is not a student by status, though he may be by leaning interest and desire. He is employed to do a job. Whatever his research may suggest to him as lines of development he must in fact do the work he is employed to do. At Bristol there is no difficulty about students spending long periods during their Ph.D. work, even two years out of three, at Harwell, Malvern, or elsewhere in government establishments. The central issues are, first, whether the research establishment is the right place on which to base the student, so that the centre of his academic care and supervision is there; and second, whether facilities can and should be provided jointly by universities for employed persons to get Ph.D.s during the course of their employment on the work for which they are employed. For degrees above Ph.D., there is to all intents and purposes no difficulty.

Sir John Cockcroft: At establishments like Harwell 20 per cent. of the research is I think, almost indistinguishable in character from university research. It is not applied research; it is basic research. I think that is also true of other institutes. Students can, therefore, do the same kind of work as they do in the university, and with better facilities.

Sir Philip Morris: I was not suggesting there was any difference in the value of the work done, but that the status of the person was different. He has to do what he is employed to do. In the university, wherever the student comes across something significant in the course of his research he can branch out in that direction if it is scientifically desirable.

Sir John Cockcroft: I do not think there is any difference here. If the student at Harwell wants to branch off he can do so with the approval of his professor.

Sir Patrick Linstead: I would like to reinforce what Sir Philip said. The real difficulty is about the employed man who has a full salary. For the student I do not think much difficulty remains, and I think there are no differences of principle. By joint

supervision we can go a long way and I am certainly strongly in favour of it. Would you consider that some of the research establishments should become the nuclei of technological universities?

Sir John Cockcroft: I think it is a good idea. The work in the majority of departments at the N.P.L. is not very different from that of a first-class graduate school. It is of very high quality, similar to the work of Imperial College or M.I.T. They have high-grade staff. There is a good deal to be said for exploring the possibility of converting it, at any rate in the first place, into a postgraduate research institution. Undergraduates might be added later. The N.P.L. is a very large capital asset, with an annual budget of £1½ million. If we are in need of a further high-grade technological institution this is certainly a possibility.

Sir Philip Morris: Would it be cheaper in manpower?

Sir John Cockcroft: I think so.

Chairman: You would start with a graduate institute?

Sir John Cockcroft: It would be more practicable to start with a graduate institute. In fact this has been done at the Rockefeller Institute in New York, which was an institute similar to the National Institute for Medical Research. It was decided to develop it into a postgraduate university.

Chairman: Would you say that this has been done with great success?

Sir John Cockcroft: Some of the staff with whom I have talked think it has been very successful.

Sir Philip Morris: It would be a doubtful expedient to add an undergraduate component. It would be difficult to do and would mean much more capital investment.

Sir John Cockcroft: It would be very difficult to do in view of the N.P.L.'s location, but not so difficult to do in other places.

Mr. Southall: Is it possible that various of the establishments have over-recruited and that too much of our

capital has gone into establishments which were necessary at the time but which could contract somewhat until we have a proper balance in relation to university teaching? I have in mind that D.S.I.R. is making strenuous efforts to induce people to use their services. It is almost as if they had found themselves with a big staff and not enough work to do. It might very well be that, in the interests of university development, there should be a soft-peddling of the recruitment. Do you think that would be harmful?

Sir John Cockcroft: No. I think that the ceiling has more or less been reached at Harwell and that it will not expand further. I think that Harwell will be in the market only to replace wastage. I do not know the situation at D.S.I.R., but I think you have a valuable point. I would like to see the differential between the salaries of the Scientific Civil Service and the universities reduced, so that it was easier to induce good staff from these institutions to go back into the universities. The differential has become too great since the last round of increases in the Scientific Civil Service.

Sir Patrick Linstead: Would there not be difficulties in relation to security, and national emergency? Would not an establishment like the National Physical Laboratory have to go over entirely to applied fields in times of war or quasi-war?

Sir John Cockcroft: I do not think that would present any difficulty. The Clarendon Laboratory went one hundred per cent. into applied fields in the war years; the Cavendish Laboratory moved almost all their staff out. I do not think any flexibility would be lost.

Chairman: May we proceed to Item 2. of the memorandum—to the balance between teaching and research? We have had evidence which urged that there was too much research in the universities and that the Russian system of separating research from university activity was the preferable one. I take it you would be opposed to that?

Sir John Cockcroft: I would strongly oppose it. The best opinion in Russia

considers that it has been bad for the universities of Russia. It has led to the universities becoming much less lively, and they are now trying to find ways round the difficulty.

Chairman: From conversations I had in Russia this spring I too had the impression that they were having second thoughts about this system. May I, however, reproduce the argument for the opposite school of thought? It is that separation from teaching? It is for research, that in the future research must be carried out by concentrated teams; that such groups are best located in the national institutions remote from teaching duties; that the universities should carry on with their main job of teaching, and that the important developments will take place in the research institutes. Would it be correct to say that this argument goes too far?

Sir John Cockcroft: It goes too far. In my experience it is good to be in contact with the lively minds of students. They sharpen you up; they ask questions all the time. If you are doing both research and lecturing you have to devote a considerable amount of thought to the lectures, and that is good.

Chairman: Would you say that anywhere in the whole field of natural science in the last twenty years the evidence pointed to the view that in future the important discoveries would be made outside the universities rather than within them?

Sir John Cockcroft: The vast majority of important discoveries have been made in the universities. The position is a little changed now that certain machines which are used are too big to be put in the universities; for that reason some of the most important discoveries have been made in the institutes.

Mr. Elvin: If the case for separate research institutes is rejected, is there something to be said for a department which would be primarily a teaching department and a research institute within the same university, given the possibility that a man would move from one to the other in the course of his career?

Sir John Cockcroft: To some extent that happens in Cambridge already with the Medical Research Council. Presumably it is accidental that the M.R.C. provides the funds rather than U.G.C.; the M.R.C. were able to provide better facilities than the university, but the principle of teaching has remained. I do not think it is a serious disadvantage to have to teach even if you are in the middle of an important research programme.

Mr. Elvin: Would you include administration? The head of a department may be working on a research project, but he has also to administer his department as well as teach.

Sir John Cockcroft: I agree that administration can be a great burden; perhaps it could be lightened by providing more administrative help for heads of departments.

Sir Philip Morris: The problem is to find the most productive and fertile pattern for both research and the training of new minds, is it not?

Sir John Cockcroft: I would like to see very highly equipped research departments in the universities, with the staff doing their share of the teaching. At present the research institutes, with a few exceptions, are much better equipped than the university departments. I think we could improve the situation.

Sir Philip Morris: We have been told with considerable emphasis that universities tend to pay too much attention to research in both the appointment and promotion of staff. This implies some natural antithesis between people who will be good at research and those who will be good at teaching. Does that exist in your view?

Sir John Cockcroft: I can only speak of my own experience. Rutherford selected his young men on the basis of their research potential, and I think there can be no doubt that they proved to be good teachers also. I think it is better to select for research potential than to do the opposite. You may get the occasional person who is no good as a teacher, but on the whole it works. In any case they are only appointed for three years, and can be got rid of if they are bad teachers.

Chairman: Is it possible that the capacity for research as practised in some of the non-scientific subjects does not necessarily go with good teaching capacity?

Sir John Cockcroft: I am not well qualified to speak on the arts side, but in collecting together Fellows of Churchill College in the last few years, we have looked primarily for people of lively intelligence in research, and I think all the Fellows on the arts side will also be good teachers. They are certainly very keen to teach. I think they are capable of carrying out both their research and their teaching.

Sir Patrick Linstead: Would you not agree that in appointing a young university teacher one is looking for intellectual distinction on the one hand and enthusiasm for learning on the other?

Sir John Cockcroft: Yes.

Sir Patrick Linstead: And it seems to you this does not lead to a dichotomy between teaching and research?

Sir John Cockcroft: No.

Sir Patrick Linstead: There are exceptions.

Chairman: There is no problem of this sort, I imagine, in Oxford or Cambridge, where different kinds of talents can sort themselves out; they can teach, and they rise to the position of senior tutor and enjoy the same prestige in the commonroom as someone who has devoted his life to advancing knowledge. In some London colleges there is also ample scope for people with each kind of capacity. But there is complaint from other universities. Is it not the case that in some other universities young people depend for promotion entirely on what they manage to publish?

Sir John Cockcroft: From my knowledge of the physics departments of Bristol, Birmingham, Liverpool and Manchester, I would say this is not true.

Chairman: Research in the arts seems to be a special problem. It can be excellent, but can equally become soul-destroying if it is conceived as a parody of research in the natural sciences.

Sir Philip Morris: I think that the departments, wherever they may be found, which do the kind of research you have in mind, are attempting to pull themselves up by their own bootlaces. This kind of research is not done in a department which is confident of its reputation.

Chairman: May we now turn to your Section 3? Your paragraph (i) opens up many possibilities. I wonder whether you would express your opinion of the proposal which has been put forward by some distinguished witnesses for the development of separate junior colleges to carry out some of the teaching before specialisation begins?

Sir John Cockcroft: If the expansion of the universities were to go a great deal further I think there might be a place for this kind of liberal arts college, but I do not think we have reached that stage yet. I do not know enough about the American liberal arts colleges to express any further opinion.

Chairman: Many of our witnesses have given professional approval to the idea of a fourth year of work for the M.Sc. which would be chiefly training after the American pattern.

Sir Philip Morris: May I try to make your paragraph (i) more specific? In various places there is a tendency towards alternative streams in the third year, particularly in physics. Are you in favour of something of that kind to adjust the type of work to the ability and interest of the student, or are you more interested in establishing a new level for the first degree, and starting at a different level for a graduate course in the fourth year?

Sir John Cockcroft: I am in favour of different streams. There are wide differences in the training of students before they come into the universities. Some can go fast and are bored by the first year, and it would be good for them to go faster. My main point was that there should be more formal teaching for the students who are staying on after graduation. Certainly our American colleagues often think our research students are uneducated because they have not had this form of training.

Chairman: Do you think there is substance in the American criticism?

Sir John Cockcroft: Yes.

Sir Philip Morris: Almost all our M.Sc. and Ph.D. students do some formal work, and the American graduates we have take a substantial part of our third year physics course. This seems to suggest that there is a big difference between the two countries in the stage reached at the first degree.

Professor Drever: The graduate school at Princeton has a qualifying examination which corresponds to our Master's degree; its level is the same as our honours examination, but the content is broader. We take graduates as far as the Americans do by the end of their first postgraduate year, but not on such a broad front.

Chairman: Experience in our graduate school seems to suggest that the American graduate starts, say, six months behind a man who has taken a first here, but he has a broader basis of knowledge, and he catches up rapidly. After a year in the graduate school the American graduate is fully the equal of his English contemporary. Conversely the complaint about our graduates who go to the United States is that of narrowness.

Sir Philip Morris: If you are in favour of a more broadly-based first degree course, rather on the American pattern, how is this to be made compatible with your view that some students want to move ahead faster and should not be held back?

Sir John Cockcroft: I think there is no complaint about the best of our students. It is the average research student who is not so well trained here as in the good American graduate schools. I think we could do more. I have known holders of Ph.D.s who had a deplorable lack of knowledge of their subject; this could not happen if there were a throw-out examination.

Mr. Elvin: Is this M.Sc. year to be pre-research training and a sieve for research workers or a broadening of the mind on the American pattern? I do not think they are the same.

Sir John Cockcroft: One deficiency is in theoretical physics. If there were a

hard grind at it in the postgraduate year students would be better equipped.

Mr. Elvin: That would be continued study rather than research?

Sir John Cockcroft: Research and also further training.

Sir Patrick Linstead: Is there not a second type of postgraduate study, not necessarily immediately postgraduate, which is more of a professional specialisation? If we could make our civil engineers, for example, less specialised at first degree level we could encourage graduates to come back to take a special subject, say, structural engineering, in a fourth year. This would not be a preliminary to research, but preliminary to practice, which is a different thing. Do you think this is correct?

Sir John Cockcroft: In engineering, yes.

Sir Philip Morris: Do you envisage the M.Sc. as being a stage through which every Ph.D. passes?

Sir John Cockcroft: It is a possibility which is being considered in one department in Cambridge. I have in mind that the M.Sc. would act as a sieve.

Professor Drever: Your paragraphs (i) and (ii) imply that in mathematics the undergraduate course takes the student too far. Would you suggest that, if there were a Master's degree in all subjects, the honours course could be a little less advanced and specialised?

Sir John Cockcroft: Mathematics seems to be a special case. I have my opinion on this at secondhand. I have heard of the difficulties there. It seems to me courses could be devised which would require the 'A' level standard for entry but would not take the student as far as he has to go in Cambridge.

Sir Patrick Linstead: That would be a second stream?

Sir John Cockcroft: Yes; it would help to provide more teachers and also mathematicians for industry.

Dame Kitty Anderson: I am sure such courses would be attractive to many girls.

Sir Philip Morris: To what do you attribute the tendency of engineering faculties to insist upon looking after their own mathematics?

Sir John Cockcroft: Perhaps because when mathematics is taught by the staff of the mathematics department the approach is too abstract. I am guessing; I have no direct experience of this.

Chairman: May we proceed to your paragraph (iii)? How far would you go in support of the general honours courses with subjects taken at lower level but with greater breadth? Would you be in favour of opportunities for combining natural science courses with one or two subjects in the humanities?

Sir John Cockcroft: I am in favour of trying the experiment, of combining mathematics with economics, for example. I think there should be various experiments, especially in the new universities.

Chairman: How seriously do you take what I call 'the Snow problem'?

Sir John Cockcroft: Not very seriously in the University of Cambridge. My experience is that the students spend about one-third of their total time in mixing with students of different faculties, in one way or another.

Chairman: The problem has two prongs. On the one hand we are asked to contemplate natural scientists who are ignorant of the arts; on the other hand we are asked to contemplate practitioners of the humanities who do not know anything about Newton or about anything which has happened since. Some people think that 'the Snow problem' is much more important on the humanities side than it is on the natural sciences side.

Sir John Cockcroft: Many science students come into the universities deficient in the arts; they stopped English two or three years earlier; their knowledge of their own language is almost negligible. I would like to see this situation improved.

Mr. Elvin: Would it be possible to remedy it without a change of university entrance requirements?

Sir John Cockcroft: University entrance requirements will have to be changed. They are being changed. Cambridge now requires a paper on the use of English. That is one step in the right direction, but I think they will probably have to go further.

Sir Philip Morris: I think that on the arts side there is much less difficulty for the younger generation.

Sir John Cockcroft: I think that the Americans are making a more serious attempt to provide some scientific education for the arts people than we are. They have written some good textbooks which are well suited to this class of student. I do not know of any corresponding books here.

Chairman: Is this a matter which could be taken up by the Royal Society?

Sir John Cockcroft: It could be.

Sir Patrick Linstead: I would think that was outside the Royal Society's terms of reference.

Sir Philip Morris: Is it that the Americans do it better or is it not, rather, that the American scene is so different. They tend to grow up differently in America. Early 'dating' has a lot to do with this; it makes continued general education much easier for the schools than it is in this country where there is not mixing in the same way.

Nor is there in America the same pressure as we have towards high performance at the age of seventeen or eighteen. The climate of opinion is very different in the two countries. If we tried to move in the American direction we should find general opinion here was against us.

Sir John Cockcroft: I think many of my friends and colleagues would be willing to see less time devoted to science in the sixth form; many people in responsible positions in science think specialisation in schools has gone too far.

Chairman: The problem relates in a sense to the general climate of opinion, which makes it possible for poets and art historians, and other people admirable in their way, to think of the twentieth century as a horrible period in which, on the whole, the human race has been running down and instruments of destruction have been invented, and in which nothing very creditable has occurred and to be oblivious of the stupendous things which have happened. This is wrong. Sir John, I am afraid we are at the end of our time and only half-way through your memorandum. I wonder whether you would give us the benefit of your company on some other occasion, so that we might continue our discussion?

Sir John Cockcroft: Certainly.

FURTHER ORAL EVIDENCE

given by

SIR JOHN COCKCROFT

Friday, 17th November, 1961

Chairman: Sir John, I wonder whether we might now plunge into the middle of one of the most important subjects left undiscussed: the connection between the government and education in general and universities in particular? Some of us felt—this is an objective statement and not a criticism—that implicit in some of your argument was the assumption that in time to come the government might have to play a rather more positive rôle in setting the broad lines of university development. We are not taking a position on that at present, needless to say, but, assuming that in time to come for various reasons—the undesirability of duplication of departments involving heavy expenditure and so on—there is a more positive rôle for the government, what are the minimum conditions of academic freedom which at all costs have to be safeguarded? What do you regard as fundamental? What do you regard as capable of modification as time goes on, without damage?

Sir John Cockcroft: I think one of the most important things is that individual departments should have the maximum amount of freedom in planning the courses. The courses must not be laid down by committees of the U.G.C. The U.G.C. may have more influence on what kinds of new courses' should be developed than now, but once that decision is taken, the departments should have a free hand.

Chairman: You think that a line can be drawn in practice between the two types of decision? What happens if, in a university where some particular type of research has not taken place, a new professor wishes to start it?

Sir John Cockcroft: I think this is where the University Grants Committee should have some say. Take nuclear physics as an example; very considerable expenditure is required to make a good department of nuclear physics; while it may be somewhat

delicate to do so, I think that the U.G.C. should be able to stop the development of a new department if they consider the subject is already well enough provided for. At the present time about 30 per cent. of the country's research workers in physics are in the field of nuclear physics and by and large I think that is enough.

Chairman: The sanction in this case would be the refusal to grant funds for a specific purpose?

Sir John Cockcroft: Yes, I think that would be the sanction. To some extent it is bound up with D.S.I.R. grants. D.S.I.R. would get applications for substantial grants for new research but the position there, I suppose, is protected by the fact that the Chairman of the U.G.C. is on D.S.I.R.'s Research Grants Committee. He may, of course, need a deputy to help.

If the Colleges of Advanced Technology are to cope with four thousand students, they will certainly be coming to D.S.I.R. for large sums of money.

Sir Philip Morris: It is a difficult issue from another point of view, is it not? The extent to which you control developments in, for example, universities, affects the richness of the whole of their curriculum, does it not?

Sir John Cockcroft: Yes.

Sir Philip Morris: And if we proceed on the principle you are here putting forward, with distribution of departments according to some objective test of need, you are assuming that students will have to be allocated accordingly?

Sir John Cockcroft: I was thinking primarily of the research schools.

Sir Philip Morris: You would confine this direction to them?

Sir John Cockcroft: Yes.

Sir John Cockcroft

Sir Philip Morris: I should like Sir John to expand a little on the arguments in his paper. In the paragraph in your paper about the C.A.T.s you say two important things but you do not comment on them. You say that some of the C.A.T.s show signs of wanting to abandon sandwich courses. You also say they are 'hankering after doing pure research'. If the Colleges of Advanced Technology at the level which is projected for them are going to develop pure research and also going to develop a wide-spread curriculum of scientific subjects, any co-ordination and planning would surely have to be over the whole field?

Sir John Cockcroft: Yes.

Sir Philip Morris: Secondly, do you think that if the Colleges of Advanced Technology were to become independent institutions, the government would have to maintain the same relationships with them as with universities?

Sir John Cockcroft: Yes.

Sir Philip Morris: Two questions flow from that. The first is: how far is it practicable—and the emphasis is on how far—to control this distribution of facilities and ability to undertake research? The second is: by what kind of machinery can the whole field of higher education come under any control which you think practicable?

Sir John Cockcroft: On the first point, presumably should a College of Advanced Technology decide it wanted to establish a research school of nuclear physics it would have to go to the Ministry of Education for the funds and the control would come in that way. I think that it is wrong for Colleges of Advanced Technology to take up this rather academic field of research when there are so many more practical fields of research they could go into with great benefit.

Chairman: How can they be prevented? Supposing they acquired a more independent status, which is clearly very much in the centre of their ambitions, what would be the machinery for curbing their aspirations?

Sir John Cockcroft: I think that whatever body is responsible for them in the future should at any rate give some guidance as to the field of research in which they should work. There are a number of fields of research neglected at the present time which it would be beneficial for the C.A.T.s to take up.

Sir Philip Morris: Is not that another question, the encouragement and exploitation of the under-developed fields?

Sir John Cockcroft: Yes.

Sir Philip Morris: The line on which you seemed to be speaking was the line of curbing rather than exploiting?

Sir John Cockcroft: Yes.

Sir Philip Morris: If, accepting what you are now saying about encouraging them to fill the gaps as practicable, do you consider that that by itself might be a curb? The colleges cannot do everything, and if they were encouraged to exploit gaps it would be less possible for them to do other things?

Sir John Cockcroft: I agree.

Sir Philip Morris: On what fundamental principle do you assign applied work to C.A.T.s and pure work to universities?

Sir John Cockcroft: One of the principles involved in setting up C.A.T.s was to cater primarily for the needs of industry. Therefore I would say the research problems they should work on should be related to the direct problems of industry, metallurgy, semi-conductors, electronics, social studies, manpower studies and things of that kind.

Chairman: Will there not be a strong tendency for them to try to include more pure research? Have not the great continental technological universities, and certainly the Americans, tended to go in that direction? And do not many teachers in the C.A.T.s protest that they are not allowed to do enough of it now? That is the problem, I think.

Sir John Cockcroft: Yes, they do, but in my opinion they are trying to mould themselves too much on the universities.

Sir Philip Morris: Is it, in fact, possible to solve advanced problems in applied science except by the development of pure knowledge? Nine times out of ten that is where the solution comes from, is it not?

Sir John Cockcroft: Yes, but the C.A.T.s cannot be expected to take up, say, high energy nuclear physics or cosmic rays. There are many problems more directly related to industry and I think they should work on that kind of problem at any rate for the next ten to fifteen years.

Sir Philip Morris: I am not suggesting that there is no need for selection and limitation. I am concerned here first with the principles involved and second with the possible machinery.

Chairman: I think you will agree, Sir John, that, looking ahead, this might easily be a major problem in future policy regarding the C.A.T.s.

Sir Philip Morris: You say that the C.A.T.s are showing signs of wanting to abandon sandwich courses. I am not clear whether you think this is inevitable, or desirable, or whether you think it is undesirable and ought to be prevented as far as possible.

Sir John Cockcroft: I think we shall have to judge by results. I would hope they would still continue to get good students, people who have not gone initially into the academic stream, but if not, they will have to back-track; but I think they should certainly keep sandwich courses unless and until they are clearly outmoded. I think that one of the best points about the C.A.T.s is that they can provide for boys from industry who have come up the hard way and are essentially the more practical, less academic type, and that the sandwich course is probably a good way of dealing with them.

Sir Philip Morris: The Colleges of Advanced Technology are not catering for people who can in truth be described as coming up the hard way. They are certainly coming up an alternative way, but in so far as it is a successful alternative way it is not, I would have thought, the hard way. The harder way is the technical college way.

Sir John Cockcroft: Yes, they are dealing with the young people who get

day release and those who have taken Higher National Certificates, and that is of course what they should continue to do. But I still think there is a scope for mixing the work in industry with work in a College of Technology.

Sir Philip Morris: I would agree that there is a strong case for a much greater sharing of function between education and industry than the sandwich course as at present organised implies. But I should like to ask what kind of machinery you see as being capable of undertaking this powerful and at the same time delicate task of co-ordinating. We are one country and one people and shall always have to be, so the whole field is involved, not only C.A.T.s but also universities.

Sir John Cockcroft: I believe there will have to be a common machinery of government for universities and C.A.T.s.

Sir Philip Morris: What form will it take? This goes back to the question of academic freedom.

Sir John Cockcroft: I think it is more a question of how much guidance without dictation is given.

Sir Philip Morris: What kind of machinery do you see?

Sir John Cockcroft: I have it in mind that the U.G.C. would probably have to have a technological committee which would be responsible for the C.A.T.s as well as the university technology faculties.

Dame Kitty Anderson: Exactly what powers do you think this technological committee should have? Should it have the full powers of the University Grants Committee for capital expenditure? Or should the University Grants Committee be developed into a series of committees linked by the central committee? Who do you feel should be looking at the whole picture?

Sir John Cockcroft: I would guess that if the U.G.C. are going to handle an increased volume of expenditure they will need to break down the work in some way, because apparently, I am told, they have now a heavy burden of work.

Sir Philip Morris: It is fairly clear that a technological committee is not in itself an answer to the problem because Colleges of Advanced Technology would not teach only technology.

Sir John Cockcroft: I think they could nevertheless be included in the responsibilities of a technical sub-committee for the purpose of machinery.

Chairman: This implies, if this committee is to a committee of the University Grants Committee, that in the end the C.A.T.s have the same liberties and are subject to the same restraints as the universities. Eventually they are on all fours?

Sir John Cockcroft: Yes.

Chairman: Which leads to the fundamental question: at what point does central control become illegitimate? We are confronted with many representations that resources are being wasted and that co-ordination is necessary. On the other hand we are well aware that, in the universities at any rate, there are apprehensions that what they call their freedoms are going to be interfered with. On the whole you have been telling us about the need for co-ordination and guidance. Have you reflected on the dangers that may be associated therewith, or would you feel that in the tradition of the British scene these dangers are vastly exaggerated? Are there some things on which you definitely want to lay down the principle that there must be no intrusion?

Sir John Cockcroft: I personally think the University Grants Committee works very well. I think it has changed to some extent in giving more policy guidance, especially to people setting up new universities, and I think it will be driven to do more of this in collaboration, say, with the Research Councils, as new fields of research become more and more expensive. The U.G.C. will not be able to leave it to individual universities to decide. But I would like to see this developed within the framework of the U.G.C. and not through a completely different system. I think the U.G.C. has now a very tight hold on capital expendi-

ture. I should have thought their control of capital expenditure is more stringent than the control of capital expenditure in a government department.

Chairman: May I take this a stage further? I see that, where very expensive research equipment is required, there is a fairly easy sanction. But I notice you also speak about the need for some sort of euthanasia at birth, so to speak, of new departments of classics and oriental studies. Apart from libraries, there is no very heavy equipment involved there, so that the sanction of refusal of equipment would not be appropriate. Supposing one were persuaded that it was superfluous to have a university department of classics and supposing the people there said that nevertheless they wanted it—what happens then?

Sir John Cockcroft: I know what seems to be happening at the present time. The academic planning boards of new universities tend to lay down the initial line for the development of the university—there is no department of classics proposed for the University of Norwich. Policy is being laid down already. This may not persist, of course.

Chairman: But supposing when it was established members of the university said that the failure to provide, say, a department of classics hampered proper development and they wanted to appoint a professor of that subject and make appropriate additions to the library? I do not think this is really a frivolous case although, as I state it, it sounds lighthearted.

Miss Gardner: It is impossible to develop medieval history, romance languages and other subjects unless classics is being taught seriously in the same institution. You may say classics has been overstocked in the past and we do not want it now; but the new universities are, in my opinion, bound to find classics a fundamental need if they are going to teach humanities. It certainly will be if they wish to carry out research in the humanities.

Sir John Cockcroft: I can see that this will happen. The question is: how

much influence a central body will have?

Miss Gardner: How much influence ought it to have, for example, if it is argued that the combined arts department of a university is being hampered?

Sir John Cockcroft: The U.G.C. would have to climb down, I suppose.

Sir Philip Morris: Is it perhaps possible, Sir John, that you are a little misled by the amount of co-ordination it is possible to show in the early stages of a university compared with the amount of control the U.G.C. can properly exercise when the university has established itself?

Sir John Cockcroft: We are now in the situation in radio astronomy where the cost of new equipment may reach the million pound level. It has already, I think, been agreed by D.S.I.R., with the concurrence of the University Grants Committee, that there will not be more than, say, two or at most three centres working in this expensive field, so to that extent they are laying down policy.

Sir Philip Morris: I understand that, but it is an example in the category of high expenditure on machinery and equipment. That is not really the most vital part of this field; it is, after all, a small component in the total field of higher education.

Chairman: Whether or not to have another enormous radio telescope can be settled by good sense can it not? It is not a matter which gives rise to complicated constitutional questions. Could it not be that it is much more in the sphere of the day-to-day accountability of universities for more routine functions that the difficulty is going to arise? The Committee has to consider whether, if the U.G.C. machinery is retained, it is going to be capable of handling the whole complex of questions which has come to light in this conversation? What is to be its relation to the central government in future—not only its relation to Ministers but also its relation to Parliament itself? What are your feelings about the Auditor General in this respect?

Sir John Cockcroft: As far as my experience goes, universities are rather frugal institutions. They do not have a lot of money to play with. They have to look at their money very carefully, and I do not think this accountability question is a real one.

Chairman: But if your argument were advanced to the most liberally minded of M.P.s he might very well riposte to the effect that he did not want to interfere unduly and that he recognised the necessity of riding with a very light rein, but that it was an insult to Members of Parliament to say that they ought not to have any cognisance of the spending of £100 million a year. What is the reply to him?

Sir John Cockcroft: What do they want—to haul up the Vice-Chancellor before a Select Committee?

Chairman: If you take the present U.G.C. position in relation to existing universities, that Committee has a substantial control over capital expenditure. They have an indirect and relatively slight control over recurring expenditure. I am really asking: where would you stick on this? What are the essentials of academic freedom here? If the U.G.C. extended its control over the salary element in the recurrent grants, for example, to the same extent as it has extended its control over capital, what would you say about that? Suppose the U.G.C. wished to impose some salary structure and that to do so involved overriding university opinion; I am not talking about total expenditure, but the way in which the money was spent.

Sir John Cockcroft: I would obviously prefer to have questions of differentials settled within universities, if it could be done.

Chairman: So you think this is an extremely sensitive area in which you have to consider a great deal before paying the price?

Sir John Cockcroft: Yes, I do.

Miss Gardner: Do you think the quinquennial system is a satisfactory one for current expenditure?

Sir John Cockcroft: I think it has worked reasonably well. It has the disadvantage of lack of flexibility. Of course one might move the university grant on to the basis of the new Treasury plan—what they call a rolling quinquennium. I think that gives more flexibility. We are operating that now in the Atomic Energy Authority and other branches of government, and it gives a chance to plan five years ahead and modify year by year. For the universities I think the difficulty at present is that the system has led to important developments being put back five or ten years; that is a real difficulty. Another possibility is to have some pocket of money additional to that within the five-year plan which could be allocated year by year on the basis of priorities and things which turned up. I think the existence of the Research Councils may have been of tremendous value because it enables the universities to escape from the five-year planning.

Sir Philip Morris: But the time arrives when the Research Council wants to pull out and the U.G.C. has to take over.

Sir John Cockcroft: I do not think that is very serious, because it is planned ahead and can be provided for in the quinquennial grants. If it is not, the university does not need to carry on.

Chairman: What about earmarked grants? Are they incompatible with the principles of academic freedom, or are they a possible instrument of control in the future?

Sir John Cockcroft: I am in favour of some earmarking of money.

Chairman: It is very unpopular, is it not?

Sir John Cockcroft: I know it is, but the money is earmarked by the Research Councils and I do not see why the U.G.C. should not have a pocket from which it can earmark grants for specific projects.

Chairman: I wonder, Sir John, whether you could tell us a little more about your views, which are mentioned in Section 4 of your paper, on the open scholarship system?

Sir John Cockcroft: I think that many people are worried about the open scholarship system. It has been said by many bodies that it is responsible for excessive specialisation in the schools. On the other hand, colleges like it as a method of selecting the cream of the students. It is also liked by a substantial proportion of headmasters because it helps teaching and the prestige of their schools to get the scholarships. It is also liked by some of the teachers, who appreciate being able to raise a few of their pupils up to the top level. So there is very strong interest in retaining the open scholarship system. On the other hand some of us feel that it is bad, because while it may not do the very bright boy any harm, it involves forcing the average boy in what is probably a harmful way.

Mr. Elvin: It is argued, rightly or wrongly that there are rather more intelligently set papers in the open scholarships than in other kinds of test, and that that has a good general effect. But I gather you feel that this is a bad survival from pre-war days, when lack of money would otherwise have made it impossible for a clever but poor child to get a university education?

Sir John Cockcroft: Yes, I think it is.

Dame Kitty Anderson: I agree there is no real need for them now from a monetary point of view. But even if there is a university place for everybody, how would you propose selecting students for the colleges to which a very great number of young people want to go? Would you have an entrance examination and would the examination be any different in its effect from the open scholarship?

Sir John Cockcroft: I would have an entrance examination at a lower level, with general papers and so on. There would still be half-a-dozen candidates for every place and some of the brighter people might be missed, but the colleges would still get a lot of very good people.

Dame Kitty Anderson: It could be argued that the entrance examination might put similar pressure on the schools to that exercised by the scholarships.

Miss Gardner: Is it not also arguable that the open scholarship examinations at Oxford and Cambridge improve the teaching standards of all the schools? Moreover, a person selected for an open scholarship has the feeling that he has done something remarkable. I am afraid that if the basis were widened and levelled down, it might lead to a neglect of a standard of true distinction which possibly ought to exist and be known. I do not necessarily think the scholarship should be tied to entrance in the way it is, and there are other ways of selecting students. But I think it is good for an intellectually ambitious young boy or girl to feel there is a standard to attain. What would you think of that?

Sir John Cockcroft: I think that if entrance examinations were set at a lower level and exhibitions were awarded, the carrot would remain, but boys and girls would no longer be pushed so hard, as to have only a few periods a week for non-specialist studies. That is the real worry about the present situation. I agree that there are other ways of selecting students. I do not think we know the best answer yet, but some of us feel it is becoming a major problem now and we should experiment.

Miss Gardner: Sir Philip is the head of a very impressive institution which does not, I think, force all its students to take a written entrance examination.

Sir Philip Morris: We have an average of seventeen applications per place and we have to do the best we can to maintain our policy that there should be no more examinations to assist with the problem of selection. I would not like to defend each decision by itself, but I think it is manifest that the institution is not suffering.

Chairman: Sir John, may I move on to another topic, the shortage of women science teachers, to which you refer in your paragraph 7? I wondered whether you had any further ideas on this?

Sir John Cockcroft: I think the facts are clear enough. The only question is: what can be done? I have been told that other countries make better use of visual aids. In this country we are backward, I think, in adopting

aids to teaching. This is one thing which should certainly be improved. The Americans have taken visual aids very seriously and spend enormous sums of money on developing them. Another approach is by pooling sixth-form teaching in the girls' schools, but this is apparently very difficult.

Dame Kitty Anderson: In some cases boys' schools help the girls in science. I think one difficulty is that even if there is a boys' school nearby which could offer teaching in scientific subjects, the amount of space they can offer varies from year to year according to their own needs and this is very inhibiting to the girls' school. Another problem is laboratory space. Again there is the difficulty of travelling more than a short distance. May I ask what contributions you think women can make in the scientific field? In which spheres especially do you consider they have a contribution to make, bearing in mind the fact that women marry early nowadays and may come back into service later in life?

Sir John Cockcroft: They can go into technician jobs, not on the highest grades, but they can nevertheless be of great value. They can certainly go back to teaching, that is easy.

Mr. Elvin: Can a woman who last studied physics twenty-five or thirty years ago teach physics in a sixth form?

Sir John Cockcroft: Yes, if she has had a refresher course of a few months.

Mr. Shearman: I might say this has been tried with some success on a small scale. Some useful additions to teaching strength have been recruited in London. There are many universities where there is no inhibition about taking women. If there is positive encouragement and resources are made available, we might break this vicious circle about the supply of women teachers in the schools by getting more girls to do science in the universities.

Sir John Cockcroft: Some universities might well offer an intermediate course for girls who have not been



Sir John Cockcroft

well taught at school. In my experience many would like to change over and do more science but cannot because science teaching at school is of too low a quality. There are of course, already conversion courses for boys but not, as far as I know, for girls.

Miss Gardner: That would mean four years for some of them and three for others?

Sir John Cockcroft: Yes.

Miss Gardner: Would you suggest that the age of admission into the intermediate course should be lower, say, seventeen?

Sir John Cockcroft: For an intermediate year, possibly.

Mr. Shearman: This has been done on a small scale in one or two London colleges.

Dame Kitty Anderson: What do you think, Sir John, about the development of more general scientific courses at the university in addition to the present specialised courses?

Sir John Cockcroft: I think that again would be very valuable in encouraging girls into science courses.

Chairman: Sir John, we are most grateful to you.

MEMORANDUM

submitted by

SIR THOMAS MERTON

29th June, 1961

Fifty years ago it was not difficult to get into any of our Universities. It would be an overstatement to say that only a qualifying test was applied, but any candidate who showed any reasonable promise could usually get a place, even in the older Universities where the competition has always been greatest.

Today the situation is quite different and we find too many candidates chasing too few places. This has got a familiar sound and well it may, for it means that an inflated value is placed on those attributes which enable candidates to be successful in highly competitive examination.

In many cases the University authorities seem to be taking the line of least resistance and are calling for an ever increasing proficiency in the special subject which the prospective candidate proposes to study. Although most people agree that too early specialisation is to be deplored, this is precisely the effect which the present trend is having on the schools, many of whom feel obliged to increase the time devoted to special subjects, to the detriment of general education. In some cases parents, who are anxious that their children should get places at the University, are actually clamouring for earlier specialisation and although some schools are resisting this and are maintaining a curriculum which provides a good general education, the pressure is there; and it seems inevitable that the standard of general education will suffer and that there will be a tendency to produce candidates who know more and more about less and less. Some schools may resist this pressure but they are powerless to remove it; and if a general education is desirable the last word must lie with the Universities.

It is worth considering how the developments and advances during the last century, particularly in the physical sciences, have come about. It was stated a few years ago that of the Fellows of the Royal Society who had been at Cambridge only 55 per cent. took first class honours in both parts of the tripos. There are a number of possible interpretations of this interesting observation but it is important to be sure what is meant by the word scientist. Scientists can, with some overlapping, be roughly divided into three classes which may be for convenience referred to as 'Natural Philosophers', 'Observers' and 'Inventors'. The natural philosophers are good mathematicians, they have analytical ability and are capable of understanding the most difficult propositions; and it is to the best of them that we owe the classical electromagnetic theory, relativity, the quantum theory, modern cosmogony, wave mechanics and all the theoretical physics which has led to an understanding of the ultimate structure of matter and the development of atomic energy. They may be regarded as the intellectual elite of the scientific world; but natural philosophy is not self-fertilising and cannot flourish in vacuo. When new discoveries are made the natural philosophers can analyse, rationalise and usually predict further developments, but a time comes when they need new raw materials in the form of fresh observations.

Looking back over the last century we may note amongst outstanding landmarks the Brownian movement, photoelectricity, thermionics, the X-rays, radioactivity, the rare gases of the atmosphere, chromatography, penicillin and the Cerenkov radiation, all of which were discovered because someone noticed something and realised its significance; and it is the special function of the observer to recognise and isolate the significant. There is of course *a priori* no reason why a natural philosopher should not be a first class observer and for that matter a good inventor as well; but the fact remains that this very seldom happens.

As for the inventor, it is perhaps worth noting that whilst 'research' has always been highly respectable, the word 'invention' is still regarded in some quarters as a slightly dirty word; yet where should we be without the triode valve, the Geiger

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counter, phase contrast, zone melting and the modern methods of producing high vacua, to mention only a few of the inventions which have made technology what it is today?

It is essential for the observer and the inventor that he should have a sound scientific training, but the potential observers and inventors of today are at a disadvantage because, whilst the potential natural philosopher has usually no difficulty in passing examinations with the highest honours, the observer and the inventor often find it much more difficult to satisfy the examiners and they are likely to be left out altogether in a highly competitive examination in which originality, power of observation, inventive ability and imagination score no marks whatever.

The present state of affairs may well result in the isolation of one type of scientist to the exclusion of the others and the moral would seem to be that whilst it is generally agreed that much more university and technological training should be made available as soon as possible it would be a mistake to encourage an increase in the number of candidates which is greatly in excess of the number of places available.

ORAL EVIDENCE

given by

SIR THOMAS MERTON

Friday, 13th October, 1961

Chairman: Sir Thomas, we are very grateful to you for preparing this interesting memorandum. I wonder whether you would first care to say a few words in supplementation of it?

Sir Thomas Merton: There are one or two other things I might say. I said at one point that the natural philosophers can be regarded as the intellectual élite. I would qualify that by saying that, if you look back at the contributions made by them, you will find that a surprisingly small number of people were in fact involved. It seems that you have either to be very good or no good to take up the natural philosophy of science. You can count the outstanding people on your fingers.

Chairman: Would I be right in interpreting the moral of your memorandum in these terms: that while there is extreme limitation of places in the universities and concentration on a high excellence in a certain kind of intellectual performance, there is a danger that the inventors and observers may get crowded out and that the future population of natural scientists will not have an optimal mixture of types?

Sir Thomas Merton: Yes; I am afraid you will isolate a particular type instead of having a balanced mixture of the various types.

Chairman: I wonder whether you would help us to formulate this in terms of the recommendations which you think should be made by this Committee?

Sir Thomas Merton: I think you will agree that interviewing prospective students is extremely important, indeed, I believe it to be much more important than a written examination. Of course you must have a written examination to make certain that people qualify, but, if you choose people simply on a written examination, you isolate the wrong type. I know of one college, which was once at a low ebb, but which is now first class. Its improvement in standing is

entirely the result of the head spending a lot of time interviewing people. Of course they have an examination as well, but he is a very good judge of people and it works. There is a particular sort of scientist who can do the kind of work I have in mind, and I would be very sorry to see him excluded from the university simply because he cannot succeed in the natural philosophy type of examination.

Sir David Anderson: Do you think a large number of the observer type are being excluded now?

Sir Thomas Merton: I cannot say what is happening at the moment, but the tendency seems to be for the university authorities to move in the line of least resistance and simply stiffen up the entrance examination. I would rather see something more in the nature of a fairly stiff qualifying examination followed by interview.

Professor Drever: Is there not evidence to suggest that there are good interviewers, as there are good inventors, but that the interview as such is not a very good method of selection? Would it be safer to trust much more than we do at present the judgment of headmasters and headmistresses?

Sir Thomas Merton: I would not quarrel with that. I am primarily concerned that there should be something more than a written examination which gets stiffer as time goes on and as the pressure gets stronger.

Sir Patrick Linstead: Will this danger not be overcome as the number of university places rises?

Sir Thomas Merton: It depends how quickly it rises. I think there is both a long-term and a short-term problem. The short-term problem is to make certain that you get a balanced intake of different types. The long-term problem—I do not know how to solve that. Of course, if you want to be certain of getting the most promising people, you can do it either by

Sir Thomas Merton

wise selection or by providing education for an enormous number of people. It is for you to decide whether an immense national effort of that kind is called for or whether it would be what J. J. Thomson used to call 'setting fire to the kitchen in order to boil the kettle'.

Sir David Anderson: Do you think that the inventor and observer types might be better trained in the newer colleges of technology?

Sir Thomas Merton: No. I think the various types need to be mixed together.

Sir David Anderson: Not trained separately?

Sir Thomas Merton: No, not at all. During the war I saw a great deal of the scientific work going on in various fields. What impressed me was that most of the people doing outstandingly successful work were working in fields far removed from those in which they were supposed to be specialists. I would like to put it like this: I would like to see mathematics treated quite separately, because I believe that unless you get mathematics young you do not get it at all, or that at least few people do. In other fields, given a good training in any of the disciplines, you can probably turn your hand to anything if you are good. I have given you what I think is a rather spectacular list of landmarks in science which have not been made by the kind of people who would pass top in the universities today. They were all made because somebody was able to isolate what was significant in what he saw.

Sir Patrick Linstead: We have been discussing with other witnesses the possibility of dividing university courses in a particular subject, such as physics, into two streams according to whether the students are perhaps more capable of abstract thought and more mathematically minded, or of a more practical turn. If that sort of division went forward in some places, do you think it might provide a partial solution for this problem, provided it was coupled with a fairly generous method of selection?

Sir Thomas Merton: Yes, I think it would. It is new to me, but my first

instinct is to think it would provide a solution.

Mr. Shearman: May I ask another question about your troika? There is another troika at the moment. The Ministry of Education has adopted the classification: scientists, technologists and technicians, and is basing its plans on that. Your three classes are, as I understand it, all what the Ministry would call scientists. I am not quite sure where in your concept the C.A.T.s. and the technologist would come in.

Sir Thomas Merton: My classification is a quite different one.

Mr. Shearman: I appreciate that. Therefore you would expect to find some of each of your three groups in, for instance, the technologists' section?

Sir Thomas Merton: Yes. I think the natural philosopher type would not be found among technicians, and not a great number would be found among technologists.

Mr. Shearman: I understood you to say you were in favour of mixing these people?

Sir Thomas Merton: Yes.

Mr. Shearman: Does that mean you are not in favour of separate Colleges of Advanced Technology, or that you would like them to be more closely associated with universities?

Sir Thomas Merton: I do not think I can answer that.

Chairman: Do you feel that the idea of the university, or the idea of an appropriate institute of higher education, necessarily involves the present pattern of universities as we know it in this country? The objective of the Colleges of Advanced Technology is to achieve a level comparable to that of the universities, but with the weight rather differently distributed. If one thought of the composition of the courses in an institution as a circle, then the university, as so far developed in the twentieth century, has so much for science, so much for social studies, so much for law and so much for the arts. If the C.A.T.s. were to develop further the proportion of the segments

of the circle would be different. Would you feel that was necessarily wrong?

Sir Thomas Merton: No, I would not.

Chairman: You think it is possible to develop an institution of high standing from that beginning as well as from the multi-faculty institutions?

Sir Thomas Merton: Yes, I think there should be no difficulty about that.

Sir Patrick Linstead: Defining technology as science applied for useful ends, do you consider that technology—engineering, fuel technology, food technology, textile technology—should be studied in an institution which does not have a first-class pure science department?

Sir Thomas Merton: No, I do not believe you could get the best results in that way.

Sir Patrick Linstead: So that if you are going to have a big technology sector you should also have a big science sector?

Sir Thomas Merton: You must have a certain amount of pure science; I would not like to be precise on the amount, but there certainly should be some.

Chairman: I am led to ask your opinion of the adequacy of the present output of trained people from universities and advanced technological institutes? In relation to the needs of industry in this country as compared with the United States, Germany or Switzerland, how adequately do you think we meet demand?

Sir Thomas Merton: I cannot speak about this with much authority, but I have the firm opinion that scientists and technologists are often used for jobs which are much more appropriate for technicians. In a small organisation one person usually makes all the decisions, and highly trained people are often used where a technician might be even more effective. Technicians do some things better than graduates. I think this is a general phenomenon. For instance, you do not need a highly trained person to work an infra-red spectrometer. I knew a young man who during his second university year was offered a

vacation job by a large industrial chemical organisation in the neighbourhood of his home; I saw him after he had been there a month and asked him what he was going to do. He said he wanted to go in for teaching, because from what he had experienced he would be expected to do the same routine testing work day after day if he went into industry. He has since taken a first class at the university, and is well on the way to a Ph.D. That type of person will not be prepared to do the same thing day after day in industry.

Mr. Southall: In cases like this, are they not doing technicians' work in order to get experience? I do not think there are many instances where a man spends his entire career in this way.

Chairman: Have you views on the adequacy of the ways in which technicians are trained at the present time? What do you think of the work of the lower technical colleges?

Sir Thomas Merton: All I know is that in various departments with which I am familiar, the person who is regarded as almost irreplaceable is the first-class technician who can turn his hand to anything.

Chairman: How was he trained?

Sir Thomas Merton: These people are regarded as worth their weight in gold, but I have a feeling that there is no adequate training for them.

Chairman: Some of our witnesses have suggested to us that these invaluable people have probably come up an informal and hard way, having been trained on the job, and that they are a race which is dying out. Would you think that likely?

Sir Thomas Merton: If it is true it would be most unfortunate.

Sir David Anderson: These people have a manipulative expertise of an extraordinarily high order?

Sir Thomas Merton: Yes, they have, and an instinctive feeling for what you can do with materials.

Mr. Southall: I think it is less a question of being a dying race than of becoming proportionately fewer. In

other words, the need for them is growing faster than the facilities for producing them. They are indispensable in any organisation. It is easier to move qualified chemists and engineers than certain men who have no recognised qualifications; they make themselves indispensable.

Sir Thomas Merton: I believe there was a place in Holland which trained these people. Certainly there was about thirty years ago: I do not know whether it has prospered. I think the difficulty in this country is to invent artificially as good a system of training for people of this kind as used to exist in certain firms almost, it seemed, by accident.

Sir David Anderson: Do you think that the Swiss technicum course, which is a three-year full-time course from about sixteen plus, is the right kind of course to develop in this country? There is nothing quite comparable to it here at the moment.

Sir Thomas Merton: I do not know anything about the Swiss course, but I think something of the kind is badly needed. I think there is a real shortage of technicians, and I am sure they can be used for a great many jobs for which they are not being used now.

Chairman: We have much evidence which bears on the relation between research and teaching. May I ask if you have views as to the possibility of using research institutes as centres of graduate study as well as research?

Sir Thomas Merton: I do not want to express a very definite opinion, but I have a feeling that people cannot do nothing but research. I think they want something else, some other job. I do not see why that should not be teaching; indeed, I think a certain amount of teaching helps.

Chairman: I take it that you would not approve of the Russian system, under which all the research is carried out in separate institutes and the universities do the routine teaching?

Sir Thomas Merton: I have spoken about this with a distinguished Hungarian scientist who came to this country shortly after the Hungarian uprising in 1956, and has remained here. He had previously been head of a Russian electronics establishment for three years. He told me that up to a certain age education in Russia is very broadly based, but that thereafter specialisation was incomparably narrower than it is here. He said that when he was appointed to this electronics research establishment he had a project he wanted examined. He sent for a young man who had the right qualifications, explained the project and asked the man if he could do the job. The reply was: 'No. I am very sorry; I have specialised on the output from radio stations.' I question whether you can keep intelligent human beings in that state indefinitely.

Chairman: We are very grateful to you, Sir Thomas, for giving up your time to come and talk to us.

MEMORANDUM

submitted by

THE ROYAL SOCIETY

19th July, 1961

The Council of the Royal Society at its meeting on 20 April 1961 appointed a Committee to prepare a memorandum of views for submission to the Committee on Higher Education. The members of the Committee were as follows: Sir Christopher Ingold (Chairman), Professor J. F. Allen, Sir John Baker, Professor T. M. Harris and Professor C. H. Waddington.

The Committee prepared a memorandum which came before the Council of the Royal Society at its meeting on 13 July 1961 and I have much pleasure in forwarding copies of it herewith.

Council thought that the memorandum contained interesting ideas which should be before the Robbins Committee, but Council did not wish to forward it as the opinion of the Royal Society as it was clear that complete unanimity could not be obtained and Council was reluctant to commit the Society as a whole to all the views expressed.

(Signed) H. W. FLOREY,
President R.S.

As is well known, the Royal Society is concerned with the pursuit of science, and hence with the production of scientists. This statement of needs and the suggestions for meeting them are therefore focused on the scientific field, and the Committee wishes to bring the following three recommendations, which seem weighty enough for long-term national planning, to the attention of the Robbins Committee.

1. THE NEED FOR A COMPLEMENTARY TYPE OF EDUCATIONAL INSTITUTION

The Committee feels that there is a clear need to extend university education in such a way as to enable the universities to concentrate on the more advanced levels of teaching. Scientific education in universities is beset by several serious and increasing difficulties, which can be stated as follows:

(a) As the frontiers of scientific knowledge are pushed back, the need is growing for students to receive a considerable amount of formal instruction in the period immediately following their first degree, a period which hitherto has been wholly or almost wholly devoted to the provision of a training in research. Formal instruction to postgraduates is something in which, except perhaps in engineering, most United Kingdom universities are very weak. The need for extended and more advanced formal instruction is now most pressing, but in order to provide this academic staffs need an equivalent relief from teaching in the less advanced levels.

(b) There appear to be two broad classes of university teaching in this country, and this dichotomy of approach leads to inefficiency and creates tension. These two classes might be described as 'ancillary training' and 'science teaching'. 'Ancillary training', as in, for example, chemistry for first M.B. students or modern language reading for scientists, is characterised by the following conditions: only a smattering of the subject is conveyed, the presentation of the subject has to be ex-cathedra, and the teaching has to be slanted towards a particular profession or to an outlook very different from that of the subject. 'Science teaching', on the other hand, embraces that sort of scientific education given at various levels, all higher than the foregoing, which are associated with both general and special or honours degrees in science and ideally, though this is not yet implemented, with the postgraduate instruction

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already mentioned. For example, mathematics taught to physicists is so close to the core of the subject that it clearly ranks as science teaching. Throughout this second range the spirit is that of teacher and pupil as senior and junior partners, with the relative responsibility shifting as the latter matures, in an enterprise of understanding and enquiry. The spirit is indeed that of research, and the pupil must be given glimpses of the frontiers of knowledge, and gain a sense of what is involved in creative work.

(c) It is felt that the transition from being taught at school to guided self-tuition at a university is too sudden to be accommodated by a high proportion of those entering universities. Much of the wastage that at present occurs could be avoided if young people were prepared more adequately for university work. This difficulty is not felt in pupils from the very best schools where the method in the sixth form is that of highly expertly guided self-tuition, but these schools are not in the majority, and it is submitted that a competing alternative to remaining at school should be available for the pupil of any particular school between the ages of, say, 16 and 19, to enable him or her to become properly qualified to enter a university.

The Committee believes that the wasteful and hampering difficulties in university education described above could all be solved by one strong measure, namely, the setting up in adequate numbers of a type of institution new in this country, but somewhat similar to the better American 'Liberal Arts College', which might be known as a *Preparatory College*.

These Preparatory Colleges, it is felt, should be affiliated with and sited close to, universities or colleges of advanced technology. In their formative years, at least, they should be under central rather than under local government auspices. Their intake, at age 16–17, would be from among those who seek some form of higher education, and from them students might proceed to universities, colleges of advanced technology, teachers' training colleges, medical schools and other schools of the professions, or generally to posts without further training. The work of these Preparatory Colleges would be mostly organised in two-year courses, and in the first place would be determined by the differences indicated between their intake and output: scientific research would not necessarily be an integral part of their activities. They would be able to take over from universities what is described above as 'ancillary training'. Some of the teaching now done in the first years at universities would thus be transferred to the Preparatory Colleges and the universities would be able to concentrate on teaching at the higher levels. Whenever possible Preparatory College teaching in science should be done in close association with university science departments.

Whatever the specific teaching programme, however, the primary endeavour in the Preparatory Colleges would be to convert the school-child into the student, handling over liberty gradually as the first of all academic lessons, that of how to learn, is mastered. Consideration might be given to granting some definite qualification to those who successfully completed Preparatory College courses.

2. THE NEED TO STRENGTHEN UNIVERSITY STAFFS AT CERTAIN LEVELS

The establishment of conditions favourable to scientific research in universities is alike a scientific and an educational necessity, for science teaching and scientific research are inevitably intermingled.

It is felt that the weakest part of the organisation of research in universities at present is now on the personal side. One of the major needs is for a sufficiently numerous body of what might be described as sub-leaders, or second-level pioneer workers, adequately supported by senior technical assistant staff. The existence of such a group of whole-time 'post-doctoral workers' or 'research fellows' would enable a much larger number of more pioneering and necessarily more difficult and problematic researches to be undertaken than at present. Such workers are of course already provided by the D.S.I.R., the Research Councils and by various Foundations and Trusts, but the numbers from all sources available at present

amount to perhaps one-tenth of what are needed to complete the adequate organisation of science in universities in the United Kingdom.

This problem, it may be pointed out, has already been recognised in the United States and Canada, where the establishment of extensively organised post-doctoral fellowships ensures a continuous and rapid turnover of numerous young scientists from abroad, very largely from the United Kingdom, whose training to the necessary extent has already been supplied in this country. It is on the benches of these young British scientists that a considerable proportion of the most original and promising work now in progress in the American continent is going on. These men are sought out each year, and the offers made to them, when supplemented by easily obtained travel grants, are very satisfactory financially and highly attractive in other ways. Universities in this country are in no position to put up offer for offer to the research workers whom they themselves have trained, and, what is more to the point, are in no position to reciprocate by drawing equivalently on the American continent, though the setting-up of such a mutual exchange would be of great benefit to science in all the countries concerned.

The position of United Kingdom universities is, therefore, that they are finding it impossible to build up an adequate body of trained full-time sub-leaders to permit the widespread prosecution of the more pioneering researches, because most of the scientists they require are in fact abroad, doing just such work, at that stage of their careers. The essential reason for this state of affairs is that adequate finance has never been furnished to maintain the required body of trained full-time research workers either by retaining them when they reach the appropriate stage in their careers or by the free and usually preferable alternative of substituting for them an approximately equivalent body of temporarily appointed, trained research workers from overseas. These new post-doctoral workers as well as existing university staff need the support of technical assistants.

Special attention is drawn to the state of engineering, which is considered to be in a particularly hazardous position because of the difficulty of obtaining a proper share of students of high intellectual calibre and of the staff to teach them. Engineering is a subject where the attitude of industry has a profound influence on higher education and it is recommended that industry should be invited to help improve the situation by encouraging first class men to accept teaching posts in the engineering departments of universities.

The Committee believes that the United Kingdom can keep its place among the leading scientific countries only if, as is now urged, an adequate financial policy with flexibility suitable for supporting new scientific projects is developed to provide our universities with many more post-doctoral research fellows and many more scientific research assistants. As a supplement to such a policy facilities should be arranged for secondment or transfer between the universities, government research establishments and industry, as by the provision of a number of supernumerary posts in universities to be filled by yearly appointments of people from industry or from government establishments.

3. THE NEED TO UTILISE THE ABILITIES OF WOMEN SCIENTISTS

It is recommended that some means should be found to enable women who have been through an honours-degree course, perhaps followed by research in a scientific subject, and have then had to leave this to bring up their families, to return either to science generally or to work supporting science. The numbers involved are certainly large enough to justify some consideration of national policy.

The Committee believes that provision for the scientific re-education of qualified older persons, in refresher courses, with maintenance grants for those admitted to them, could cope with a part of this problem. The main barrier, however, is that of the difficulty experienced by those who have withdrawn from scientific work for a period in picking up the threads of study again. However, a large amount of much-needed scientific supporting work could be covered by posts in which a family woman could immediately become valuable scientifically, for example, as a scientific

research assistant to those undertaking pioneering research. In such posts, especially if in some the hours of work were adjusted to accommodate concurrent domestic responsibilities, the scientific services of women could be recovered, and the environment and the contacts of collaboration would painlessly restore much of their lost familiarity with science.

The following supporting document was also submitted :

'Grant-giving to Universities for Scientific Research'. A statement communicated to the Minister for Science by the Council of the Royal Society in March, 1961.

ORAL EVIDENCE

given by

Sir Christopher Ingold, Professor C. H. Waddington,
and Professor T. M. Harris

on behalf of

THE ROYAL SOCIETY

Friday, 13th October, 1961

Chairman: May I begin by saying that the Committee is very grateful to the Society for responding to our invitation, and providing us with this memorandum. I wonder if you would care to make any supplementary remarks on it in order to open the discussion?

Sir Christopher Ingold: I think I should make two things clear; one is that we are speaking essentially as scientists, and when we speak of teaching, we mean the teaching of science because that is all we profess to know about. It may be that some of our remarks will have applications in fields outside science; but we are not the people to say so. The second point is that we are not speaking for the Royal Society; the Society's responsibility was limited to appointing five of us to do the job we are doing, and confirming that appointment after it knew what we were going to say.

Chairman: We may assume the Royal Society would not be in great disharmony with the remarks in your memorandum?

Sir Christopher Ingold: I think you can assume that. The Royal Society, however, does not like to express corporate opinions. Any senior academy which does so soon becomes regarded as the guardian of orthodoxy, which is inconsistent with being the spearhead of advance. This has been the ruin of so many academies that the Royal Society is chary of it. We are therefore here as the whipping boys. We have come to present our own opinion with the approval of the Royal Society, and the Society's responsibility ends there.

Our memorandum makes three recommendations. I suppose it would be generally understood that the order in which they stand is their order of

importance. I think that the first is so much more multivalent than the others that to talk round it would not be out of place. The second and the third recommendations, though not unimportant, are, I think, expressed at sufficient length to bring out the relatively simple points they are addressed to.

Chairman: I think your impression coincides with ours. It is your first proposal which affords the most scope for a clash of opinion. Would you care to expatiate on it a little?

Sir Christopher Ingold: We have advanced here three arguments in favour of what are called preparatory colleges. I think of them as junior branch universities related to universities somewhat as a public school and its own preparatory school may be related. Another partial analogy is the better type of American liberal arts college. There is, however, no analogy that goes the whole way; we have a composite picture of what it might be, and have to invent the name preparatory college for it.

We have given three arguments in favour of it. I do not think they are given in order of their importance. In fact there is no real order of importance. The order depends on whether you regard yourself primarily as an educationist or as a scientist. I will therefore start with the last argument.

We call attention to the grievous phenomenon of student wastage which has now reached considerable dimensions. We are trying to give university education to a bigger fraction of the population than heretofore. Everybody knows that some entrants to universities are thrown out after a certain length of time. They have to be, for the sake of the others; and

this notwithstanding the grave and perfectly well known risk that their individual self-confidence is likely to be destroyed for a long time as a consequence. There are a good many causes of student wastage. There are some you can do nothing about. One of the major causes, however, and one, in principle, which something could be done about, is that a large fraction of students entering universities today are neither intellectually, nor, even more important, psychologically ready for the marked change of attitude from the disciplined receptivity of the school child to the internally motivated enquiring attitude essential for the student. A period of reconditioning is required in many cases.

This reconditioning cannot be done in the universities. It is a process which takes time, and there is no spare time. There is also, mercifully, a large fraction of students for whom reconditioning is not necessary, because they come from the better schools where the method in the upper forms is directed towards the approach of the pupil to matters of study and enquiry, and not only towards getting the best possible results in the school-leaving examination. These days one has to legislate not only for the best, but for the average, and even to some extent the sub-average. A large number of pupils come into the universities mainly because they have a very satisfactory record in the 'A' level examination. They are not really ready to become students. They have got these excellent qualifications because they may have been jockeyed along that far, but in the process the opportunity to develop that attitude of purpose and purposeful enquiry which is essential in the student has been lost.

It is for these people that the 'sandwich' institution is needed between their schooling and their university education. That is one thing, one of the most important things, that preparatory colleges might do. They should act as reconditioning centres with teaching as the vehicle of reconditioning. They should also act as a sieve, because in the process it would be found out whether the young people were capable of being suitably recon-

ditioned. If they are not, they might treat the preparatory college as a finishing school, and would at least go out into the world having been to college. Those who do pass on into the main university—we think of the other as the junior branch of the university—should be certain successes, and the present wastage that is terrible for everyone concerned would be very much reduced.

Another argument in favour of this concept considers the universities as they are, and as they have been for quite a long time. Too many different things, activities too diverse in character, are being undertaken within the framework of a single organisation. The two chief immiscibles in what is being done by universities at present are not teaching and research. We are concerned with science teaching, and we are only interested in vital science teaching, in which the subject must be presented fairly as it is, with all its imperfections; showing what you do not know as well as what you know, and showing what you only half know and what are the reasons for this. If any kind of living inspiration is to be imparted to the pupils, it is essential that teaching and research should be done by the same team. Any moral value that the study of science has, and some people think it has a moral value, is deeply involved in this principle of presentation of material in a fair form, even if it cannot be done in a complete form, emphasising what is wrong as well as what is right, what is unknown as well as what is known. One sees phrases like 'the balance of teaching and research' in academic discussion; that in itself admits the teaching which is referred to is dead teaching. Vital science teaching can never be separated from research, to give any meaning to the phrase of weighing the one against the other. You have to separate things before you can balance them.

The immiscibles are two kinds of teaching, which have never been given recognised names. We call one ancillary training, and the other simply science teaching; the latter, as I have already explained, is the only kind of teaching in which we are interested. Ancillary training is characterised by

three properties. One is that only a smattering of the subject is conveyed. The word 'smattering' is carefully chosen. It does not mean that the elements of the subject are conveyed. It rarely involves the elements, the most fundamental things. The second character is that it is teaching which, because of the situation, has to be *ex cathedra*. This is completely contrary to the teaching of science which can never be *ex cathedra* if it is done in a vital way. The third is that ancillary teaching has to be slanted to some point of view which may be important in itself but is remote from what is essential to the spirit of the subject.

Science teaching is the opposite in all three ways. You try to present your subject fairly, possibly not fully because there is never enough time, but showing what the frontiers of knowledge are, whether they are firm frontiers, whether there is not a grey area, a twilight area in which you are not quite sure what you know and what you do not; it has to be fair. The moral aspect of science is involved in this. It cannot be *ex cathedra*. It has to be done in the spirit of a collaborative enquiry in which your students sharpen their minds on yours, and you sharpen yours on theirs, and must be in the spirit of the subject that is being conveyed.

We think that these two forms of teaching cannot be done efficiently in the same organisation and by the same team. It is not reasonable to expect it. The two attitudes are diametric opposites. It is not reasonable to expect the same person to switch himself from one attitude to the other hour by hour through the day. It is not in fact done, and the fact that it is not done, though we know it ought to be done, is creative of stresses and strains adding up to a certain total of all sorts of inefficiency.

There are also almost mechanical considerations; the number of students involved in experimental science, the type and proportionate amount of equipment that is required present difficulties which are likely to grow as the instrumentation of experimental science becomes rapidly more complicated.

For all these reasons we think there should be independent organisations concerned with the two types of teaching, each geared more directly to the job in hand. If one were done in the preparatory college and the other in the main university, the preparatory college would have to be separate in the sense of having its own principal, its own office, staff, buildings and equipment. There should be cross-representation on boards of studies and committees so that either hand in the collaborative job knows what the other one was doing. This, we think, would result in much more efficient teaching. In the memorandum, although we gave the minimum of examples, we gave examples of what we regard as ancillary training and what as science teaching.

There is one more argument, which, in a way, arises out of this. We know very well in science what we ought to do, but we cannot do it. We ought to provide much more instruction. If the three-year degree course is to continue we should provide much more organised instruction after the first degree. If we were to have a four- or five-year degree course such as exist in some other countries this would not arise; but here seems no likelihood of that. Probably a four- or five-year course is not desirable; if not, and if we do not have it, we certainly know we should provide much more formal instruction after the first degree. This has not been done very much in this country heretofore. Science teachers in universities, though they know it ought to be done, cannot do it; they are doing all they can. Most science teachers in universities work the better part of a seven day week in most weeks of the year; they cannot do more. If the ancillary training were carried out by an organisation which would specialise in it, the staffs in the main universities would have opportunity to do this more advanced kind of teaching. It is being done in America and other countries. We do not do it and we know we should.

There are therefore three rather different reasons, some more educational and others more scientific, for thinking that preparatory colleges might help the country very much.

Chairman: Thank you. May I begin questions on that by asking whether you would envisage all the young people would come into the universities through these junior or preparatory colleges, or whether only some?

Sir Christopher Ingold: Only some.

Chairman: How would you select?

Sir Christopher Ingold: A lot would depend on the parents in the first place. The young people who were in good schools should be left where they were. For those who were not getting on very well in school, whose parents realized it, or who realized it themselves, the preparatory college would provide another opportunity to prepare them for entry into the universities. I can, of course, see that the preparatory college would want some kind of assurance that those who seek to enter it would be material they could hope to cope with.

Mr. Elvin: You say that the best schools on the whole provide what you want in a freshman in the university, but that the majority of schools do not. Would it not be easier to bring the less good sixth forms up to the level of the best than to invent an institution which would virtually end the sixth form in a great number of schools, and also modify university structure by bringing the freshman to the university on the whole a year later than before? This would involve probing the reasons why some sixth forms are not as good as others but would it not seem to you the more obvious course?

Professor Waddington: First, we would like freshmen to come to the university a year later than they do now. Our first argument is that it is necessary for the universities as an association of scholars at the forefront of knowledge to move forward, and they can only move forward if they are allowed to leave their former place and take a whole step forward. We would like to push the whole university level a year forward and to do something else in what is now the first university year. Second, preparatory colleges of this kind would mean the disappearance of the sixth form in a certain

number of schools because most of the young people would choose to go to the preparatory colleges. One preparatory college could provide what was in effect first class sixth form teaching for the pupils from a fairly large number of schools. There would be considerable economy in concentrating sixth forms from a large number of schools in one place rather than trying to raise the level of a large number of smaller sixth forms to a satisfactory standard.

Mr. Elvin: Am I right in thinking that you would expect from the freshman the ability to direct his own studies and a level of intellectual curiosity which will become operationally effective because he has learnt how to make it so?

Sir Christopher Ingold: Yes.

Mr. Elvin: I can understand that you may consider young people in many sixth forms are not brought on enough in their particular special field of science, or do not have their attention directed sufficiently to principles as distinct from factual matter, or receive defective general education. Are you convinced that these problems cannot be dealt with by improving the less good sixth forms?

Sir Christopher Ingold: We think that the task of bringing the smallest country grammar school up to the same level as the best schools is so formidable that, however much one might like to do it, the more economical and practical approach would be to devise something special to plug the gap.

Mr. Elvin: Many country grammar schools have small sixth forms at present. But the size of sixth forms is changing. May the difficulties you have in mind not be inherent only in the present situation, and may they not be overcome as sixth forms grow bigger and the staffs grow bigger?

Sir Christopher Ingold: We believe that, while what we propose would take some time to make operationally effective, to improve all sixth form teaching would take much longer.

Professor Drever: In my experience it is not on the whole the bad schools which produce the failures. A good school frequently brings a rather dull youngster up to the necessary level for entry, and he may fail thereafter, whereas somebody who was not so well qualified before may do well at the university. I am doubtful that your proposal would meet this situation.

Professor Harris: That was why I favoured a rather short preliminary course which was complete in itself, so that those who had something like a ceiling, if that concept is fair, can leave with a respectable pass, and go no further.

Professor Drever: But if they come from a good school they would not, under your scheme, have started, would they?

Professor Harris: This preliminary course would do away with the appalling wastage, because those who failed would be thrown out at the end of their second year.

Mr. Elvin: Are you thinking of the American junior college, which has a two-year course and acts as a sieve for the universities rather than the American liberal arts college which, as I understand it, is a four-year first degree college?

Professor Waddington: We are thinking of something intermediate between the two, something which goes further than the junior college. I think the junior college level is lower than that of our best sixth forms.

Chairman: Your preparatory college would be a two-year college specifically designed to prepare people who had not been to good schools for going on to the type of work which they ought to do at the university, would it not? That is surely more like the American junior college than the liberal arts college?

Professor Waddington: In a way. But they would be going on to the university a year later than they do at present.

Chairman: Would you conceive that there might be a danger that prepara-

tory colleges would be born with the stigma of institutions designed for those who were not at good schools?

Sir Christopher Ingold: If that were so, it would have to be offset by merit. It would be true, of course.

Chairman: I was suggesting that preparatory colleges by their nature might tend to have a slightly inferior status.

Professor Waddington: Would this be more marked than the difference between universities and technological colleges?

Chairman: Might there not be reasons for wanting to do away with these differences?

Professor Waddington: Yes.

Chairman: I should find this proposal much easier to contemplate if it were comprehensive, if it did not involve discrimination between good schools and bad in the sense that is suggested. I could even understand the complete abolition of sixth forms and the substitution of superior institutions all round. But would not the existence of superior institutions here and sixth forms persisting elsewhere give rise to social strains and stresses which would be unacceptable?

Professor Harris: We put this forward as a rival to the sixth form. Let the children choose where they shall be.

Sir David Anderson: One suggestion put to us was that all the young people should go through the preparatory type of course that you envisage, but of three years' duration and not two, so that the starting point in the university proper would be still higher. What would be your reaction to that?

Sir Christopher Ingold: I think that to proceed by small steps is the quickest way forward.

Sir David Anderson: What award would be given to those who completed the preparatory college course?

Professor Waddington: We discussed this, but we failed to invent a suitable name. I think we would suggest a licentiate, because this is not extensively used in the academic world.

Sir Christopher Ingold: I think that they would need to have something to show for their work.

Professor Waddington: Another point which was in our minds was that, at the end of a preparatory period of training such as we envisaged, a number of avenues would be open to the student, not only the university, but possibly the teachers' training college or technical colleges.

Dame Kitty Anderson: I would like to ask a question about the staff for these preparatory colleges. Are they to be drawn from the schools? Then there is the general effect of the proposal on the schools. If the sixth form disappears in a school so also may some of the best and most inspiring teachers. What you refer to as the 'better sixth forms' are good because the teacher is teaching not only the sixth form, but laying the foundations in his subject from the eleven plus stage onwards. Might not your proposal result in fewer boys and girls choosing to go on in science because of the lack of inspiration in the early stages of their education? There is a further point I would raise. Many of the schools facing the greatest difficulty in science staffing are schools in country districts. Your proposal would presumably involve moving young people at the age of sixteen from country schools into residential institutions elsewhere. Would this not present problems?

Professor Waddington: We certainly had in mind the parallel with the American liberal arts colleges, which are, I think, on the whole staffed by people not from the school-teaching world, but from the universities.

Dame Kitty Anderson: Do you envisage the preparatory college offering courses to both scientists and students of the humanities?

Professor Waddington: Yes.

Dame Kitty Anderson: Although there is not quite the same crucial situation in staffing on the humanities side, nevertheless the schools urgently need more teachers. My fear is that the preparatory college would take away the best of them.

Professor Waddington: I think that an organisation of this kind might call into service groups of people who would now be unwilling to go into school teaching in general and that

therefore the field of recruitment for teaching might be broadened.

Chairman: Do you think you would be creating a differentiation of status between university staff and those of the preparatory college? Is it not the experience of the United States that the best people do not teach in junior colleges?

Sir Christopher Ingold: I think they are just different, are they not? The kind of work that has to be done there requires a different approach and a different mental attitude towards the job as compared with work in the universities on the higher reaches of the subject. I would not say that junior college teachers were a lower class of people; they are dedicated along another path.

Sir Philip Morris: They would be qualified in the university would they? You think of them as being graduates?

Sir Christopher Ingold: Yes.

Sir Philip Morris: They would all be taught as though they were scientists?

Sir Christopher Ingold: Yes. But I do not think that there would be a great area of overlap in recruitment, at least not such as to create a heavily competitive situation. Among the considerable number of people who have been through my department over the years, I can only think of one case where a man who had gone into school teaching or technical college teaching later changed his job. I think they were different kinds of people who felt that the different class of teaching was right for them and the fact that they did not switch to another kind of teaching shows they must have been right in their guess as to what they could do best.

Professor Drever: You say there are two antipathetic kinds of teaching, science teaching and ancillary or *ex cathedra* teaching. You feel, as I understand it, that it would be possible for *ex cathedra* teachers to prepare youngsters to receive science teaching. Is there not an almost impassable barrier here if sixth formers have been receiving science teaching which is inadequately instrumented?

Professor Waddington: I agree that two rather different things would be

brought together in the preparatory college, namely ancillary training and the turning of a schoolboy into an undergraduate. Turning the schoolboy into an undergraduate is a matter for a certain amount of initiative, and calls for something other than purely absorptive learning; whereas ancillary training is simply a matter of learning. We agree that there would be a dichotomy in the preparatory colleges, but think it would not be acute at that level.

Professor Drever: Do you think it is right to give people in the preparatory colleges an *ex cathedra* view?

Professor Waddington: They should certainly not be given an *ex cathedra* view of their main subject. One of the purposes of the college would be to wean them from *ex cathedra* teaching to what university teaching should be; but they would be in the process of being weaned; the other subjects they are taught, such as foreign languages, would be better placed at the stage when they were moving away from *ex cathedra* teaching than at a later stage.

Chairman: I wonder whether you would include mass lecturing under the general heading of *ex cathedra* teaching?

Sir Christopher Ingold: Not necessarily, I think. I would hope not. Lecturing can be, and in science should be, of a discursive kind. It is not like teaching German to a crowd of scientists, telling them the meanings of elementary words.

Chairman: May I ask how far your ideas fit into the Scottish system, which is also within our terms of reference?

Professor Waddington: Under the Scottish system students go to the university about a year earlier than under the English system. The first year in the Scottish university is often treated as rather separate, and is in a way something like a preparatory college attached at the bottom of the university.

Chairman: How does it work?

Professor Waddington: I think it works well. There is considerable wastage at the end of the first year, but I do

not regard this with as much apprehension as some people do. It seems to me that many students adopt a 'suck it and see' attitude to university education, and I am in favour of this. They have a try.

Sir David Anderson: The nature of teaching under the Scottish system is, however, rather different from that which you are proposing for the preparatory college, is it not?

Professor Waddington: Yes, but the first year teaching in a Scottish university is often rather different from the later years. There is a great deal of orderly note-taking and a great deal of purely instructional teaching in the first year in a Scottish university.

Sir David Anderson: But in a preparatory college you probably envisage much smaller classes than in the Scottish first year?

Professor Waddington: According to the Scottish tradition, it was in the first year that the professor was supposed to lecture to the students. It was *ex cathedra* in a technical sense, but he was expected to inspire the students with the university atmosphere at the beginning of their university career.

Sir Partick Linstead: Professor Harris has referred to appalling wastage. What is the wastage in English universities?

Professor Harris: It is lower now, of course, but in one university the wastage among science students was exactly 50 per cent. at one moment.

Mr. Elvin: May I ask what 'wastage' means as you then used the term?

Professor Harris: Of those who came into the science faculty, 50 per cent. got first degrees. Those who did not get degrees were reckoned as wastage.

Mr. Elvin: Any kind of degree?

Professor Harris: Any kind of degree. Things are now a great deal better I believe. The example I gave just now was the nadir and everyone agreed that it was appalling. There is still a good deal of wastage and some of those who fail are quite good people who would have done well on a different, altogether easier course.

Sir Philip Morris: Was this many years ago?

Professor Harris: It was about ten years ago, during the massive entry of students after the last war; the ex-warriors were good, but among the next generation wastage was particularly high.

Dame Kitty Anderson: At that time there was an even worse shortage of science teachers than there is now.

Sir Philip Morris: The returns for the past five years have shown no such wastage figure in any subject.

Professor Harris: No.

Sir Philip Morris: What would you regard as a tolerable wastage rate?

Professor Harris: I think one should regard any real wastage as in a sense intolerable, though one has to realise that it will happen. Easing of standards has helped to keep the figure at a more tolerable level in the university to which I referred.

Sir David Anderson: Could you suggest what the wastage would have been if the standard of the science degrees had not been eased?

Professor Harris: It would be much greater than it is at present. Possibly it would not be as high as a half, but it would certainly be a bigger fraction than it is.

Mr. Southall: May we enquire what has set the present standard? Is it because of the shortage of places the universities have raised the standard for the first degree? If so, is there any harm in going back to what it once was? Why is a degree set at a particular standard? Is it to control the numbers of those who pass or to control the numbers of those who go in, or is there some absolute standard that an educated man must have?

Professor Waddington: In my university most of the failures, and most of the people who leave at the end of the first year, are those who have taken the examination at least twice, and have possibly had a third shot at it. They have taken the first year and failed to pass the first year examination after several attempts. This means, I think, that they cannot cope

with this sort of education. I regard this as a classification of their mental character rather than their mental ability.

Chairman: Would I be wrong in assuming that in natural science some of the same evolution might have taken place as has taken place in some subjects better known to me, where the mere accretion of knowledge has tended to make the standard of honours degrees more severe?

Professor Waddington: Undoubtedly.

Chairman: Would you think that there was a time-lag between the accretion of knowledge and the realisation by boards of studies of the increased burden they are putting on the young people?

Professor Waddington: This is undoubtedly true. This is why the whole university course should step a year forward.

Sir Patrick Linstead: In my experience students now have to learn much more, but I doubt if the standard of the first class degree is therefore higher.

Professor Waddington: The failures in university education are usually not at the final honours stage. They are people who have dropped out on the way.

Chairman: Do you get the impression, that the present shape of honours examinations in the natural sciences is designed, so to speak, in the interests of the 'firsts'?

Professor Waddington: Yes.

Chairman: And that the other people do not get such appropriate training as they would if they took more general degrees?

Professor Waddington: Science is divided into large chunks; chemistry, physics, zoology, botany, and so on, and the size of each of them is so enormous that it is very difficult to think of anyone doing an honours degree in more than one subject.

Chairman: Is it impossible for a man to take an honours degree in mathematics and physics?

Professor Waddington: They are close to each other, yes; and mathematics does not involve time-consuming laboratory work.

Mr. Elvin: Would you be in favour of restoring the former intermediate examination?

Professor Waddington: That is a possible method of tackling the problem.

Sir Patrick Linstead: May I ask for your comments on a proposal, which we have had from other witnesses, that there should be two streams of undergraduates in either the second year or the third year, one of which would be more abstract or perhaps mathematical, and the other more practical?

Professor Waddington: In practice that occurs, or can in theory occur, at least in certain of the Scottish universities. There a student can take certain groups of subjects for the Ordinary degree, and can also take certain other groups which lead to an honours degree; these groups of subjects to a large extent overlap, and the majority take something which would lead to an Ordinary degree and can also be extended to honours, although occasionally a student will take something that can only be an honours degree and not provide an Ordinary degree that way. I suspect that in practice any such regulations would lead to a field of overlap and that there would not be two sharply defined streams.

Mr. Elvin: Might it not be in the national interest to give a greater number of people higher education even though some of them did not reach the present academic standard? That would not be to lower the standard, but to extend higher education to some who could not reach the present standard.

Professor Harris: That would be my ideal, provided there were a preliminary sieve by which quite a large number were stopped without losing their self-respect.

Chairman: I am not clear why the preliminary sieve should not be the first degree, or the examinations attending on the first degree, perhaps the first two examinations, rather than in some separate institution?

Professor Harris: If students were divided into two streams at the end of year one, or possibly year two, into the easy course and the stiffer course, you could have a situation which was tolerable for the better students; I am convinced that the abler student must have a stiff course.

Professor Waddington: The division between those who can take a university degree and those who cannot take a university degree is often not a matter of pure intellectual ability but a question of mental attitude, whether or not they can become independent enquirers. A large number of present students who are 'wasted' are people who do not develop the ability to stand on their own feet in the world of learning. Simply to lower the standard of the first degree does not meet this, because even the first university degree should be for people who have become self-sufficient beings in the academic world. I do not regard this sort of wastage as necessarily bad. It simply means we are offering to a wide range of the public the possibility of looking into higher learning and seeing whether it suits them, and it does not suit quite a number.

Chairman: May not the word 'lowering' in this connection be less appropriate than the word 'adaptation'? If we could start from scratch, given the requirements of modern democracy, would you not prefer something nearer to the American system, where a large proportion of the population get a first degree of some sort, and afterwards those capable of intensive study go on to severe work in the graduate school?

Professor Waddington: Even in the American system, where the first degree is relatively low at the major state universities, the wastage at the end of the year is enormous.

Chairman: But is it regarded with the same attitude as in this country?

Professor Waddington: I agree that they do not regard it as we do.

Chairman: Do you regard your proposal for preparatory colleges as the only way of meeting the problem of university organisation? I would very much like to hear the opinion of the

delegation on the alternative proposal which seems to suggest itself from your paragraph 1(a). There you emphasise an important point, namely that the English system of higher education does not do enough for the better people at the graduate level, and in that respect is falling seriously behind the United States of America. If we ceased to demand for the three-year course quite the present severity of standard and, as is provided for in the regulations of the Faculty of Science in the University of London, allowed people who took a good first degree to proceed to take masters' degrees by examination in one year, there would be in effect a four-year preliminary education before proceeding to serious doctorate studies. The first year course might then be remodelled sufficiently to temper the wind to the shorn lambs.

Professor Waddington: Personally I feel point (a) of our arguments is the strongest. I can well believe that there may be different ways of approaching this problem. I am not certain that a slightly lower honours course followed by one year of further teaching would be sufficient. This would be something like Part I and Part II of the Cambridge Science Tripos. In the United States formal teaching of science students continues almost throughout the Ph.D. period. I am convinced that this country has to change radically in this respect in the next few years.

Chairman: If it changes at this upper end will not some of the difficulties at the lower end disappear?

Professor Waddington: I do not think they will disappear of themselves.

Professor Harris: I would not be in favour of an easy course; I think all students should be given about as much as they can take. I realise that different students can take very different amounts, but I fear that this eased first degree course would not stretch the abler students. These are the ones we are interested in as future research workers. I believe we would be sacrificing them by an easier course.

Mr. Elvin: Would it be fair to say that the basic question is whether the moment when distinguished scientists

begin to teach future scientists, or distinguished historians teach future historians, should come at the beginning of the freshman year or after the first degree? Your memorandum seems to suggest a strong desire to teach the people who have really become scientists.

Professor Waddington: I do not think the boundary should be at the first degree level; it should be below it, but higher than it is at present.

Mr. Elvin: At the level of the end of the Cambridge Part I in natural science?

Professor Waddington: No, the last year for Part I. I think the Part I level is a little too high.

Sir David Anderson: I wonder if you could enlarge a little on the reference to engineering in your memorandum? I understand you consider that engineering in universities is in a very hazardous position.

Sir Christopher Ingold: It is unfortunate that Sir John Baker could not be here. If he were I think he would say that he is faced with dire competition from almost every quarter. First he is in competition with industry for the recruitment of his staff. He cannot get men because so many are wanted outside. University salaries are not attractive enough to secure the kind of people he wants. He wants the best; every head of an academic department wants the half-dozen best men in the country; the next dozen will not do. He is under even severer competition than the rest of us. His other complaint is that many schools do not place much emphasis upon engineering as a university course and career, while they lay a great deal of emphasis on physics, for example. He therefore loses able students to the university physics departments. I do not think anyone knows how to overcome these difficulties.

Professor Waddington: He feels that post-doctoral fellowships would help him very much, because for the Engineering Ph.D. who should have experience elsewhere, possibly in America, there is no inducement to return to the university. This is true of all fields of applied science. We

have nothing but a restricted number of lectureships to offer, and after a couple of years in industry another couple of years in the university atmosphere are necessary before we can expect these men to be ready to settle down in academic life.

Sir Patrick Linstead: I would like to endorse that. On the question of admissions, although one can have sympathy with Sir John Baker, most of the other engineering schools in the country would say that they had not only the same competition but that they also had to compete with Sir John Baker.

Chairman: May we now turn our discussion towards one or two matters which fall outside your memorandum? One of the matters which concerns us is the machinery of government of higher education. We are confronted with the difficult problem of reconciling the alleged conflict between the claims of efficiency and of academic freedom; this particularly in regard to scientific subjects, where we are told that, unless there is decision as to which university is to have which expensive machine, there will be great waste. To what extent is it felt among university teachers generally, and natural science teachers in particular, that central machinery which exercises rather more control in this respect than hitherto would be an interference with academic freedom?

Sir Christopher Ingold: I think scientific workers would regard this entirely as a practical matter, on which there was no general underlying principle. If a computer can only be put in one place, then in practice only those people who have a short journey to it can use it. Some pieces of equipment are of such general relevance that one of them should be placed wherever the density of academic population prescribes it as necessary. There are, of course, much more specialised kinds of equipment which everybody does not want, such as for radio astronomy, where there is only one fully equipped centre in the whole country and the people who specialise in the subject have to go there. The point to remember is that the people who use these things have other jobs they must do in the same day that they use this equipment.

Chairman: Presumably, as far as the computer is concerned, where it is thought desirable to have a modern university the government should be prepared to provide money for computing facilities?

Sir Christopher Ingold: Yes, or the place will be sterile.

Chairman: But for more specialised apparatus the allocation problem arises?

Sir Christopher Ingold: Yes.

Chairman: To what extent would deliberate allocation by some such body as the University Grants Committee be an encroachment on academic freedom?

Sir Christopher Ingold: Personally I would not worry about it.

Professor Waddington: As a biologist I should say this would be no more an encroachment on academic freedom than failing to provide you with as many laboratory and technical staff as you would like. We work all the time—and I do not remember it was ever otherwise—in conditions of financial stringency. I think there are certain things we can reasonably expect to have and it may be that computers are now amongst them; but there are others we can only hope to have if we really need them.

Chairman: What are the irreducible elements of academic freedom?

Professor Waddington: I think the decision on what you will teach, what subjects you will include in your syllabus and what you will say about them, and the possibility of doing some sort of research in which you can take satisfaction. But he is a poor scientist who cannot think of alternative problems if he is shut off from one idea, by, say, not being able to get a radio telescope.

Chairman: What about appointments and admissions?

Professor Waddington: The freedom to choose staff is certainly an essential one. The system we have in Scotland is a democratic one. I think the degree of autonomy of Appointments Boards varies a good deal between universities.

Chairman: Would you accept any powers of appointments vested in the Minister of Education?

Professor Waddington: No.

Mr. Elvin: Regius professors?

Sir Christopher Ingold: I am strongly against them. I think the appointment of staff is an expert matter and should be recommended, without possibility of misadventure, by an expert committee.

Chairman: What about student admissions?

Professor Waddington: I think admissions to honours courses should be in the hands of the university and the university department concerned. If admissions to a general degree or to a lower degree were subject to some overriding outside control I do not think this would necessarily impinge on academic freedom.

Mr. Elvin: By 'honours' you mean specialist?

Professor Waddington: Yes.

Sir Philip Morris: If the government decided to confer the right of admission to a university on the basis of some minimum qualification, would you regard that as trespassing upon your idea of university autonomy?

Professor Waddington: Not if the government also conferred the right on the university to demand a suitable amount of staff or suitable financial support to cope with these entrants.

Sir Philip Morris: You do not think the right to control admission of students essential to university autonomy?

Professor Waddington: I think it is essential to university autonomy unless the university has a reciprocal right, as it were. If students now had the right to go to universities with certain qualifications and this meant in effect a doubling of the student population, and if universities had no right to double the staff, or do whatever was necessary, I think that would be a major infringement of academic freedom.

Sir Christopher Ingold: Doubling academic staff is the easiest part of

it. You cannot increase staff in a science department without increasing everything. I have a staff of twenty-five. If I were told that I could have five more staff I would not take them, because I would need so many more technicians, secretaries, research students, let alone bigger class-rooms and bigger stores, and I have not got these people and things.

Sir Philip Morris: Would any interference with the level of pass and fail for various purposes constitute an infringement of academic freedom?

Professor Waddington: It would be impossible to do this without bureaucratising the system in a way that would be unacceptable to universities.

Chairman: May we proceed to another and unrelated subject? We have had a number of representations on the subject of training in research institutes. It has been represented to us that the present situation is unsatisfactory, that some research institutes are staffed with able people all of whom are in a certain sense under-employed, and who could be well employed occasionally supervising research or seconded for work in universities. Have you any views on this?

Professor Waddington: My personal view is that a great deal more use could be made of government research institutions for training at the post-graduate level. The difficulty in doing this at present is that universities have no say in the way the research institutes are run. They would in effect be sending people right outside the university for their Ph.D. training. In Edinburgh there is one government research institute, and there are going to be two, in the middle of the university science area, but the university is not represented there, and no formal connection exists. If some way of bringing the research institutes into the general university community could be found, perhaps by representation by the university on the government body, they could well be used for postgraduate training for a university degree.

Sir Christopher Ingold: I am rather influenced by what I have seen in the

Soviet Union and Czechoslovakia, where science was built up in record time essentially by setting up or developing very good research institutes. Now, twenty years later, they are worried about the future of these institutes. A research institute is organised as a pyramid with layers; there is no automatic throughput of fresh young blood; the same people get steadily older, and the lower layers begin to feel they want to direct something and there is nothing for them to direct; they are still in the same relative position, without prospect of advancement. I know that in the Soviet Union and Czechoslovakia they are discussing what should be done about this. In this country there are some research institutes in specialist fields of applied science whose work is of such a size and quantity that it could not be absorbed within a university. On the other hand I think that it is undesirable to do what the Eastern European countries have done. In this way the universities lose all the best people, who then find themselves isolated in an ivory tower with no influence on the younger generation. The research institute which is doing the kind of work that could be, and is being, done in universities, particularly research in pure scientific fields, should all be incorporated in the universities. The scientifically mature

and the scientifically immature can then grow up together. That is how the world of science must perpetuate itself.

Chairman: But you think that a certain amount of graduate study could fruitfully be arranged at institutes such as the National Physical Laboratory or Harwell, for example?

Sir Christopher Ingold: Yes. This is being done already, but perhaps not on the scale it might be. Harwell is very co-operative.

Professor Harris: My university is associated with an applied science institute and we have always had an arrangement with them for our Ph.D. students. There has been irritation arising out of misunderstandings, but we hope we have now overcome this by university representation on their governing body and their representation on our faculty boards. Despite irritation, we have not at any stage seriously considered withdrawing our Ph.D. students.

Sir Patrick Linstead: You have joint supervision?

Professor Harris: Yes, under a rather elaborate scheme.

Chairman: Thank you very much for this most valuable discussion.

MEMORANDUM

submitted by

THE INSTITUTE OF CHARTERED ACCOUNTANTS IN ENGLAND
AND WALES

2nd August, 1961

INTRODUCTION

1. The conditions of entry upon training for membership of the Institute, and the objectives and methods of that training, have been the subject of an enquiry by a special committee on Education and Training appointed by the Council. Its report was published in May, 1961. For the information of the Committee, copies of that report are supplied. It is emphasised that the Council has not yet decided on the extent to which it will implement the recommendations of the Education and Training Committee. Nevertheless the report contains much useful information on the structure of training for the profession. A convenient summary of the existing arrangements appears in paragraph 13 on pages 11 and 12:—

' 13. It is in the foregoing context that we have reviewed the existing arrangements, of which the following are salient features.

(a) Admission to membership of the Institute is dependent upon the candidate

(i) having served for five years (for three years in the case of graduates of universities in the United Kingdom) under articles in England and Wales to a member in practice, and having spent the greater part of that period in his principal's firm ;

(ii) having satisfied the Institute's examiners in an intermediate and thereafter in a final examination ;

(iii) having obtained a certificate from the principal as to the candidate's service and his fitness for admission ;

(iv) having satisfied the Council, through the medium of its Applications Committee, as to that service and fitness including in particular fitness by virtue of adequate experience in the work of the profession.

(b) Admission to articles is dependent upon the candidate

(i) having reached the age of 16 ;

(ii) having attained a standard of general education (comparable until recent years with the requirement for university entrance) which is related or corresponds to the minimum to a specified performance in the examination for the General Certificate of Education at ordinary level.

(c) Subject to these conditions, the selection and acceptance by a practising member of one or more articled clerks (up to a maximum, in the absence of special permission, of four in service at any one time) is left to the member.

(d) Articles do not however become effective until they have been registered by the Institute. The Council has discretion to refuse registration. Articles will not be registered unless they include a number of prescribed clauses, among them a covenant by the principal that his practice is suitable for the purpose.

(e) The responsibility for the practical training of the articled clerk rests primarily upon the principal: that of studying for the Institute's examinations rests primarily with the articled clerk.

(f) The qualification for admission to membership of the Institute is a general qualification and does not cater for specialising in particular subjects. At each of the two examinations candidates must pass simultaneously in each of the several papers as well as reaching a certain standard of performance in the examination as a whole.

(g) The Institutes's examinations are the responsibility of the Council's Examination Committee. Under the supervision and guidance of that Committee the responsibility for the actual setting and marking of the papers by the Examiners is undertaken by Moderators, of whom one is a practising lawyer and the others are practising members of the Institute.

(h) The study for the Institute's examination is undertaken in the main by correspondence course and largely outside office hours. For the purpose of study principals are required to allow their articled clerks leave of absence of at least one month before each of the two examinations, and they are recommended by the Council to allow them up to a further two months for each examination. Over the whole period of articles the leave of absence for study may not exceed twelve months.

(i) The Institute does not itself undertake tuition for its examinations. Its affiliated Students' Societies provide (sometimes jointly with the related District Society) lectures and courses designed to aid articled clerks in their practical work and in their preparation for the examinations, but the main function of these Societies is to supplement the practical experience and examination study by wider education in matters affecting the profession and its work. It is obligatory for articled clerks to belong to a Students' Society, the principal being liable for the payment of the entrance fee and annual subscription.

(j) Except in the matter of the payment of Students' Society subscriptions the financial terms of the articled clerk's service are a matter for private arrangement between the clerk and his principal. No scale of remuneration is prescribed and the practice of charging a premium, though now exceptional, is not prohibited.'

Premiums occur in about 2 per cent. of articles registered and in most cases remuneration is paid which varies from firm to firm and from area to area.

2. The Council regards itself as being concerned with the proper professional training of future chartered accountants. This extends far beyond the acquisition of technical knowledge. Two of the main conclusions of the Committee on Education and Training (Report, paragraph 23), read:—

' 23. . . .

(e) The prime requirement of a candidate for admission to membership of the Institute is that, with the background of a good liberal education, he should have developed, in ethics, outlook and conduct, the characteristics appropriate to that membership. The other two essential requirements are that he should have a basic theoretical knowledge of all aspects of the work of the profession, and that he should have had sufficient practical experience of professional work to develop method, versatility and powers of judgment and to demonstrate that he is capable of carrying out professional work in a manner which will uphold the standards of the Institute.

(f) The first and last of these three requirements can best be met through professional upbringing, mainly in their own firms, by members in practice. This upbringing can best be secured by linking practising members and students to one another in mutual obligations under a contract of articles.'

These conclusions are amplified in paragraph 27 of the report.

3. It will be clear that the Institute's interests in training are on the fringe of the Committee's field of enquiry as these interests do not include full-time higher education. In view, however, of the Committee's expressed wish 'to form a view on the proper balance between part-time and full-time study in the future', references are made below, in replies to the Committee's specific enquiries, to the experience of the Institute.

APPRAISAL OF THE PRESENT SYSTEM OF HIGHER EDUCATION

4. The questions set out by the Committee in paragraph 4 of its paper are now considered in order:—

(i) How adequate are the opportunities for potentially qualified students? This requires an assessment on stated assumptions of the number of eligible students and of the number who wish to attend courses.

The Council has no information on which to base comment concerning the adequacy of places in Colleges of Advanced Technology (with which it is not concerned) or at universities (in which it is greatly interested—see (v) below).

As regards students who may wish to become chartered accountants the following table gives the numbers entering articles in recent years:

1958	...	...	...	...	2,660
1959	...	...	...	...	2,680
1960	...	...	...	...	2,992

(Figures for earlier years are not comparable because, in November, 1957, the Society of Incorporated Accountants was integrated with the Institute, with a consequent increase in 1958 in the number of students who began to train for the enlarged Institute's qualification.)

The number of articed clerks which a practising member may take is normally limited to four but there is no indication that this restriction, which is applied in the interests of the articed clerks, has operated to limit opportunity. On the contrary there is a shortage of suitably qualified applicants for articles.

(ii) Having regard, on the one hand to the importance of research, particularly in scientific and technological subjects, for the national economy, and on the other to the teaching function of the institutions concerned, is the present balance between teaching and research satisfactory?

The Council is not adequately informed regarding the balance in the teaching bodies as between teaching and research. So far as its own activities are concerned this Institute is continuously engaged in research. It has issued many reports and recommendations in recent years and a special committee is engaged on a survey of future research work. Attention is also drawn to university research done under the auspices of the P. D. Leake Trust—the Trust set up under the will of the late Mr. P. D. Leake, a member of the Institute.

(iii) Are present courses suitable for those who attend them? Possible examples of the questions which arise here are: What level of wastage for courses is acceptable? Is the university honours course unsuitable for some of the students attending? What is the future of the Scottish ordinary degree? What should be the division of functions between first degrees and post-graduate courses of instruction and/or research? What is the desirable and practicable length of the various courses? Does the content of advanced courses in technical colleges match present needs? Should the training college course be related to the university degree course and should the professional training continue to be provided concurrently with the academic element of the course?

[N.B. The Committee propose dealing with such points as length of courses in general terms, if at all. They do not contemplate making recommendations about the detail of individual disciplines.]

Almost all students of the Institute study by means of correspondence tuition: some attend in addition courses at technical institutions. The chartered accountant students' societies play an important part in assisting a student to broaden his education and to interrelate his tuition with his practical experience. The present method of training is not based on full-time academic preparation for the Institute's qualification. Importance is attached to concurrent attention to theory and practical experience. (The views of the Committee on Education and Training appear in paragraph 142 of its report and in paragraphs 149–150.)

However, there is a scheme under which graduates of most universities in England and Wales (other than Oxford or Cambridge) who have followed an 'approved' course covering Accountancy, Economics and Law may on that account be granted exemption from the Intermediate examination.

As the Committee does not propose to make recommendations about the detail of individual disciplines, no further comment is made except to add that the Institute regards these particular courses as one source only of graduate students. In fact, graduates from other faculties have been a majority of the Institute's graduate intake.

(iv) Should the distribution of functions between the schools and higher education be differently organised? How do the selection procedures and present content of courses in higher education affect the curricula or the organisation and atmosphere of the schools?

The Council has no comment, not being directly concerned in the problems raised in the Crowther Report on the curriculum of the sixth form.

(v) What are the claims of a liberal education in relation to professional requirements and the needs of employers? How is the trend for more people to stay at school and take part in higher education affecting recruitment policies? Are there advantages for different occupations in recruitment at 21 or later as against 18 or earlier?

(a) At present some one-third of all articled clerks begin their training before age 18; about one in every ten articled clerks and one in every eight newly qualified members is a graduate of a United Kingdom university. An increase in the proportion of graduates would be welcome. There is ample scope for university graduates in the profession and the Council has taken action in many ways to encourage a substantial and increased university entry.

(b) The trend towards larger sixth forms and the extension of university education means that fewer bright students now leave school at age 16. For that reason alone, it becomes increasingly important for the Institute to look to those who have had at least a sixth form education.

(c) Furthermore the pursuit of a liberal education to university degree level helps to fulfil the Council's professional requirements. The work of a chartered accountant calls for the possession of certain attributes, such as sound judgment, discrimination and a critical sense, which are developed by a student only to a limited extent before entry upon a course of advanced study. Their acquisition as part of a university education is likely to enable the student to follow his professional studies and career to greater advantage; hence the reduction of two years in articled service given to all graduates of United Kingdom universities without reference to the subject matter of the degree course.

(d) The Council would wish the Committee to make adequate allowance for the expectation that a much greater proportion of the growing intake of students will in future undertake a course of study at a university before entering articles.

(vi) What are the implications for higher education of the increased activity of private foundations? What are the merits and defects of present arrangements for co-operation with industry, both in universities and in other institutions? Should students be associated with individual firms during their education? What are the implications of industrial recruitment policy of graduates? What are the implications of the present financial and other relations between industry and the institutions themselves?

The Council does not wish to comment.

(vii) Are there special difficulties impeding the higher education of women and is full use made of this potential supply of students and their possible contribution to the stock of highly qualified people?

The Council knows of no special difficulties impeding the entry of women into articles with a view to qualifying as chartered accountants. Although the number of women members is between 300 and 350—that is to say no more than 1 per cent.

of the total Institute membership—it is apparent that young women are taking a much greater interest than hitherto in the possibility of qualifying as chartered accountants. In the period 1st April, 1960, to 31st March, 1961, there were registered 3,059 articles of clerkship. Of these, 105 related to women articled clerks. The continually expanding demand for chartered accountants should ensure that the fullest use is made of their potentialities.

(viii) Are there sufficient opportunities for the re-education and retraining of older people, whether or not they have enjoyed higher education previously?

For those who wish to enter the profession at a comparatively late age, sometimes after careers in other spheres, the method of education and training within our profession is particularly flexible. Accordingly it can deal adequately with such entrants. Indeed unarticled clerks who have given good service are often offered articles with a view to qualification. Thereafter they should receive particular help and attention from their principals. Special consideration is given concerning exemption from the Preliminary examination.

(ix) What are the advantages of residential facilities for various types of course?

In the opinion of the Council the value of residential facilities lies specially in the opportunities provided for the exchange of thought and the generation of corporate feeling. Many students' societies of the Institute conduct short residential courses with these objects in mind.

(x) Do institutions offer adequate opportunities for providing higher education for overseas students? Is the present proportion of such students too high or too low?

Many students from the Commonwealth and elsewhere abroad wish to qualify as members of the Institute, even where there is a local qualification of some standing. The Institute's records do not expressly distinguish nationality or origin but an analysis of the evidence on which exemption from the Preliminary examination was granted to clerks entering articles in 1959 shows that about one in twelve had been educated at schools or universities abroad. Even so, it is difficult to provide opportunities for all from abroad who wish to train. One reason for this is that as students from overseas may be expected to return home immediately they have qualified there are limits to the willingness of members to accept them under articles while the shortage of qualified men in the United Kingdom is marked.

(xi) How does the prestige and influence of particular institutions affect the general pattern of higher education? What is the usefulness of external awards and other forms of external supervision by institutions?

[N.B. The Committee does not intend to deal with questions that affect only one institution.]

The Council does not wish to comment.

(xii) Is there reasonable freedom for institutions in academic and other matters of policy? Is there reasonable machinery for co-ordinating the policy of different institutions and for forward planning? What would be the effect of any changes in academic freedom and local initiative?

The Council does not wish to comment.

The following supporting documents were also submitted:

'Report of the Committee on Education and Training' (May, 1961).

'The Students' Society and the Articled Clerk' (July, 1959).

'Reports and Accounts of the P. D. Leake Trust' (November, 1960).

The Institute also submitted replies to Committee questionnaires of 4th July, 1961, 8th February, 1962, and 26th April, 1962, circulated to certain professional institutions.

ORAL EVIDENCE

given by

Mr. W. E. Parker, Mr. W. G. Densem, and Mr. N. E. Bruckland

on behalf of

THE INSTITUTE OF CHARTERED ACCOUNTANTS
IN ENGLAND AND WALES

Friday, 13th October, 1961

Chairman: We must thank you for responding to our invitation and for supplying us with this memorandum. I wonder whether, before we address any questions to you, you would wish to make any elucidative comments on your memorandum?

Mr. Parker: I think it would be best if you asked us questions on any points in our memorandum which you find particularly relevant to your enquiries.

Chairman: Certainly. May I begin by asking you a factual question? Have you statistics which would indicate the percentage of people entering the profession from university and non-university sources respectively, and the way in which those percentages move through time?

Mr. Parker: We can answer your first question but I doubt whether we can say very much on the second.

Mr. Bruckland: We have nothing already prepared on this but some time ago, when I looked at admissions to membership in 1938-1939, I gained the impression there was not very much difference in the percentage of university graduates admitted to membership then in comparison with recent years.

Mr. Parker: As I think you know, the Council have recently published a long report which includes an analysis based on the year 1959. In that year the graduate entry into articles from English or Scottish universities was about 10 or 11 per cent. of the total and about one in eight of those admitted to membership were graduates.

Chairman: Would I be wrong in saying that this percentage is comparatively low in relation to other comparable professions?

Mr. Parker: I think it is extremely low compared with the other major professions, and it is certainly a great deal lower than we would like.

Chairman: You hope that in years to come this state of affairs will change?

Mr. Parker: Yes indeed. It is difficult to know how far one can look ahead, but we hope that in ten years' time it will be the rule rather than the exception for our entrants to be graduates.

Chairman: As you will appreciate, we are more interested in the relation between the Institute and universities and other establishments of higher education than in some other matters in your report; in reading that section of your report I felt it indicated a considerable degree of hesitation. I wonder whether you could be tempted to enlarge a little on it.

Mr. Parker: Our hesitation was not about the desirability of graduation from a university but about encouraging people to read for a B.Com. Degree, which would include accountancy as one of its main elements. On that there is, as far as I can judge, an almost equal division of opinion within our profession; one half thinks that a university course with a slant towards our profession is an excellent thing, and the other half thinks that this would be the last thing we want in accountancy and that students should read absolutely any subject they wish to read, and leave accountancy until they start on their professional training.

Chairman: I would very much like to hear the arguments against such courses.

Mr. Densem: It is not so much an argument against, as a question whether it is necessary to have vocational education at the university, or whether a general education is not equally good, since it is to be followed anyway by specialised training.

Chairman: I am surprised that there should be hesitation about the vocational value of training of this sort. I can well believe that much training in accountancy proper is best imparted in other media, but is not a galaxy of subjects usually clustered together to form the degrees in question—commercial law, mathematical statistics, languages and economics?

Mr. Densem: It is not a question of the subjects themselves being disreputable. The university scheme, as applied to the accounting profession, is that, if the undergraduate has followed a set scheme of studies and satisfied the university examiners, he can claim exemption from our Institute's intermediate examination. One bone of contention is whether it is a good thing to have that exemption.

Chairman: The course of apprenticeship is thereby abbreviated, is it not?

Mr. Densem: It is abbreviated for any graduate by two years. The bone of contention is whether the standard is exactly comparable and whether it is a good thing to exempt the graduate from the intermediate.

Chairman: This is a professional matter on which it would be an impertinence to intrude. But I think it is germane to our deliberations that there is no great enthusiasm for the future of this subject as a university subject at the undergraduate or graduate stage. This seems to single out accounting from many other professions which have been tending in the other direction, that is towards a closer relationship with the universities.

Mr. Densem: One of the minor difficulties here is that while many of the subjects in the approved course are agreed to be excellent, it is difficult to study and fully appreciate accounting itself without practical experience. That view is held by many people in the profession.

Chairman: Is it possible to explain why, in a profession such as engineering or medicine, to take two subjects at random, there should be a possibility of teaching general principles at the university level, while it is not possible in accounting? Is not this particular subject of high intellectual standing and exceptionally well suited to the sort of development there has been in other branches of learning in universities in the last twenty or thirty years?

Mr. Parker: My colleague said that one bone of contention was whether the so-called approved course should actually exempt from the examination. That is one, perhaps the most prominent point of disagreement. But there is a deeper division of opinion as to whether people should be encouraged to take one form of study at the university rather than another, if they are minded to go into our profession. It is on that that the wider question turns.

Chairman: My question was an intermediate one, namely whether accounting is to be regarded as a subject which is not suitable for development in the atmosphere of the university, and why it should be different in that respect from medicine, engineering and a good many arts which have a strictly practical application in the long run.

Mr. Parker: I think it is difficult to give an answer which would be representative because the division of opinion in our midst at every stage of this argument is such that it is difficult to know what the balance of collective feeling would be. I can give you a personal view, which might well be supported by a number of people, but not by others. I think the dilemma is that, in order to pursue the subject of accounting into an intellectual field, you have to be armed with the alphabet, with the basic technique, before you start. That takes a certain amount of learning, rather like grammar before you can get on to Greek verse. It is not, generally speaking, a subject one learns at school, though there are schools which include book-keeping in their curriculum. I think a good deal of the basic technique with which accounting must be approached could well be learned at sixteen. Armed with that there would be scope at the undergraduate stage for advanced study of the many

intellectual problems accountancy contains, quite apart from its technical problems. But, as things stand, very few university students know anything about book-keeping and double entry, and they would be liable inevitably to spend a good deal of their first year acquiring the essential techniques.

Chairman: Is this very different from elementary non-mathematical statistics, which might well occupy the first six months of a student's time if he were taking mathematics as one subject in a degree?

Mr. Parker: I have not much experience of that subject. This preliminary learning could well be done at an earlier and less intellectually advanced stage. That is one facet of the problem. Another is that accounting in practice is a miscellaneous kind of job. It is hard to explain to the outside world what our job consists of. We are always trying to explain to headmasters and university boards that accountants do a variety of things which have accumulated at their door because nobody else seems to do them quite as well. Some of the work is highly technical and requires specialised technique. Some of it is general and far more concerned with human relations, the assessment of human beings and human characteristics. For example, our audit work, which is substantial, although it involves the examination of figures at the lower stages, involves much more further up: appraising whether a man is telling you the whole or half the truth, and judging how to persuade him to do something he ought to want to do.

Chairman: I am thinking that your interesting elucidations apply equally, say, to the profession of medicine.

Mr. Parker: Very likely. There is a fairly widely held feeling among the members of my profession that the accountant in training should combine practical work with his theoretical study. So much of the work depends on the particular situation, the particular people involved, extracting the relevant from the mass of records. Without providing a mass of records, and the human and other circumstances surrounding them, it is hard to provide a laboratory exercise. If he is going to spend three years studying accountancy without concurrently doing the

practical work, a young man will study the subject with his feet off the ground, and when he comes to the practical side he will have to unlearn a good deal.

Sir David Anderson: In engineering there are two types of course combining theoretical and practical instruction. In some courses a student does a year in industry before going into university. The Colleges of Advanced Technology are developing four- and five-year sandwich courses in which the student alternates between the college and industry. Would that be a possible line of development?

Mr. Parker: I have to give you a personal opinion here, and even in so far as it is representative of other opinion it can only be part of the opinion. On balance in our job it is most fruitful if study and practical work are as concurrent as possible. If it were possible to phase it so that a period of study were followed by a period of practical work on that field of study, and then a further period of study—the ideal sandwich arrangement—that would be splendid. But we come up against practical difficulties there which we have not been able to overcome.

Chairman: Do you feel happy about the extent of study by correspondence which is involved?

Mr. Parker: No, we are not. Although many of us support the correspondence course as being the best method available, I do not think any of us would pretend it is the ideal method.

Chairman: If you had to choose between correspondence and attending university lectures, which would you think the most likely to do harm?

Mr. Parker: May I answer that obliquely? I believe nearly all of us want attendance at lectures. For reasons which are explained in this report and endorsed by the majority of our profession, we want students as part of their training to study with tutorial assistance and guidance, but we want them also to go to lectures not for their primary instruction but to enlarge their knowledge and to hear great men explain something in a new way. But we do not, for example, favour what has been the practice in the Scottish

Institute under which apprentices attend university classes on Saturday mornings, and, under the new arrangements, go to the university for nine months. We do not like the idea of attending lectures as the main basis of academic study.

Chairman: Is this because you are convinced that the nature of the subject precludes effective lecturing?

Mr. Parker: No. We think, rightly or wrongly, that the real value of lectures is as a supplement to study which has already been undertaken and is currently being pursued.

Chairman: Do you mean, as a supplement in a sense a sort of general uplift or something more systematic?

Mr. Parker: The student societies which are established under the Institute's auspices try to cater for all kinds of lectures. Every year they run a series of lectures which are progressive and related to a particular development or facet of our subject, for example, for the beginners in the first six months, and later on for those moving up to their first examination. There are also general lectures not specifically phased in relation to a particular development of training, but on the subjects of interest to us. These are of course apart from, but concurrent with, the organised series of lectures for the beginners, the people coming up to intermediate and people coming up to final examination.

Chairman: What is the attitude of your Institute to graduate studies in this subject, and to research in accounting?

Mr. Parker: There is of course a mass of research activity going on in the Institute. But we have not been successful in getting anything serious started in universities, with one or two exceptions. We had a legacy from a member of our Institute, part of which we were asked to use to establish a Chair of Accountancy at Oxford or Cambridge. We approached Oxford first, who were not interested, and we then approached Cambridge who were, and we have a Professor there, but in the event the work he is doing is not, as we understand it, accounting research.

Chairman: In any other subject I would have said the explanation is that graduate studies spring naturally from undergraduate studies.

Mr. Densen: There is a lot in that.

Mr. Parker: I think it is proper to say that our Council is much concerned about this. We have a committee sitting on 'Research' and how it shall be promoted. We have recently set up another committee to see what can be done to link it more closely with universities, or promote it by other means.

Sir David Anderson: Could you explain to a layman the kind of research problems you envisage doing in your Institute?

Mr. Parker: A highly complex problem, on which there is scope for a great deal of research, is how to express and to produce significant accounts of an undertaking spread all over the world, operating in different countries with different price levels and different exchange rates. We have certain rule-of-thumb principles, but it is questionable whether they always produce something approximating to the right answer.

Chairman: Does not the development in the sphere of computing offer the accountant a universe of possibilities which did not exist before?

Mr. Parker: Indeed.

Chairman: Is there not then scope for a fruitful marriage here between experts in linear programming, for instance, and cost accountants?

Mr. Parker: There is scope for even more fundamental research. For example, how do you define 'profit'? What is the real soundness of the generally accepted principle that you do not take credit for your profit until you have sold the article? It is a convention which is departed from where it does not fit.

Chairman: That is the sort of question I can imagine being fruitfully discussed in a university common room.

Mr. Shearman: I note that just under 3,000 sign on for articles each year. Could you tell us how many of them actually complete their articles and qualify?

Mr. Parker: We are not very clear on that because the years we have been able to examine recently have undoubtedly been affected by National Service, or by release from war service. Undoubtedly that has had an unsettling effect. People have come in who could not go through with it. We analysed the 1952 entry, where 1,400 young men, and a few women, came in. Of that 1,400, 200 in round figures cancelled their articles for a variety of reasons. We looked at them to see why, and could not make sense of them. It is true to say that perhaps until recently there have been more cancellations than we would expect.

Chairman: I was wondering whether this was related in any way to the difficulties of studying by correspondence.

Mr. Parker: It is not possible to establish that. I think the general opinion would be that correspondence study is not the reason. Students do not like studying in the evening but in my firm, although we have had some cancellations over the years, I have never come across a case of a young man saying that he could not stand the study. The reasons were more fundamental; a man wanted to go into the police, or felt it would be better to take an industrial appointment straight away.

Mr. Densem: There are a lot of young people who think accounting will be a pleasant life. They find it is not quite so pleasant and they decide to be something else. We have in my firm about half-a-dozen a year who decide that accounting is not their niche. There are many fathers who favour accountancy as a profession for their sons, but the boys may think otherwise.

Mr. Parker: I suspect our proportion of cancellations is unusually large in relation to other professions because up to now our main body of recruits have been schoolboys. Not every seventeen-year-old or eighteen-year-old can be expected to know what he wants to do; he can change his mind.

Mr. Bruckland: My recollection is that at least two thirds of those who cancelled did so before they had taken an examination.

Mr. Parker: Some firms have a probationary period. Others tell their young men that if accountancy is not what they want, they will release them from articles by mutual agreement without any fuss.

Professor Drever: I see only forty per cent. passed at the first attempt; this makes it seem it is a little difficult to get through.

Mr. Parker: The examinations are quite stiff, deliberately so. Of those who go through, about three quarters qualify.

Dame Kitty Anderson: Is the figure 3,059 the number registered in the year?

Mr. Densem: Yes.

Dame Kitty Anderson: And 105 of those were women?

Mr. Densem: That is right.

Dame Kitty Anderson: Would these 105 be girls leaving school at eighteen or graduates?

Mr. Parker: We have not analysed that.

Mr. Bruckland: I do not think I have met a woman graduate entrant.

Dame Kitty Anderson: Is the number of women entrants rising?

Mr. Bruckland: I think there is a substantial increase in the proportion of women entrants.

Mr. Southall: How is the Institute catering for the expanding demands of industry? We understand that you are relying entirely on the articled pupil to a principal in an accounting firm. Will that be sufficient to meet the bigger, growing demand for the accountant?

Mr. Parker: We are not catering for the accountant who is not a chartered accountant. There is scope in industry for many accountants with no qualifications, or with special qualifications. We are only aiming to produce chartered accountants. We reckon that chartered accountants ought to know all facets of our work, though they

will be better in some parts than others, and the supply to industry is one of our functions. Our basic qualification is not specialised; specialist needs, whether in industry or elsewhere, involve advanced functions which are a suitable subject for further study after acquiring the basic

qualification of a chartered accountant. I think it is true to say that, in relation to our profession in the wider sense, the Institute of Cost and Works Accountants is the leading body catering specifically for industrial needs.

Chairman: Thank you very much.

MEMORANDUM

submitted by

RUSKIN COLLEGE, OXFORD

11th July, 1961

Note: Special reference is given to the following Heads of the Enquiry:

(i) How adequate are the opportunities for potentially qualified students?

(viii) Are there sufficient opportunities for the re-education and re-training of older people, whether or not they have enjoyed higher education previously?

1. The purpose of this memorandum is to bring to the attention of the Committee on Higher Education the existence of a considerable 'pool of ability' among the adult population, many of whom have had only the minimum of formal education in school or subsequently, and to consider how their needs might be catered for.

2. The bulk of our evidence is based upon the work and experience of Ruskin College. The College is one of a group of seven adult residential colleges in Great Britain which provide full-time courses in social studies of one or two years' duration.* Five of the six colleges in England and Wales, including Ruskin, are recognised by the Ministry of Education and grant-aided as 'establishments' under the Further Education (Grant) Regulations 1959. The colleges are independent voluntary bodies, and are not embodied in a University, though Ruskin and the Catholic Workers College are recognised by Oxford University as 'Societies or Institutions in Oxford established for the purpose of higher study' who are eligible to enter their members on the Register of Diploma Students. Their students are allowed to attend University lectures, use University libraries, etc. The Co-operative College has a similar arrangement with Nottingham University.

Adult students who have completed a two-year course at Ruskin or Catholic Workers, and who have obtained a University Diploma, are, if accepted by a College of Oxford University, granted Senior Status, which exempts them from the First Public Examination and enables them to take Final Honours after two years' study.

3. Ruskin College caters for adults between the ages of 20 and 40, most of whom have had comparatively little formal schooling (e.g. elementary prior to 1944, secondary modern schools up to 14 or 15, early leavers from grammar schools). Most of them have had no further full time education; some may have followed courses in technical colleges in the evening or with part-time day release; a substantial number have taken adult education courses under University Extra Mural Departments and the WEA; others will have been in summer or weekend schools and classes organised by trade unions and similar bodies, or taken correspondence courses through the WETUC or NCLC. Comparatively few have taken G.C.E. or any other educational qualification. Many have active records of public service, as trade union lay officials, in local government and voluntary bodies. They enter the College at an average age of 28/29 some 12 years after leaving school, from a wide variety of manual and clerical occupations.

After two years, the great majority of them sit successfully for an Oxford University Diploma in Economics, Economics and Political Science, or Public and Social Administration. Others follow parallel courses which are taught at the same level though they do not lead to an external qualification.

Ruskin College courses are not designed primarily either as a preparation for University entrance or with specifically vocational objectives in view. The College seeks to provide a liberal education in the social sciences which is in itself a valuable intellectual training for men and women seeking to give service to the community in any walk of life. One of the aims of the College has always been that its students should return to their former occupations and provide voluntary leadership in their local communities, and a substantial proportion still do so. In our view this remains an important objective of adult education. Nevertheless, an analysis

* Catholic Workers, Coleg Harlech, Co-operative College, Fircroft, Hillcroft, Newbattle Abbey, Ruskin.

of the educational and vocational achievements of a group of young adults with few, if any, advantages of social or educational background in their pre-College life is, we believe, of considerable significance in assessing the potential size of the 'pool of ability'.

4. The evidence in this section of our memorandum is based on a comprehensive piece of research by Mr. J. Blumler, Ruskin College Tutor in Social and Political Theory, who has analysed detailed questionnaires supplied by 180 former Ruskin students (1945-53 entrants) who form a fully representative group. He has also obtained similar material concerning 199 former students of Fircroft, Hillcroft, Coleg Harlech and the Catholic Workers College (1945-54 entrants).

A. Post-College educational achievements

Of the Ruskin group of 180 nearly half (87) had had no secondary education, 17 had been in secondary modern or central schools, 14 in technical schools or colleges, 52 were 'early leavers' from grammar schools, 10 had been in some form of private school. Well over half (103) had left school at 14, 25 at 15, only 52 at 16 or over.

By 1957, rather over a quarter (49/180=27.2 per cent.) had successfully completed Honours degree courses in a University. Three-quarters of these attended Oxford or Cambridge. Of the 45 whose Honours classes are available, two-thirds had 'good' results (29 2nds, 1 First). The remaining 15 obtained Thirds. (Only one Ruskin student who entered a University failed to complete a degree course in this period.)

Another fifth of the Ruskin group (36/180) completed other types of full-time post-College courses leading to specialised qualifications. Twenty-two of these have become qualified teachers, most of the rest obtained social work qualifications (youth employment, probation officers, child care, almoners, etc.). Altogether nearly one-half of the group (85/180) thus obtained a post-College qualification.

B. Post-College occupational achievements

Approximately four-fifths of the Ruskin group (144/180) entered College from manual or routine clerical jobs. The following table shows that by 1957 the majority were holding positions of responsibility in a wide range of occupations.

<i>University Employment</i>		
including: Sociology lecturer and research workers	4	
<i>Adult Education</i>		
including: WEA organisers, WEA tutor, WEA District Secretary, an Administrative Secretary of a long-term College, and Wardens of Adult Education centres	8	
<i>School Teaching</i>	36	
<i>Social Work</i>		
including: Youth Employment Officers, Almoners, Factory Inspectors, Child Care Officers, Probation Officers, Education and Welfare Officers, Assistant Governor of a Borstal Institute, and Warden of a Children's Reception Centre	17	
<i>Trade Union Employment</i>		
including: TU Research Officers and Assistants, TU Education Officers and Assistants, TU Editors, an Assistant General Secretary, Organisers, and full-time Branch Secretaries	21	
<i>Other Labour Movement Employment</i>		
including: Research Officers, Editor, Regional Secretary of the Co-operative Union, National Organiser of the Co-operative Party and others	7	
<i>Employment in Public Industry</i>		
including: various industrial relations posts	9	

<i>Other Public Employment</i>	
including: Labour Officers, Assistant Commissioners of National Savings, a Principal in Customs and Excise Administration, a local government Archivist, an Assistant Education Officer of a local authority, a Television Producer of the BBC, and an Executive of the Industrial and Commercial Finance Corporation	13
<i>Employment in Private Industry and Commerce</i>	
including: Personnel work, Research, a business Economist, various higher management positions, Shop Manager and lower supervisory employment	20
<i>Other Miscellaneous Employment</i>	
including: Librarian, Journalist, Methodist Minister, Farmer, Insurance Agent, Printers' Reader, Research Assistant in an international organisation, and salesman of agricultural supplies	8
<i>Routine Clerical Work</i>	14
<i>Skilled Manual Work</i>	9
<i>Semi- and Unskilled Manual Work</i>	3
<i>Not in gainful employment</i>	
including: housewives, students, etc.	11
	180

C. Comparison of pre-College background and post-College achievement

One striking conclusion that emerges from the detailed analysis of this group is that on the whole the students with the least record of school education and the lowest pre-College socio-economic status did at least as well as those who had attended grammar schools or who entered College from clerical work or higher forms of occupation.

(a) Of the 49 who obtained University degrees, 21 had elementary school education only, 5 had attended central or secondary modern schools, 4 technical schools, 15 had been to grammar schools, 4 had attended private schools.

27 of the 49 had left school at 14, a further 12 at 15.

12 had entered College from semi-skilled or unskilled manual occupation, 13 from skilled manual occupations, 15 from routine clerical jobs, only 8 from 'higher occupations' on the Hall-Jones scale. (1 was unemployed.)

14 had fathers in semi-skilled or unskilled occupations, 17 in skilled jobs, 3 in routine clerical work, 14 in 'higher occupations'. (1 not known.)

(b) 29 of the full group of 180 entered College from unskilled or semi-skilled occupations; 41.4 per cent of these secured degrees, compared with a quarter of those entering from skilled manual or routine clerical work respectively, and less than a quarter (8/34) of those from higher occupations.

(c) Of the 87 without any secondary education, only 13 had entered any form of 'higher occupation' before College. By 1957, after leaving College, 31 were in Class 2 of the Hall-Jones scale (Managerial and Executive), 26 in Class 3 (Higher Supervisory), 10 in Class 4 (Lower Supervisory), and 5 in 'higher occupations' which cannot be precisely classified. (Trade Union Research Officers, WEA Tutors, etc. have been placed in Class 2, Research Assistants in Class 3 etc.)

(d) 58 of the 180 entered Ruskin from manual occupations, with no secondary education at all. By 1957, 22 of these (37.9 per cent.) were in Class 2 occupations, 17 (29.3 per cent.) in Class 3, 7 (12.1 per cent.) in Class 4 and 2 in unclassified higher occupations. This group had, in fact, proved occupationally significantly more successful than the group of 28 who entered College from clerical occupations with some grammar school education.

(Class 2, 6 (23.1 per cent.), Class 3, 12 (46.2 per cent.), Class 4, 2 (7.7 per cent.)). 6/8 manual workers with secondary modern, central school, or technical education were in Class 2 occupations by 1957.

(e) Other Colleges

A similar picture of high educational and occupational potential is revealed by the survey of the 199 ex-students from the other residential Colleges, though the percentage going on to University degree courses varies widely. Altogether 21 of the group had obtained honours degrees by 1957, 12 with 1st or 2nd Class honours. 82 had obtained other qualifications, including 33 qualified teachers and 40 social workers.

7/21 graduates had left school at 14, a further 6 at 15. 57 of those with 'other qualifications' had left school at 14. Two thirds of the group had obtained more responsible jobs than those they had previously held. Out of 70 entrants from manual occupations with no secondary education 43 were in 'higher occupations' by 1957. A detailed article by the Principal of Hillcroft (TES 17/6/60) shows that 'in 15 years 305 trained and 50 untrained professional workers have been added to the country's resources' from this College alone.

5. We submit that the above analysis reveals the existence of a considerable reserve of untapped educational and vocational ability among young adults with the minimum of formal education, who, given the type of opportunity provided by residential adult education, develop rapidly to a remarkable extent.

The motives which brought the 180 to Ruskin were complex and varied. Some had always felt the lack of education, since they had left school at the minimum age for economic reasons. Others felt that their schooling had been inadequate or inappropriate. Thus a clerical civil servant 'I'd been dissatisfied in the formal education I'd received at school, that had seemed to stop short of providing any adequate understanding of society'. Or a TV mechanic 'I'd had a technical education. I liked this at the time, but I feel the need of a more balanced background now'. Or a miner 'I studied technical subjects related to mining. But I didn't find them very interesting. But later I was put on to the NCB day release course in the social sciences, and I found this fascinating'.

Part time adult education frequently acted as a stimulus. A civil servant 'I was aware of a lack of knowledge . . . through my educational activity—in evening classes, correspondence courses and a TUC summer school'. A dress designer 'I was enjoying many of the evening classes I'd been taking with the WEA—I appreciated the attitude of mind: open mindedness and the ability to look at things objectively and without prejudice'. Sometimes the stimulus was less formal, from friends and acquaintances. A miner 'I had a feeling of inferiority when I met educated people, like a colleague in my work who'd been to Durham University and could talk about Plato, Voltaire and so on'. A clerk 'I mixed with people who were highly intelligent and had well trained minds. I wanted to train my mind to function to the best of its ability'. A post office worker 'I often found that in arguments with others I got lost, particularly when economics was being discussed. This was a blow to my pride'. Often the stimulus came from public activities. Thus a miner 'As I became more deeply involved in my work for the labour movement, I felt the next progression forward was to get more education in those subjects that were necessary to me if I wished to give my whole life to it full-time'. A railway clerk 'I realised that college might help me to define my aims in the many social activities I had engaged in, e.g. Toc H, the Trades Council, the Council for Aid to Refugees and WEA'. A builder's labourer 'The main thing was my interest in public life in my town, both trade union and political'. A maintenance wireman 'I was Branch Secretary of my union and people often asked me a lot of questions that I didn't know the answers to'.

Clearly vocational frustration often played a part 'A sense of frustration and emptiness in life made me aware that I should do something to benefit the lives of all others working there'. A clerk 'The job was boring and I felt I wasn't

helping anybody or making a useful contribution'. A shop manager 'I felt coming here would help me to lead a more worth while life, would broaden my outlook and help me to get a more socially valuable job'. 'I was a civil servant doing mostly routine work, in surroundings and among people I didn't find very congenial'. Or a miner 'My social environment seemed stark, severe and grossly material'.

How many thousands more are there like these?

6. If the Residential College intake can be taken as a sample of a significant segment of young adults, there clearly exists a considerable untapped 'pool of ability' which could benefit from higher education. As the Committee will be aware, there is a large body of broad evidence available to show that this is likely to be the case. We wish only to refer briefly to some of the salient facts revealed in the 1959 Report of the Central Advisory Council on '15-18' and in the 1954 Report on 'Early Leaving'.

Table I of the 1959 Report (Vol. I, p. 6), shows that in 1957-58 60 per cent. ended full-time education at 15 and that 19.5 per cent. boys and 32 per cent. girls did not enter any form of further education. Three-quarters of the 15-17 age group had left full-time education: 28.4 per cent. boys and 46.9 per cent. girls not receiving any further education.

Many left at 15 because they were in non-selective schools, but as the Report says (p. 72) 'a fresh classification after four years, i.e., about the age of 15, would have redistributed between selective and non-selective schools about 14 per cent. of the pupils. By the time they join up for National Service this 14 per cent. has become 22 per cent. among Army recruits and 29 per cent. among the more homogeneous group of R.A.F. recruits . . . with human beings, no selection can be regarded as final.' By the average age of entry to Ruskin, 28, no doubt the percentages would be even higher.

Of those who left at 15 from schools where it was customary to stay on longer, only 3 per cent. of the Army intake and 15 per cent. of the R.A.F. intake gave as the reason that they 'found schoolwork too difficult' (Table 15A, Vol. II, p. 135). 34 per cent. of the Army and 25 per cent. of the R.A.F. group were 'fed up with school' or saw no point in staying on, 18 per cent. of the Army and 21 per cent. of the R.A.F. felt money was short at home, 30 per cent. of the Army and 11 per cent. of the R.A.F. were attracted by jobs and pay, 4 per cent. of the Army and 16 per cent. of the R.A.F. group 'wanted independence'. Clearly there are many non-academic factors involved. 12 per cent. already regretted the decision to leave school by the time they were called up (Table 16, Vol. II, p. 136).

Of the Army National Service recruits who left school at 15 or less, 9 per cent. were in the highest ability group (top 11 per cent.) (Table 3, Vol. I, p. 9). Thus approximately 1 per cent. of the total intake had left school at 15 in spite of being in the top ability group. A further 3.3 per cent. of the total were in the same group, having left school at 16. 19 per cent. of the manual workers' sons in Ability Group 1 left school at 15, a further 44 per cent. at 16. Clearly among this group there must be a substantial number who could benefit from higher education, but are very unlikely to find the opportunity of receiving it.

Moreover, the numbers involved are likely to increase with the bulge in the age group 15-18 rising sharply from 1959-65, and reaching the average age of entry to Ruskin some ten years later.

7. The 1954 Report is concerned with a sample of Grammar School entrants in 1946, who would reach the average age of Ruskin entry in 1964. 12.1 per cent. boys and 11.5 per cent. girls thought suitable for school courses leading to two subjects at A level left prematurely (Table D, p. 9). About 5,000 boys and 5,000 girls were deprived in this way of qualifying for higher education. Only 12.6 per cent. of these boys and 33.5 per cent. of the girls went on to any type of full-time further education or training (including commercial courses, etc.). 'The schools

considered that a quarter of the children of unskilled workers (in Grammar Schools) were capable of some kind of VI form work compared with 6.7 per cent. who were getting it' (para. 49, p. 20).

Less than a third of the total sample left because they 'found schoolwork difficult or had no interest in it'; 11.1 per cent. gave financial reasons as a cause for leaving; a third 'wanted to be earning and independent'; 22.9 per cent. were attracted by a good available job (Table 14, p. 88). Here again are substantial non-academic factors causing serious wastage of educational ability.

8. Many hold that the causes of educational wastage are due to deficiencies in our social and educational provision for young people, and that if these were removed the need for 'remedial' adult education would disappear. No doubt if the size of classes in secondary schools were reduced, if some form of comprehensive system enabled mistakes in selection to be more quickly remedied, if the school leaving age were raised and County Colleges established on a universal basis, if the number of places in Universities, Teacher Training Colleges and Technical Colleges were increased, etc., a substantial part of the present 'wastage' would be eliminated. Until these desirable reforms are achieved, part of the function of adult education must continue to be to provide for the needs of those who have been denied full opportunities in childhood and adolescence. This seems likely to remain a problem for at least another generation.

So far from a general expansion of the education system reducing the supply of adult students, we have reason to believe that the contrary is likely to be the case. A sound basis of secondary education for all up to 16, followed by day release in County Colleges, etc., is likely to whet the educational appetite of an increased sector of the population, even though in many cases this may not be realised until some years after they have left school.

Experience of interviewing hundreds of young adults applying for admission to Ruskin convinces us that there will always remain, under the most perfect educational system, a significant and vital element which can best be catered for in adult colleges, or, as they are sometimes described, 'colleges of the second chance'.

Educational development and achievement is not simply a matter of 'intelligence'; it depends also on stimulus and interest, and the will to persevere. Courses must be geared to the needs and interests of the student at his or her appropriate stage of development. The most highly developed school system cannot guarantee to achieve this for everyone. There will always be the problem of the 'late developers' and the misfits of various kinds, among both of which will be many highly intelligent and admirable people.

(a) The National Service Survey referred to in para. 5 has made the point that 'with human beings, no selection can be regarded as final'. It is increasingly being recognised that the intelligence factor itself is not static, but can increase and be developed considerably throughout early life. Thus Professor Vernon has said 'the man with full secondary and university education has, on the average, a 12 IQ point advantage over the man who was equally intelligent at 15 but has had no further education since then'.* A similar impact can be produced by non-academic stimuli.

(b) Clearly much depends on the stimulus provided by the home and the school in encouraging young people to give of their best. Chapter VI of the 1954 Early Leaving Report described graphically the disadvantages of children from uneducated and overcrowded homes and large families in doing justice to 'grammar' courses. The reasons given for premature leaving in both the Early Leaving Report and the National Service Survey indicate that many intelligent and lively children, often with satisfactory home backgrounds, did not respond to the particular stimulus provided by the school in which they found themselves at 15 or 16, were glad to leave, and later regretted it. Our

* In 'The Bearings of Recent Advances in Psychology on Educational Problems'. (University of London Studies in Education 7.)

experience leads us to believe that a significant proportion of these will find the stimulus they need to awaken them intellectually from circumstances in their life as young adults at ages varying from 15 to 40, and, given the opportunity at the appropriate time, will prove themselves valuable material for higher education. As the quotations above show, the challenge and stimulus may be provided by vocational frustration, by awakening interests and responsibilities of widely varied natures, even by marriage or new friendships and acquaintances. Thus, in the case of Ruskin, many applicants have had their intellectual and educational needs aroused by activity in trade unions or local politics and developing responsibilities as branch officers or local councillors for which they realise they are ill-equipped. Interests in social welfare and social service through a multitude of voluntary bodies may be a comparable stimulus in other cases.

(c) Thirdly, there are the 'misfits' who, for one reason or another, have found their way into specialised or vocational courses for which they are not suited, and wish to transfer to other types of course for entrance to which they have inappropriate qualifications. In recent years considerable attention has been paid to the problems of early specialisation in grammar schools and the need for opportunities for late transfer between the arts side and the science side. Within the field of further education, concern has been expressed at the large proportion of wastage and the failure rate in technical courses. Even for those who have successfully completed City & Guilds, or ONC or HNC courses, periods of 'liberal studies' in the social sciences may well be beneficial. Ruskin has had some outstanding students of this type, who have successfully bridged the gap between Sir Charles Snow's 'two cultures'.

(d) From the over 2,000 enquiries received by Ruskin College for admission in 1961, it is possible to indicate a number of categories of persons for whom full-time adult education is clearly the appropriate answer, e.g.

1. regular service men completing their period of service with the forces, and similar cases from the merchant navy.
 2. married women, who with the earlier age of marriage have reared young families and in the late thirties or early forties are seeking new prospects of self development and public service.
 3. overseas students, particularly from developing Commonwealth countries, without formal educational qualifications, but with considerable potential for leadership. Here the need is so great that many ex-Ruskin students of this type have found themselves within remarkably short periods in positions of great responsibility—as Ministers, Ambassadors, Senior Civil Servants, trade union leaders, etc.
 4. people who have had some form of vocational and technical training, which they realise might be broadened by a course of social studies, e.g. school teachers, nurses, technicians interested in industrial relations or personnel management, etc.
 5. people who are seeking to prepare themselves for work of greater social significance, or with more scope for initiative and responsibility than their present occupations provide.
 6. people who, while satisfied with their employment, wish to equip themselves for more responsible part-time work in the fields of public affairs, trade unionism, social service, adult education, youth work, etc.
 7. people who seek education for its own sake, feeling themselves inadequately developed culturally and socially.
9. While the normal path from school to higher education may well be desirable for the great majority of students, an interruption of full time education for a period of employment is not always disadvantageous. Experience of life and industry may stimulate new interests, as indicated above. It provides new tests of character and determination, and a form of natural selection. Above all, when higher education is resumed, the student brings valuable practical experience to bear on his studies,

and his judgment is inevitably more mature. Ruskin College's experience is that men and women of between 25 and 30, with perhaps ten years' experience of earning their living, bring to the study of economics, political and social science, qualities of knowledge and maturity which often more than outweigh their lack of preparatory training. 'Sandwich courses' might well be as appropriate in the social sciences as in technical studies.

Thus, in the field of economics, where so many of the most distinguished scholars have entered upon their studies either after experience of the world or the mastery and exercise of some other discipline, and where those who have gone directly to the subject have so notably increased their powers after experience of administrative problems, it may be suggested that a substantial extension of provision for adult education at advanced levels would be in the best interests of the science as well as of the potential student and the nation.

10. Limited facilities do, of course, exist for the admission of mature students to Universities and other types of higher education. Most Universities have some kind of special provision for 'mature matriculation', the Ministry of Education offer up to 30 State Mature Scholarships, and Local Education Authorities can be persuaded to give additional awards. But the hurdles are formidable for those without formal educational qualifications. Nearly all Universities require at least some G.C.E. passes as a condition of admission, and Local Education authorities are inclined to prefer candidates applying for awards to possess them. As a consequence, many young adults, once intellectually awakened, are forced to spend valuable time in acquiring qualifications designed to meet the needs of school children. A limited number of Universities, notably Oxford and Cambridge, have recognised the inappropriateness of this, and select mature students by more suitable methods, e.g. essay and interview, or special 'mature' examinations.

Clearly, before entering a University course, a young adult needs appropriate intellectual training and preparation. Once his educational appetite is aroused, he still needs the tools of study in addition to enthusiasm, intelligence and experience. Many find the answer in University Extra Mural courses—the tutorial class, or day release courses of the type pioneered for young miners in Nottingham and Sheffield. Facilities of this latter type should be expanded to serve the needs of other industries and areas. The adult residential College, offering one or two year courses, has however proved to be one of the best methods of preparation for University study for young adults. The record of residential college students in State Mature Scholarship competitions and in University Honours courses provides ample evidence to this. The existing residential Colleges have, in fact, had to endeavour to withstand the pressure to allot too high a proportion of their limited number of places to applicants with University ambitions. This indeed presents the Colleges with a problem. While for many, perhaps the majority, of the ablest applicants for entrance the intention subsequently to proceed to a University is not present when they apply, some have this end clearly in view. The ambition is legitimate, and we do not resent it, although our organisation of studies must be directed to providing a 'final' type of course, encouraging the student to develop a critical judgment of each field of study, rather than an 'intermediate' course devoted to the mastery of formal techniques. This we owe to the majority of our students who will not go on to further full-time study.

In view of the pressure upon our capacity it might seem that it is our duty to give priority to this group. There are two objections to such a course. First, able students, capable of both gaining from and adding to the life of a University may need the sort of training we can give before they can hope to gain University entry, if only because of the load of responsibility which the exceptionally gifted so often acquire very young in small and isolated communities. Second, if only because our selection from candidates for entry has to be based largely upon estimates of ability rather than records, we do not know who are, in fact, going to be outstandingly able in two years time. The only way to avoid injustice is to accept both those who wish to go on, and those who do not, knowing that some subsequent adjustment in either direction is inevitable.

For adult students from 'working class' environments, residential facilities are particularly valuable. For the first time they gain the opportunity to escape from the demands of their home, their fellows, their daily activities, to a centre where they can concentrate on discussion and study, have access to adequate bookshops and libraries, theatres, etc. Temporary escape from the pressures that public life provides for the 'willing horse', time to think and reflect, is invaluable. The transition from the average industrial town or village to a University centre is a revelation for young men and women unaccustomed to books or intellectual discussion in their homes.

11. There is, therefore, in our view an overwhelming case for the inclusion within a comprehensive scheme of higher education of an expanded chain of adult Colleges, providing both courses leading to qualifications of the 'Diploma' type, and courses without formal qualifications. These Colleges should be associated with the general system of higher education, though not bound by formal regulations, e.g. matriculation requirements for their students. Universities, Teacher Training Colleges, and other 'higher education' institutions should give appropriate credit to students of these Colleges wishing subsequently to proceed to Honours Degrees or other qualifications (e.g. exemption from G.C.E. matriculation requirements, intermediate examinations, etc. as appropriate). The existing arrangements between Ruskin College and Oxford University provide a working model that might well be imitated elsewhere, with appropriate modifications.

12. RELATIONS WITH THE MINISTRY OF EDUCATION

Ruskin and the other long term residential Colleges are direct grant establishments recognised and aided by the Ministry of Education. Ministry grant provides between 35 per cent. and 37.5 per cent. of their income, the remainder being raised mainly through fees, which are usually covered by scholarships provided by trade unions, trusts, etc., or by LEA awards. Their grant percentage is thus far lower than that of Universities and most other forms of higher education. The Colleges have very small endowments and considerable difficulty in raising money for general revenue or capital purposes, being outside the ambit of the University Grants Committee. Their relationship with the Ministry of Education allows them considerable freedom, but present levels of grant force them to operate on an austere basis and the Ministry has not as yet contemplated capital grants for which they would be eligible under the Further Education regulations. Revenue grant has, in recent years, been fixed on a triennial basis, and some of the Colleges are finding considerable difficulty in making ends meet in the final year of a triennium, owing to rising costs.

The system is more appropriate to a 'static' College than a developing one. Unless the grant percentage can be raised to bridge the gap between fee-income and expenditure, any expansion increases the sums to be raised from general endowments, which the Colleges find it increasingly difficult to secure. If some form of Higher Education Grants Committee or Board of Higher Education is envisaged by the Committee, adult residential Colleges should be included in its ambit, and the grant provisions (revenue and capital) for them should be not less favourable than those for other institutions.

13. RELATIONS WITH L.E.A.S

As the Colleges are voluntary bodies of national standing they do not receive any grants from LEAs towards their general revenue or capital costs. Some authorities are still reluctant to make full awards to students at residential Colleges, and there are difficulties in extending grants to cover subsequent courses in Universities, etc. In evidence to the Anderson Committee, we indicated the need for a standardised scheme of awards at these Colleges with the full backing of the Ministry of Education or other appropriate authority. Discussions with the Ministry on this matter are still in progress.

14. RELATIONS WITH UNIVERSITIES

It is anomalous that while Oxford University is prepared to grant Senior Status to adult students who have pursued appropriate courses in residential Colleges, other Universities are reluctant even to waive formal entrance requirements, and only in exceptional cases grant them exemption from the first year of a degree course. Experience with many Ruskin students at Oxford has shown that they are fully capable of obtaining good Honours degrees after two years in the University. A third year may even induce staleness and lead to diminished standards of performance. The first year of most University courses in social studies involves repetition of work already covered in a University Diploma course at Ruskin. All Universities might, with advantage, review their regulations for admission and first-year exemption to see if they cannot provide for the legitimate needs of Ruskin and other adult students. The same applies to regulations governing admission to Teacher Training Colleges, etc., where at times combinations of G.C.E. passes seem to be preferred to University Diploma qualifications of higher standard.

15. If the case for expanding this type of residential adult education is accepted, consideration should be given as to how far the existing Colleges should be encouraged to expand, and their views on this might be invited.

As far as Ruskin is concerned, the steadily increasing pressure of demand in post war years has induced us to increase numbers to a ceiling of 120, which imposes a severe strain on the College's existing accommodation. We have now reached the point at which further increase would entail new buildings, including extended dining rooms, libraries, lecture and seminar rooms, etc.

In principle, the College feels that it should endeavour to meet the expanding need for its facilities as outlined in this memorandum and it has a development plan under active consideration.

16. We trust that the Committee will recognise the significant rôle that provision for full-time adult education should play as an integral part of a comprehensive pattern of higher education, and will make recommendations to this end, with a view to overcoming the present limiting factors indicated in paragraphs 12-14 above.

The following supporting document was also submitted :

Appendix giving statistical analysis of the educational background and achievement of a sample of former Ruskin College students.

ORAL EVIDENCE

given by

Mr. H. D. Hughes

on behalf of

RUSKIN COLLEGE, OXFORD

Wednesday, 18th October, 1961

Chairman: May I express the Committee's appreciation of the admirable memorandum which you submitted. It covers a field which has not been sufficiently explored and presents a first-rate and an inspiring picture of it.

Mr. Hughes: Thank you.

Chairman: I think we should like to talk about the practical implications of the situation as you have described it. You disclose not only that there are among the population under forty, perhaps even under forty-five, a substantial number of people who for one reason or another have not had systematic training earlier and are capable of benefitting from it, but you also disclose that, given the opportunity, they do pretty well.

Mr. Hughes: Yes.

Chairman: I take it one would expect people who have the determination to launch out in this way at a comparatively advanced stage in life—the average age is about twenty-seven is it not?—to be in some way or other rather exceptional; so that perhaps one should not be unduly surprised at their subsequent academic record.

Mr. Hughes: In some ways they are a self-selected group in that they find their own way to Ruskin or one of the other long-term colleges; we do very little advertising. We more or less assume that people who are interested in us will find their way to us through the various adult educational agencies or social organisations to which they belong. Clearly, if the colleges did any kind of large-scale advertising, the demand would enormously increase, and we would have difficulty in coping with it.

Chairman: And a greater difficulty in selection?

Mr. Hughes: Yes. I suspect that a lot of people of this kind are not finding

their way to us at the moment. As we have more work to do than we can deal with, we are not trying to persuade them; but I think there is a considerable reserve of which we do not hear at present.

Chairman: There is no sign of the applications falling in number?

Mr. Hughes: Quite the reverse. This year all the long-term residential colleges are bursting at the seams. As far as Ruskin is concerned, our applications have gone up steadily over the last ten years and are now at a peak this year. We said in our evidence that we had 2,000 enquiries. We set them all essays and sent them formidable forms to fill in; those who had made tentative enquiries, and had not understood what the operation was, were naturally scared off at that stage. In the end we had something like 500 applications, with essays, from people in this country, out of whom we took about 65. The number of applications is rising, and we believe it will continue to rise with the development of the general educational pattern. There is a sort of common assumption that adult education is remedial and that as the educational system is put right it will diminish. Of course some people who came to adult education in the past because the main educational system was not catering for them will in future move into different channels; but as the school-leaving age is raised, and if county colleges come into existence, and so on, I think there will be many more people interested in this kind of course, and this new demand will more than offset the transfer of the old 'deprived' type of would-be student.

Chairman: The offset takes place in the sphere of opportunities for full-time study, does it not?

Mr. Hughes: Yes.

Chairman: The population of evening students at the L.S.E. has, I know dwindled to quite a small number, and there is nothing like the former pressure.

Mr. Hughes: I suppose the reason would be that some of them are finding their way into full-time education, and probably the new wave we are talking about are people who do not necessarily want to aim at full university degrees. We are catering, as we always have, partly for people who will go on to full university degrees, but we do not regard this as our major function; in practice about one quarter of our students go on to full university degrees. Our real aim is a sector of the population which wants serious study of the social sciences at something below university degree level, in our case at university diploma level, which I suppose is roughly equivalent to two-thirds of a pass degree.

Chairman: What does that mean in the context of Oxford? How much is the diploma below the papers in P.P.E.?

Mr. Hughes: It is not the same as an intermediate examination for a degree because it is trying to do something different. It is aiming at something which is primarily in the interests of adult students, who have a different and more mature approach. If you try to equate this to a degree, therefore, you run into difficulties. Oxford University says in effect that a student who has had two years in a residential college and passes the diploma examination is fully worthy of being exempt from the first year of undergraduate study, and the first public examination, that is the intermediate examination. He can go on to final honours in two years. That looks as if the diploma is the equivalent of the first public examination, but it is in fact a different thing and in some respects more developed and advanced than an intermediate examination. For approximately a quarter of our students, who do well academically and who then want to take a university degree, it is frustrating that other universities apart from Oxford give little or no recognition of the fact that the holder of the diploma has taken

a serious course of study and in fact passed a university examination. If our students want to go on to a degree at a university other than Oxford, and occasionally Cambridge, they may have to go back and take G.C.E. examinations, and are expected to take the full three years' undergraduate course. This is frustrating and annoying.

Chairman: Have there been representations about this to other universities?

Mr. Hughes: We have not made formal representations to the universities as a whole. I argue this from time to time with other universities. I have been arguing the case for exemption from the first year recently with Hull, who have said: 'We will not give automatic credit, but we will consider each case on its merits'. I have been arguing it with Southampton; Southampton is also considering it, but I do not yet know the outcome. As far as the northern universities are concerned, I have taken this up from time to time on individual cases, but both they and London are usually adamant in asking for the equivalent number of G.C.E. passes.

Chairman: Would you be satisfied if all universities were to take the Hull position, and say they would deal with each case on its merits?

Mr. Hughes: Yes, I think so. Clearly it would be better if they took the Oxford position and said that the university diploma carries with it an exemption not only from entrance requirements but also from the first year of an appropriate degree course. Obviously a diploma in economics and political science should not exempt a man from the first year of a course in science or law, but if he is studying in the same field we would prefer all universities to give exemption from the first year.

Mr. Shearman: You are saying an Oxford diploma should be accepted by all the universities?

Mr. Hughes: We are in effect saying that.

Mr. Shearman: This may be where the universities have a difficulty.

Mr. Hughes: Yes, except that an Oxford G.C.E. is accepted by all universities, is it not, and London G.C.E. is accepted by all the universities?

Chairman: Do you speak at all for the other long-term Colleges? We have had submissions from the others, and there are references in their evidence to the fact that they have consulted you.

Mr. Hughes: We work together as a group. On this occasion we decided not to submit combined evidence because the problems of Ruskin and, for example, Hillcroft are different. The Ruskin evidence took into account the other colleges to some extent; they all saw it and afterwards submitted their supplementary evidence. What I have just said about diplomas would cover Ruskin and the Catholic Workers and it would cover the small group of students in the Co-operative College who take social science diplomas with Nottingham University in a similar way. It might also in the future cover Coleg Harlech because I believe they are at present discussing with the University of Wales the possibility of establishing a university diploma on similar lines, so that the Coleg Harlech students would have a qualification set and examination by a university. But what I have said does not apply to the others, almost as a matter of principle. Fircroft, for example, does not want to become an examination-passing college.

Chairman: The people from the other colleges do not take the Oxford diploma, do they?

Mr. Hughes: No, except the Catholic Workers, which is a small denominational College in Oxford.

Chairman: Do you look forward to arrangements whereby either affiliations are established with other universities, or whereby external examiners are appointed?

Mr. Hughes: I think there are two levels here. For the colleges, primarily Ruskin and Catholic Workers, which sit for university diplomas, what is wanted is recognition of university diplomas as an exemption from the

first year of a degree course. The colleges which do not are mostly one-year colleges, and I think they would not want exemption from the first year of the university. They want exemption from formal G.C.E. admission regulations for their students. I think they would be happy if all the universities followed the example of Manchester in this and set a special mature examination for entrants. London used to allow such entry but the student nowadays has to take a certain number of G.C.E.s at 'O' and 'A' level; I am not quite sure what they are. A student who has a diploma with us gets some very slight credit. He is exempted one 'A' level, or something like that. Each university should have a clear regulation about a mature entrants' examination which would enable somebody from Fircroft, for example, to take papers in a subject he has been studying there; they should be set mature papers and admission should be given on the result of that, with of course an interview.

What is true of the universities is also true to some extent of teacher training colleges. This varies between different parts of the country according to the regulations made by different Institutes of Education. Students from Hillcroft and Fircroft, and a few of our people who want to take a mature course in teacher training colleges with a view to county college work or liberal studies in technical colleges run up against the same problem in some parts of the country. Each Institute of Education should have some clear pattern of mature entry.

Chairman: There is a general case here which deserves serious consideration.

Mr. Shearman: I know that the London Institute considers each case on its merits, and each case is reported in detail.

Mr. Hughes: That is so. But this year, for example, I had a first class adult student who had studied with us for two years in the field of English Literature. There is no diploma for English Literature, so apart from the fact that he had been with us for two years he was in the same position as a Fircroft student. He applied to a

college which specialises in training teachers for liberal studies in technical colleges, day release work, and so on, for which our people, if they are interested in teaching, are particularly appropriate. This college is flooded with applications, so it naturally decides to take first the men who have the qualifications and look at the others afterwards. This means that our people are often not considered at all. He was not even interviewed, and is now wasting a year sitting G.C.E. papers in order to apply again.

Mr. Shearman: Are not the difficulties in London the faculty requirements as much as anything else?

Mr. Hughes: Both the university and faculty requirements are impediments. Our experience is that a good average Ruskin student, the sort of man who ought to go on to the university, can in fact take 'A' level in his stride at the appropriate time; but it is annoying, having completed the university diploma course to go back and sit 'A' level examinations at the time of the year when he is tired after his diploma examination. I think all the residential colleges would agree that we do not regard G.C.E. levels and the approach of the G.C.E. boards, which are naturally geared to sixth formers, as necessarily the right approach for our students. Our people need something which assesses maturity and experience rather than knowledge of a certain number of prescribed texts.

Mr. Shearman: I think the argument in London is that if the student has not the technical competence that 'A' level gives him in the particular subjects concerned he will not be able to manage the degree course. I am not saying that I necessarily accept this argument.

Mr. Hughes: The answer to that in social sciences is that the experience of those who have gone on proves that they are fully capable of taking good honours degrees after a further couple of years.

Chairman: It can be argued that schools should not devote time to teaching social studies to people who

have not a knowledge of the outside world. It may well be that to burden virgin minds with that sort of problem is a mistake.

Mr. Hughes: Our students have the reverse of virgin minds; they are hard-bitten, experienced men of the world. If they come from a particular industry, they know a good deal about its workings and they may have fairly strong prejudices about it, but they can approach applied economics and so on with maturity and experience. In our view this often offsets their lack of formal training, although clearly they are not well equipped for theoretical economics. Of course they have weaknesses but they are offset by strengths. They are somewhat different animals. The record of those who have gone on to read P.P.E. in Oxford is very good; the percentage of those getting seconds and firsts compares very favourably with the whole intake. We do not get many fliers in abstract subjects of course. We only pick up the occasional man who is going on to get a first, although we do find him. We get a lot of sound people capable of taking good seconds.

Chairman: You have some very distinguished former students in the academic community have you not?

Mr. Hughes: We have; quite a number have gone on to university teaching in provincial universities. Nuffield College has a considerable number of our alumni doing research; some of them move into fellowships in Oxford, and so on, but these are, in a sense, the exceptional ones.

Chairman: May we now turn to the administrative problem which is posed in paragraph 12 of your memorandum?

Mr. Hughes: As you know, we are direct grant-aided bodies. In general our relations with the Ministry of Education are happy, except for the fact that we do not receive enough money for revenue purposes, and there has been no provision so far for capital grant. The result is that the colleges are always rather poverty-ridden institutions. The percentage of grant aid we get from public funds

is far lower than for almost any other institution of higher education. It is far lower than universities, for example, far lower than the C.A.T.s, and far lower than teacher training colleges. At present the colleges get between 35 per cent. and 37.5 per cent. of income in the form of grant. The result is a struggle to make ends meet, and there are no public funds available for development. We have discussed this with the Ministry of Education, and it is clear that the Ministry's view will depend to a considerable extent on what your committee have to say. In fact we have been told that there is no hope of getting capital grant until your Committee has made recommendations on the future of our institutions. So we are in effect pigeon-holed.

Chairman: May I ask you a very far-reaching question? Project yourself to 1980 or 1985, and imagine that this country has continued to be reasonably prosperous and has had no untoward setbacks, and that educational policy has been what you would regard as progressive. Do you conceive that in a superior system of higher education your group of colleges would remain separate, or do you think that in the world of the future the enlarged system of university education would make its provision in a comprehensive way for adult courses of this sort?

Mr. Hughes: I have endeavoured to approach an answer to this in paragraph 8 of our memorandum. Even when there is a perfect system of educational opportunity for all, there will remain this very significant group of late developers who will have dropped out of the ordinary educational system at a comparatively early age for all sorts of reasons. They are the sort of people who are vigorous and active at the moment of leaving school, who are bored with school, who want to get out into the world and prove themselves. They prove themselves and emerge into positions of leadership in some field or other. They then realise that they need education again, and they regret the fact that they pulled out early, and want to get back. So in 1985 I foresee this important and vigorous group

of people still existing and wanting to get back into the educational system. I think there has to be some kind of institution which understands their needs and is prepared to process them back into the educational system.

Mr. Shearman: Does not the tendency of vigorous people to pull out or stay in the educational system depend on the general climate of opinion? Nobody now pulls out at fourteen or even fifteen, which many of the most vigorous people did years ago. In America the vigorous people do not think of pulling out at sixteen any more than they used to pull out here well before that, and in America, in California for instance and other parts, it is becoming much more exceptional.

Mr. Hughes: Even in America the type of person I have in mind still exists nevertheless.

Mr. Shearman: Assuming that we have a much better developed and varied higher educational system what, if anything, should be done to provide for the late developer?

Mr. Hughes: Let us look at the man who wakes up intellectually, let us say, at twenty-five; the last time he was in formal education was probably, in this perfect future educational system, let us say sixteen or part-time till eighteen; so he has a gap which is roughly equivalent to the whole of his sixth form life if he had stayed in the educational system. He is raw material educationally; before he can become a university honours student, let us say, he has to be processed.

Mr. Shearman: Why university honours student?

Mr. Hughes: I am assuming he is the sort of man who is potentially a good university honours student.

Chairman: Can he not be processed by a comprehensive university? Cannot the enlightened university of the future do this?

Mr. Hughes: Certainly, if within the broad framework of each university there is some kind of adult course or adult institution. There is a lot to be said for the residential course. Your

question is, therefore, should institutions like Ruskin work within or attached to the broad framework of the university, or should adult students be spread around the different colleges? I am inclined to think there is a case for both arrangements. We have, however, so far been talking of this mainly in terms of preparation for full university work. I think that there will also be needed, below the university degree level, a second tier of institutions providing courses which are not at university degree level. These would be designed for the next tier of intelligence. I think we shall need people who understand the workings of our economic, social and industrial system at the level below that of the university graduate. Three quarters of our present students do not want to go on to university, but when they have been through our colleges a satisfactory educational job has been done and they go back into the world. The university will probably not want to cater for people below university degree level. Some other institution must therefore do so. This might be a liberal arts college or an adult education college.

Chairman: We have had, as you may guess, representations in favour of establishing liberal arts colleges. One possible objection to development on those lines, as opposed to making the universities more comprehensive, hinges on the question of status. Of course this is not one which would apply to an institution like yours with a famous name and an honourable tradition, but if the system were extended separately from the general network of university education, is it not possible that some would feel these institutions did not quite make the grade?

Mr. Hughes: This raises the question whether a university is bound to preserve university standards as they are understood in this country, or something approaching them, in which case it will only cater for a small percentage of the population and the intellectual cream. What can be done with the next group? Ideally they should be in a sort of comprehensive higher institution. But then the comprehensive institution reaches such an

enormous size that it is difficult to administer. That being so, are we not almost forced to draw some kind of line between university honours work and the rest? I do not like to draw this line, but I do not see how we could avoid it. If a line of that kind is drawn, where does an institution like ours fit? Should we be direct grant-aided by the Ministry of Education, should we be under the aegis of the University Grants Committee, or should we be under some other form of grants committee which is dealing with non-university higher education? I confess I do not know the answer.

Mr. Shearman: One thing that seems clear about the liberal arts college is that in general they are degree-giving institutions, though they only give first degrees. But in the context of a liberal arts college in this country you spoke of work below the level of a university honours degree, did you not?

Mr. Hughes: Yes.

Mr. Shearman: You have told us that there are a large number of people of university calibre who have been missed and ought to be picked up, but that there are also a large number of people whose interest is not in university study. Do I understand that you would not be in favour of providing for this second group within the university system?

Mr. Hughes: I think that a line would have to be drawn. May I perhaps sum up our situation? Our colleges need some fairy godmother, whether the Ministry with a more generous outlook or the University Grants Committee with enlarged scope, or some other grants committee. We all badly need aid from public funds on a scale more nearly proportionate to other institutions of higher education; we need more revenue and some capital. As far as my college is concerned, we are desperately in need of a capital sum of about £100,000 which would enable us to reconstruct our building, and expand by about one third. This is what we would like to do, and this is what we think the demand justifies. That would mean another 40 places in addition to our present 120. We also need an extra £1,500 to £2,000 a

year in terms of overhead revenue. Apart from running the institution, we have the problem of seeing that the students who come to us are financed. While the situation is slowly improving, local education authorities do not automatically recognise that a place at a residential college ranks for scholarship or grant aid in the way that entry to a university does. The result is that all the principals spend hours of valuable time fighting battles with 145 different local education authorities, time which would be more usefully spent otherwise.

Chairman: It is true, is it not, that some local education authorities are more accommodating than others?

Mr. Hughes: Yes, some are very understanding. Of course it is not only the awards to come to us that are involved; difficulties arise sometimes in persuading an authority to continue the award to a man who wants to go on from Ruskin to take a degree course at Oxford or elsewhere. I would like to think that all these difficulties could be overcome.

Chairman: Thank you very much.

MEMORANDUM

submitted by

DR. CYRIL BIBBY

29th May, 1961

INTRODUCTORY

(1) Since it cannot be assumed that all members of the Committee will be familiar with the educational background of all witnesses, it may be helpful to begin by outlining the experience upon which this memorandum of evidence is based.

(2) Your witness was an Open Major Scholar of Queens' College, Cambridge, in mathematics, physics and chemistry, reading these subjects, and adding botany, for the Natural Sciences Tripos. Following graduation, he did postgraduate research work in quaternary prehistory at Liverpool University, receiving the degree of Master of Science. Considerably later, he received from London University the doctorate of philosophy for research in nineteenth century educational history especially connected with the work of T. H. Huxley. This experience, as a student in three different fields of study at three different levels in three different universities of different types, gave some knowledge of the modes and standards of study in British universities. Later experience, as a visiting lecturer, in faculties other than that of Education, in universities at home (e.g. Liverpool, Manchester, Nottingham) and abroad (e.g. Atlanta, California, Chicago, Denver, Illinois, Oregon, Pennsylvania, Vassar), together with visits to several European universities (e.g. Aarhus, Grenoble, Lund), extended this knowledge.

(3) Your witness has also a fairly wide knowledge of teacher-training institutions, both university and collegiate. Prior to becoming Principal of Kingston upon Hull Training College, he was for thirteen years a tutor (and for several of those years Secretary of the Academic Board) at the College of S. Mark and S. John, Chelsea, which has students reading for the Teachers' Certificate, for the external General B.A. and B.Sc. degrees of London University, and for the London Post-graduate Certificate in Education. He has also lectured frequently in the University of London Institute of Education and at King's College, London, Department of Education; has been a visiting lecturer in many other British university departments of education (e.g. Leicester, Oxford, Reading) and training colleges (e.g. Barry, Borough Road, City of Birmingham, Loughborough) and in several teacher-training institutions abroad.

(4) Your witness hopes that this experience, both as student and as teacher, in a range of institutions of higher education, together with work as a schoolmaster and as an examiner at various levels including the Teachers' Certificate and the M.A. degree of a British University, may give some weight to certain conclusions about the desirable relationships between the universities and the training colleges. These conclusions are summarised below. If they appear at all dogmatic, the cause is an effort at brevity.

RANGE OF STUDENT ABILITY AND ACADEMIC LEVEL

(5) Although the average intellectual ability of university students is higher than that of training college students, the overlap is considerable and much greater than is commonly realised. Your witness has no doubt that a fair number of college students are intellectually superior to a fair number of university students, that this applies even to some few of those who have left school without the 'A' level combinations requisite for entry upon a degree course, and that a considerable number of college students are altogether fresher and less narrowly orientated in their approach to their studies than are a considerable number of university students.

(6) It is impossible to estimate at all firmly what proportion of college students during the years ahead will be of what is sometimes called 'degree quality', but it will be substantial. These students will, and rightly, expect to receive, at the

end of a three years' course of higher study, a degree rather than a certificate. In Britain, a degree is the recognised hall-mark of higher study, and the invention of some new diploma analogous to that devised for technical colleges would be a mere evasion of what the situation demands. If the universities in general do not show some flexibility in this matter, thus enabling the better students in the colleges to graduate, the students will find their own solution by graduating externally at London. This solution cannot possibly be regarded as other than a second-best, and it is to be hoped that we shall be preserved from it. Nevertheless, it is of great importance that certain changes which have been suggested in the regulations for these external degrees, and which would have the effect of abolishing degree work even in those training colleges which have long done it, will not be put into effect. For the University of London to do this whilst the Committee is still sitting would, in the view of your witness, constitute an extremely undesirable *fait accompli* in a matter which falls within your terms of reference.

(7) The common phrase, 'degree quality', has been used above, but it warrants scrutiny. It is sometimes used as if it meant the quality of those who get really good degrees in the more competitive faculties of the more famous universities. It is sometimes used as if it represented a platonic ideal immutable for ever, or some objective standard below which it would be catastrophic for the British universities to fall. In fact, however, the intellectual calibre of students who receive degrees varies from university to university, from faculty to faculty, and from time to time, according to the degree of selectivity which may be exercised among applicants for admission and according to varying criteria of selection. The quality of student work which British universities have to your witness's knowledge recognised by a first degree has ranged from high scholarship through industrious cleverness to pedestrian plodding—and even, among some of the poll degree men at Cambridge thirty years ago, to utterly uneducational cramming.

(8) Similarly, 'certificate quality' varies enormously. At the one extreme, some training college students have received their certificates only because the country was so short of teachers that not too many examinees might be failed; at the other extreme, some students have produced work which professorial external examiners have described as being of post-baccalaureate quality. Much of the 'special study' thesis work regularly produced by the better college students is, indeed, superior to anything which your witness has seen done by more than a very few undergraduates in university science faculties—this, of course, reflecting in most cases not superior student ability but less narrowly constrained curricula and more enlightened aims and methods of tuition.

(9) In view of the above considerations, your witness hopes that the Committee will reject the view that the idea of 'degree quality' is absolute, will accept that the decision about what types of work should receive the stamp of a degree is rather one of educational and social policy to be modified from time to time, and will recommend that the award of degrees to the better training college students should now be facilitated in various ways.

TYPES OF DEGREE

(10) For some years past there has been a marked tendency in some universities to concentrate attention upon, and to attach all prestige to, Special degrees of a narrow nature. It may be doubted whether courses for such degrees are well suited for many students at present in the universities, but there is no doubt at all that they are suited to only a small minority of prospective teachers. Thus, although your witness holds that these present degrees should be opened to those few training college students for whom they are suited, such opening would barely begin to meet the requirements of the present situation.

(11) A considerable number of college students, however, would be well suited by a three-subject General degree, and it is a matter of great importance that the universities should revive and rehabilitate such degrees. The three-year course in most colleges is taking the form of the study of two elective subjects and of the

theory and practice of Education; if, therefore, Education were established in universities generally as one of the subjects for a General degree, it would be perfectly possible for the colleges to enter their better students for the degree without distorting or constraining their pattern of teaching. The course could be conducted on a three-subject basis (Education plus two others), and students could be entered either for the degree or for the certificate examinations according to their initial qualifications and subsequent progress.

(12) It has been suggested that a degree of this type should be given some new name, such as 'Bachelor of Education', so as to distinguish it clearly from existing degrees. There seems to your witness to be no good reason why regulations for existing degrees (such as B.A. and B.Sc.) should not be modified so as to embrace the proposed combination of Education with two other subjects. However, this matter of nomenclature is not of great moment and, if the universities would be happier with some degree title which clearly labelled the new degree, there would be no particular objection to it. It would, of course, be necessary for the universities to accept as elective subjects for the degree a range of studies (e.g. art, crafts, physical education) which have not commonly been included in English universities hitherto. The training colleges would recognise readily that high standards would have to be set for degrees in these, as in other subjects; but they would hope that mere conservatism would not be allowed to stand in the way of admission of the subjects themselves, as it has historically stood in the way of the acceptance of most of the subjects (e.g. natural sciences, English literature, modern languages, architecture, social sciences) now studied in the universities.

VOCATIONAL AND NON-VOCATIONAL EDUCATION

(13) It is sometimes suggested that the preparation of students for particular professions or vocations is not the function of the universities, which should concern themselves only with 'learning for its own sake', and this suggestion has repeatedly been used as an argument against the provision by the universities of professional courses for prospective teachers. The suggestion can indicate only either ignorance or disingenuousness, for in fact the universities have from their inception been concerned with professional preparation. The three ancient faculties of Divinity, Law and Medicine existed for this purpose; the science of faculties were formed in the nineteenth century to cater for the new profession of scientist; and since then university provision has been made for those preparing for architecture, engineering, brewing (later dignified by the title of 'industrial fermentation'), dentistry, etc. etc. The profession of teaching, unfortunately, is not in a position to make lavish endowments to universities, as wealthy industrialists and trust funds have done in other fields of study, but that it not a good reason for the continuance of special pleading against the full recognition of teaching as a major profession for which the universities should make proper provision.

(14) The suggestion that Education is not a reputable field of study is even more common, and is sometimes put forward even by university vice-chancellors, professors and lecturers who are in some respects sympathetic to the profession of teaching. It is true, of course, that some study of Education has been fragmentary, trivial or unco-ordinated—but that might also be said of most other university subjects as sometimes pursued. The question of the academic reputability of a particular piece of work in any subject is quite different from the question of the academic reputability of a subject as such, and it is always astonishing when anyone claiming university quality of mind fails to make the distinction. There is no subject which cannot be studied well, just as there is no subject which cannot be studied badly—but throughout the history of university reform one can trace the same sort of *ad rem* argument produced against every proposed novelty in turn. The arguments commonly marshalled (or, at least, the objections commonly thrown out in disarray) against the admission of Education as a degree subject are quite remarkably similar to those produced against the establishment of science degrees at London and Aberdeen a century ago, against the later institution of an Honours School in English Literature at Oxford, against the introduction of anthropology

and engineering and sociology and psychology at various other universities—so strikingly repetitive, indeed, that at times one almost gets the impression of sitting through successive performances of a single film hastily redubbed in the intervals. Your witness hopes that, just as the universities have in the past admitted new subjects under the mounting pressure of new social needs, they will now be urged to abandon all merely conservative opposition to degrees in Education and to concentrate upon the devising of courses and the conducting of examinations in such a manner as to ensure academic reputability in the learning and teaching of that entirely reputable field of study.

(15) It is sometimes objected that it would be inappropriate, during a three-year degree course, for students to spend part of their time out in schools on 'teaching practice'. This objection, of course, betrays an entire misconception of the proper nature of 'teaching practice', whose unfortunately antiquated title seems to imply mere apprenticeship. Properly planned and properly conducted, 'teaching practice' is to Education what laboratory work is to the natural sciences, what field studies are to geography, and, far from being an undesirable intrusion into the academic study of Education, it is what gives that study reality and preserves it from pretentious pedantry.

ELECTIVE DEGREE SUBJECTS

(16) In any such three-subject General degree course (or, alternatively, in a new type of degree course with Education as the central study and one or two elective subjects as ancillaries or 'supports'), merely to take over, perhaps with some slight modification, existing degree subject syllabuses, would be to evade the major challenge of the new situation. Certainly in science, the field in which your witness feels most competent to judge, many existing degree syllabuses are quite inappropriate to the needs of most science teachers. This is not at all to suggest that science degree courses for prospective teachers should simply follow current school science courses at a higher level (that would indeed be ludicrous, for, lamentably, school science courses tend to follow current university courses at a lower level). Nor is it to imply that the quality of such courses should be inferior to, or the examination of such courses less rigid than, those of existing courses. It is, however, to assert, and this most strongly, that it is quite possible to devise alternative science courses, of high academic quality, which are more relevant to the needs of teachers than any which exist in our universities today, which pay more attention to scientific method and scientific philosophy and less attention to the amassing of factual knowledge, which treat science less as a laboratory routine and more as an adventure of inquiry, which clarify the special qualities of the separate sciences and yet illuminate their essential unity, which make the history of science an integral part of the study of science. Such courses might well be more suited than some existing ones to many present university students: there is no doubt at all that they are what is needed if future teachers are to make the sciences truly an instrument of culture. And it would be surprising if similar considerations did not apply to the other fields of study which might be taken as elective subjects in new-type degree courses.

(17) In this matter, we do not have to start from scratch. One of the more damaging outcomes of the long separation between the universities and the teachers' colleges is the remarkable ignorance in the former of what goes on in the latter (the converse is not true, for most lecturers in the latter have themselves been students in the former), and in particular of the fact that there is in the colleges a great wealth of experience in the conducting of academic courses of the general nature envisaged above. In the past, the too-short college course has usually prevented the attainment of adequate academic levels, but this handicap no longer exists. In your witness's former college, however, where for some time there has been an integrated three-year course for non-degree science students, it has been possible to compare the cultural influence of such a course with that provided under London B.Sc. regulations for degree students: the former was in every way a more truly educational course than the latter. Indeed, if the only terms upon which the universities would accept the training colleges for degrees were to be the compulsory alignment of all

college courses with existing university courses, it would be best for the colleges to reject the terms and say 'We want degree status for our better students, we believe that degree status is fully deserved, but at so high a price we must continue to do without it.' If, on the other hand, the universities prove willing to allow new types of degree course, to welcome new ideas and educational experiment, they will not only earn the warm gratitude of the colleges but may themselves benefit greatly from what the colleges bring to them.

UNIVERSITY AND COLLEGE STAFFS

(18) Into any such intimate relationship the colleges would bring not only students, but also staff members. (The word 'staff' is used here since it seems to be current, along with 'lecturers', in most English universities: many will prefer the implications of the word 'tutors', current in some universities and in most training colleges). It is indisputable that the academic quality of training college staff has been in general somewhat inferior to that of university staff—and this is not surprising in view of the eleemosynary treatment long given to the colleges and the low social status long accorded to the teaching profession. As in the case of students, however, the overlap is very considerable, and there are many training college tutors who are the full intellectual and academic equals of most university lecturers and the superiors of others. Moreover, as the Committee will no doubt have learned from an analysis of training college tutorial lists, the academic quality of college tutors has been rising of recent years. And, as the Committee may reasonably conclude, the best way to promote and accelerate this rise will be to allow the colleges to enter their better students for degrees.

(19) It may be objected that a university is concerned not only with teaching but also with research, and so it should be. Conditions of work in many training colleges have in the past made it very difficult for their tutors to find much time for research, yet some have succeeded in producing work of high quality. Your witness hopes that the Committee will make a strong recommendation that all training colleges should in every way encourage and facilitate research by their tutors, and that all universities should allow training college tutors to enter for higher degrees on terms similar to those offered to university lecturers rather than on the terms offered as newly graduated Bachelors.

UNIVERSITY RECOGNITION OF CERTIFICATE QUALIFICATIONS AND COLLEGE RESIDENCE

(20) No doubt there will always be a considerable number of training college students who do not, during their three years at college, reach the standard required for a degree either of traditional type or of the new type envisaged above. Nevertheless, they will reach a not negligible academic standard, and this should be recognised by the university in varying ways according to the standard reached.

(21) The barest minimum concession, which it is astonishing to realise has not been made universally long ago, in that the securing of a Teachers' Certificate should be recognised as meeting matriculation requirements. That a certificate awarded after two or three years' full-time post-sixth form study should not be accepted by some universities as at least the equivalent of matriculation would be incredible if it were not irrefutably true.

(22) A college student who satisfactorily completes a three-year certificate course should, in your witness's opinion, be eligible for one year's remission of normal degree study requirements, while a student who obtains distinction at Advanced Main Level in the certificate should be eligible for two years' remission of degree study. The operative phrase here is 'eligible for'—that is to say, eligible by regulation: it would still remain for the case of each individual student's admission to a degree course to be considered by the university and faculty concerned in the light of the nature of the particular degree course and the quality of the particular student.

(23) Where a university has certain residential qualifications for graduation, the training colleges in its area might be recognised as Halls of Residence for this purpose—this, of course, being a matter quite separate from that of admission to degree examinations or remission from degree courses.

ORGANISATIONAL CONNECTIONS BETWEEN UNIVERSITIES AND TRAINING COLLEGES

(24) All the advances adumbrated above could be achieved without any revolutionary new ideas of organisational connections, but simply by giving full effect to what the McNair Committee recommended long ago. It seems sometimes to be forgotten that the McNair 'Scheme A' recommendations were not for 'Institutes of Education', serving to keep the training colleges uncomfortably on the outside fringe of the universities, but for 'Schools of Education' which would bring them into really close relationship. Your witness hopes that this reform will now be made into a reality.

(25) If the university departments of education and the training colleges were made constituents of a genuine School (or Faculty) of Education, there could be achieved a situation very similar to that which applies in the case of the London medical schools. These, it should be remembered, contain many students who take a professional examination rather than a degree at the conclusion of their course, but this is not allowed to stand in the way of their students' becoming members of the university, or to prevent graduation by those students who successfully pass the degree examinations. A very similar arrangement could work with the training colleges—the universities exercising a similar careful watch on standards of academic work, appointment of lecturing staff, etc.

(26) If the universities were dubious about admitting to degree examinations students who had been taught by college tutors, the situation could quite simply be met by applying the London 'recognised teacher' procedure. Those college tutors who, after consideration of their academic qualifications, etc., were recognised as of quality equivalent to the usual university lecturer quality (and there would be many such) could submit students for degrees: those to whom such recognition was denied could not. In this way, the colleges could retain a large measure of academic autonomy while the universities could retain control over the academic standards of those who wished their students to enter for degrees.

(27) Recognised teachers on the college staffs would be eligible to sit on the appropriate university boards of studies, either in Education or in other faculty subjects, and this would bring about a most desirable cross-fertilisation of minds.

LIBERAL ARTS COLLEGES OR FACULTIES OF LIBERAL ARTS

(28) It has been suggested that the training colleges might form the nuclei of a new type of higher education institution (new, that is, to England)—the Liberal Arts College. In some ways this is a very attractive proposition, but there are some serious difficulties in the way of the proposal. Your witness believes, however, that there is a means of securing the advantages without the disadvantages.

(29) The teachers' colleges or colleges of education (either of which titles is more suitable than the traditional 'training college') have built up through the years a most valuable sense of clear purpose, in much the same manner as have the medical schools and other professionally orientated university departments. It would be a great loss if this clear sense were to be submerged in an *omnium gatherum* of 'liberal arts' courses, which might tend not to elevate the colleges into university institutions of special type but rather to depress them into sub-university super-sixth forms. What is needed is some means of maintaining this clear orientation towards pedagogy, whilst encouraging close connections with the other university faculties and allowing college membership to others than prospective school teachers.

(30) This could be achieved by the formation, not of Liberal Arts Colleges, but rather of Faculties of Liberal Arts. Such a Faculty, with a Dean appointed by Senate, would consist of those university lecturers who were specially concerned



Dr. Cyril Bibby

with teaching for general degrees and those college lecturers who were recognised teachers of the university for degree purposes. Its students would be those reading for general degrees, whether in one or more of the traditional university faculties or in one of the constituent colleges of the School of Education. In this way, the delay which would be inevitable if new Liberal Arts Colleges were started from scratch, and the confusion of purpose which would be probable if the training colleges were converted into Liberal Arts Colleges, would both be avoided. If such a Faculty of Liberal Arts were established, there would no doubt gradually develop a tendency for students intending to undertake a para-pedagogic profession to enrol in the training colleges, since they would there find some community of interest with both students and staff. One thinks, for example, of prospective librarians, social workers, health educators, etc. who would widen the teachers' colleges without destroying their general sense of direction. In some cases, as for example with social workers, the student might be a student both of the training college and of the relevant university subject department.

(31) In such a context, a new general title would have to be found to replace the phrase 'training college'. The most appropriate would seem to be 'College of Education'.

THE FUTURE OF THE UNIVERSITY DEPARTMENTS OF EDUCATION

(32) It is clear, whether or not specific proposals such as those urged above are adopted, that the old rigid distinction between the 'Colleges of Education' and the 'Departments of Education' is about to dissolve, for an increasing number of graduates are to receive postgraduate professional preparation in the colleges, and the basis of the old distinction is thereby undermined.

(33) In view of this, it has been suggested that the Departments of Education should now abandon professional training and devote themselves entirely to research. Your witness believes that this would be highly undesirable, since there is already some tendency for educational research to be remote from reality and such an abandonment would encourage the tendency. Moreover, there is a tendency for more educational research to be done in the Colleges of Education, and this tendency should be encouraged. The logic of the situation, therefore, demands, not that the Departments should abandon professional training to the Colleges, or that the Colleges should abandon research to the Departments, but that both College of Education and Department of Education should approximate so closely as to be virtually indistinguishable. In such circumstances, the Department would in effect become one of the Colleges within the School of Education, and it might be wise for it actually to be called 'College' rather than 'Department'.

MISCELLANEOUS MATTERS

(34) Although this evidence is concerned mainly with relations between the universities and the training colleges, there are also several miscellaneous matters upon which brief comments may be helpful.

(35) One of these concerns the government of training colleges, which for mainly historical reasons are still administered by the local education authorities or by the voluntary bodies which originally founded them. In the present situation, with the colleges' finances coming from a central pool, it seems that each college's governing body should be reconstituted along something like the following lines: representatives of the founding body, representatives of the university, representatives of all local education authorities whose schools are substantially used for teaching practice, representatives of the teachers in the schools of each such authority, several members co-opted from the neighbouring community at large, the Principal of the College, representatives of the tutorial staff of the College.

(36) Another matter concerns the internal government of training colleges. Academic policy, subject in certain respects to the University and its School of Education and its Faculty of General Studies, should be decided by an Academic Board consisting of all full-time tutors in the College, rather than by the Principal alone. This is in

effect already the case in most colleges, where relations between Principal and tutors are of a democratic nature, but it would be wise to make it a formal constitutional requirement.

(37) Yet another matter concerns the financing of training colleges. The time seems ripe for the establishment of a Training Colleges Grants Committee, perhaps as a sector of the University Grants Committee. But it is important that, with the establishment of such a committee, no element of remoteness should be introduced which would prevent the Principal from personally presenting and being able to speak during discussion of the colleges' financial estimates. Within whatever estimates are approved, the colleges should be allowed the same freedom of spending, and the same freedom in methods of purchase, as are at present enjoyed by the universities.

(38) Finally (but this is not a matter to which your witness has given any prolonged thought or upon which he has any very strong views) the Committee may care to consider whether it would not be wise to recommend the establishment of a Ministry of Higher Education, which would be responsible for co-ordination between—and answerable to Parliament for—all forms of full-time post-secondary school education beyond the age of eighteen.

CONCLUSION

(39) The Committee is thanked for this opportunity to present evidence, which it is hoped will be of some help to the Committee in its vitally important deliberations.

Note. The above evidence is submitted by your witness in his personal capacity and in no way commits his College, University or Local Education Authority.

ORAL EVIDENCE

given by

DR. CYRIL BIBBY

Wednesday, 18th October, 1961

Mr. Shearman: I must start by saying how extremely interesting I, and I am sure everybody else, found it to have these points of view put so cogently. Could you please elaborate a little on one point you made fairly early on about the range of student ability? You say a fair number of college students are intellectually superior to a fair number of university students. You point to a clear overlap and go on to state the argument against people having to fall back on an external degree to get their qualifications. I follow the case for throwing open the university course to such students. But what about the other students? We have been told that there are a good many students in training colleges to whom a university degree, even an Education course, might not be the best thing. Do you agree, or would you say that the general training college population could be fitted in to a more university type of organisation with Education recognised as a subject in its own right, with practice included? Would you say that would cover in fact the bulk of training college students, or are you arguing this on the basis of more or less the select best of them?

Dr. Bibby: The first point on which I should like to enlarge is that in the use of the phrase 'intellectually superior' I chose my words deliberately. It is no accident that I used that phrase and not the phrase 'equal or higher number of G.C.E. passes'. In so far as one can judge the intellectual status by G.C.E. qualification one is not depending on anybody's opinions. There are statistical data showing that rather more than a third of college students at present have that level of G.C.E. passes which would qualify them to enter upon a degree in most universities. I was meaning something more than that, because in fact I do not think that the G.C.E. 'A' level basis is a reliable indicator of intellectual ability. In general of course it is so, but I have had many students through the years

who have taken a subject at 'A' level and perhaps just failed in it, but during the three years have left me in no doubt that they are superior to some of those who come with 'A' level passes. This is a subjective judgment but perhaps you would allow me to add that I do not think that this opinion is purely subjective. It happens that in my former college, where we taught degree and certificate students side by side in the same laboratories, I had an opportunity of making through the years direct comparisons of those who were qualified by London regulations to take degrees, and those who were not. In my memorandum I was putting forward suggestions which seemed to me to be practicable within the academic framework and climate of opinion of England. If I were to say what I think in the abstract on this matter, without reference to its practicability as a thing your Committee might perhaps care to recommend, I do not object to the possibility of people having letters after their name even if they represent a lower level than degrees in this country have usually represented in recent years. In principle I do not object to the idea of a degree being more or less defined as the standard of entry to one of the major professions, and therefore I would not object in fact to a degree, whether under a new or an old name, which with a normal failure rate one would expect most training colleges students to take. I have no objection to this in principle, but I can see such possibility of strong opposition to it, that in my memorandum I wrote in terms of the present feeling that a degree should be a selective degree, and on that basis I would assume that in three or four years' time—the standard is going up rapidly—about 50 per cent. of training college students would be of an academic and intellectual level to warrant a degree at what is at present recognised as minimum degree level. The figure of 50 per cent. is only an impression I have, but it is a

strong impression. But I have used the phrase 'of present degree level' deliberately. This is something different from taking existing degrees.

Chairman: May I put to you a very frank question? How far is what you say true of the whole range of training colleges? One knows of distinguished people associated with training colleges. But to what extent must an outsider like myself regard them as representative?

Dr. Bibby: I can best answer that in three stages. Firstly, if you had asked me that question two years ago, at which time my direct experience, apart from that of an examiner, was confined to a London college which counts itself as an aristocrat among the training colleges, my reply would have been: I am a little dubious whether this extends outside half a dozen colleges. On the present position I can only say that when I went to Hull I was aware that it was not a college of any outstanding academic reputation; it was fairly typical of the small provincial colleges. Half of the present tutors, whom you met during your visit to the college and who, I gather, impressed you, have been recruited during the last two years as the college has doubled in size. Everything depends on staffing. The educational grapevine is effective, and, once a college has tutorial staff of high quality, the students begin to come in. One cannot go entirely by academic qualifications—nevertheless, in tutors as in students, although there are exceptions, it is an average indicator. Of the ten people who have actually arrived at the college since I was appointed, the fact that eight of them have higher degrees, three of them doctorates and one of those doctorates is a higher doctorate, indicates that it is possible for a college which had not been specially outstanding to move very rapidly indeed to the sort of level of staffing which a university would reasonably expect in a college which was coming into intimate relationship.

Chairman: One must always beware of the fallacy of comparisons, and what can be done by extraordinary efforts in one place is not necessarily typical of the pace at which you hope to advance all along the line. Do you

feel that this is a real problem in the training colleges?

Dr. Bibby: That is true, Sir, and brings me to my third point—a prognosis which can of course only be one person's guess. I am personally confident from my knowledge of training colleges that there are twenty-five or thirty colleges which are moving rather rapidly in this direction. I would expect in three years' time to find perhaps a third of the colleges of the country have no need to count themselves as inferior in staffing to any ordinary university department.

Chairman: I would like to press this a bit further, and you must not infer that I am speaking from a mind made up or committed to anything at all, but would you say that any recommendation that we make ought to apply to all training colleges? I am not trying to put over a fast one. It is just a problem. I will tell you how I was led to formulate it. Education is organised in tiers. Should there be a similar variation in the status as regards degrees, connections with universities and so forth for the training colleges?

Dr. Bibby: I hope very much that the Committee will find it possible to make recommendations applying to all. If the Committee did so, and if the recommendations were, as I hope, on the lines of much fuller acceptance by universities, I think this would mean that some training colleges would, as it were, be let in easily. Perhaps some colleges which scarcely deserve being brought in, might get in on the strength of the others. But the alternative, which would be to split the training colleges, as it were, into the cream and the skimmed milk, would be so disastrous in its general effect that I would go so far as to say that, rather than that, I would prefer the better colleges to continue putting up with present injustices.

Chairman: Yes, but it is not absolutely as clear-cut as that, is it? You think that some training colleges could take on preparations for para-pedagogic professions. You speak of prospective librarians and social workers, of health education and so on. It may be that it would be administratively imprudent to have this sort of extension all

round. Supposing that developments on these lines were to take place, would there not arise a certain natural distinction between the colleges that did such work and the colleges that did not? There would be some difference in recruiting, would there not?

Dr. Bibby: Yes. I have evidently failed to make my point clear. Not only do colleges at present vary in quality in all sorts of ways—I think there is little doubt they will continue to do so. What I am hoping is that, in terms of administration and regulation, there would be no distinction drawn. After all, the same sort of distinction applies in the university world. University A is commonly regarded as rather better than B and both than Z: this does not prevent their all being within the structure of the University Grants Committee. I think one would find some colleges in which perhaps 70 per cent. of the students might take a degree of one sort or another, colleges in which it might be as low as 10 per cent., and there might be some, because of remoteness or for other reasons, where it was impracticable to do it at all. You might find some putting on para-pedagogic courses, and others not. I only hope there would be no administrative, legalistic or status difference to prohibit any one college from doing what it could.

Chairman: But supposing a small college in the wilds, if there be such, were to start putting on courses other than for teaching and the prospect was that there would be perhaps two-and-a-half students per course, one would imagine that whatever authority was controlling the finances would perhaps say: this is not a suitable thing for you to do. That you would not object to?

Dr. Bibby: No, Sir. Indeed I would go further than saying I would not object to it, though I ought to say that by no means all my colleagues in training colleges agree with me. It seems to me to be reasonable that there should be some central authority which recognises, or refuses to recognise, courses. I do not regard this as any infringement of academic autonomy. There has to be some sort of rational national pattern.

Mr. Shearman: There are other possible difficulties in the way of the

general pattern which you advocate, that is an association of the training colleges with the university, perhaps through a faculty of liberal arts. I would like to know your reaction to the view which has been taken by some witnesses that it would be a mistake to divert the training colleges with their special kind of experience into the university world, that it would be cramping for them. Moreover many of the training colleges are remote; many of them small and many of them women's colleges; we have been told by some witnesses that you have to treat women's education in a different way from men's. Do you think any of those factors are obstacles to the pattern you desire?

Dr. Bibby: They are obstacles but I think they could be overcome. First, I share, and would express very strongly my agreement with, the view that merely to bring the colleges into the existing university degree structure would be so damaging to the good features of the colleges that, if those were the only terms on which they could get degrees, I would rather they said to the universities: we can do without you. Even in the colleges with a difficult and rather cheap history and the colleges which have been academically weaker, about which you were probing a moment ago, the one feature which has always stood out like a good deed in a wicked world is this crystal-clear sense of vocation and devotion to education. Anything which made education anything other than a central feature would be—I do not think it is an exaggeration to use the word—disastrous. So I share very strongly the view that merely to bring the colleges into the existing university degree set-up would be a calamity.

Mr. Shearman: We find that feeling very widespread. But is there another side to the medal, the university contribution? The claim is that a university treats people as adults and gets them to think, and it is sometimes said that some of the training colleges treat students as children.

Dr. Bibby: I think it is a generalisation, which is, if I may say so, too easily made. The colleges and the universities vary greatly in all these matters and there are universities which do not treat their students in as adult a

manner as many training colleges I know. I am not referring to all training colleges. Admittedly there are some training colleges which have some ridiculous restrictions and anything this Committee can do to shake them into the modern world will be good. But I do not accept the view that, in the main, the training colleges treat their students as children. Moreover, if you compare the rules which are common in women's training colleges with the women's halls of residence in various redbrick universities. I do not think the training colleges come out badly. You have to combine university rules plus the women's hall rules in order to get a fair comparison with the training college rules.

Chairman: Would you feel universities were trying to invade your territory if they were themselves to set up degrees in which Education was one subject, and there were, say, another two?

Dr. Bibby: No. If one were setting out from scratch to plan a university, it would be ludicrous to have such duplication, but one never does; one starts from an existing situation.

Mr. Shearman: We are setting out from scratch at this moment. Certain new universities are being created.

Dr. Bibby: In this case, since I would hope Departments of Education would increasingly develop a realistic form of professional preparation and that the colleges would increasingly do educational research, I would hope for a situation in which a Department of Education is virtually indistinguishable from the training colleges and therefore, if one were setting up from scratch, I would not think there was any case for a Department of Education of the present type. This exists only for certain historic reasons, which were that in the 1890s a day training college was needed as an alternative to the residential colleges. Day training departments did not become established because it was felt that there should be a university department as distinct from a training college, but because it was felt that there was a need for a day training college. If it had not been for the liberality, as it seems to me, of the London County

Council, in its relations with the London Day Training Department, I doubt whether university Departments of Education on their present pattern would have spread through the country. The Departments of Education are a sort of accidental outcome of the liberality with which the L.C.C. treated the Day Training Department. But in fact, there is a department, in most universities. I think they should become another College of Education as part of the School or Faculty of Education.

Mr. Shearman: Do you then think most of the universities took the wrong turning after McNair?

Dr. Bibby: I think they took the right turn, all except Cambridge, but I think they just turned and then stopped. It was right to have a university form of organisation, but universities have scarcely begun to implement what the McNair Committee recommended.

Chairman: I asked my question on this point, because I have observed in the plans for one of the new universities that Education is specifically recommended as one of the degree subjects. Presumably that would involve setting up internal arrangements to look after it on the sort of lines indicated in other parts of your paper.

Dr. Bibby: I welcome that, Sir. There are two separate questions: the one is the professional preparation of people who at the age of eighteen have already decided they will be teachers; the other is the question of Education as university study. I do not think that these are the same questions and I would welcome, in all universities, Education as a subject in a degree, available to people whether or not they intend to become teachers.

Chairman: I fancy that may have been at the back of the minds of the people who prepared the plan I mentioned.

Dr. Bibby: There are many people, social workers and so on, for whom Education as one subject would be valuable.

Chairman: May we pass for a moment to a related subject which we have touched on in our talk? We have been told that the professional training

which graduates take before going into a school does not seem to work at all well. We have heard that students have been keyed up to the standard of their final examinations and when they go on to a Department of Education they all complain of a sense of anticlimax. What has to be done about that?

Dr. Bibby: So far as my experience goes—it is, in this field, less than in others—I can only agree that there is a very widespread feeling among post-graduate students that the one year is a come-down. One thing which can be done to correct it is already being done by the Ministry, that is the establishment of more such courses within the training colleges. I do not want you to misunderstand me about this. I am not saying that the training colleges are perfect in the matter; but in so far as this one-year course is done in a Department of Education in which nobody remains for more than one year and each year of students has gone before the next year of students arrives, it is virtually impossible to establish a continuing attitude. The mere fact of a one-year course being done within a college where there is a three-year continuum of students improves the whole milieu in which the course is done. Again I would like to refer to experience in one particular college. I realise again that this is unusual and not typical; but it is an indicator. In St. Mark's there was also a sort of miniature Department of Education; that is to say, apart from those doing degrees and certificates on a four-year course, we had a one-year course for graduates coming from other universities. I took a small part in that course and also in a one-year course in a university Department of Education in London. The difference of attitude of the students was remarkable. On the average the students at St. Mark's were slightly inferior academically. Generally people only come through to training colleges if they just did not get into a university Department. But nevertheless the whole attitude was better. Moreover, there is the fact that whereas the training college staff have been open to criticism mainly on the ground of academic quality and lack of fresh study and research, I think university Department staff,

while perhaps not open to criticism on that ground, have been open to the other criticism that a university Department may have very few members of staff who have had any experience in the schools at all. I ask myself what medical students would say if they did their basic physiology and anatomy in the science faculties and then went into a Medical Department where none of those teaching surgery had ever done an operation.

Mr. Shearman: I think what you are saying is very interesting. I have a little knowledge of this; Westminster College had the same kind of pattern. But we have been told that in Scotland, where it is compulsory for people to go from university to get their training in a training college, there is a good deal of resentment of that among the students, so that perhaps whichever way you go, it is difficult.

Dr. Bibby: But there is a difference there, is there not, in that the Scottish training centres are set up as something quite distinct from the university, except that at Moray House there is a Chair attached? What I am hoping this Committee would recommend would not lead to the Scottish situation. It would lead to the college being incorporated in a School of Education, and not the sharp distinction which exists in Scotland.

Mr. Shearman: I think it is clear that your proposals are not for either of those two extremes.

Dr. Bibby: I would like to add that for students in general both concurrent and consecutive training must be provided, because some people at the age of eighteen have made up their minds to be teachers and others have not. I am in little doubt that the concurrent method is better, but clearly it could not be applied to people who have not made up their minds. I would press that strongly.

There are one or two other points mentioned in the note on the scope of the Committee's enquiry on which I should like to say a word if I may. They ask how the selection procedure and present courses in higher education affect the curriculum of the schools? I do not want to be alarmist,

but I think it affects the schools catastrophically. The extent to which children in our grammar schools are being forced, not merely to specialisation in the upper sixth, but to specialisation at the age of thirteen, with a view to what they need to do later in the upper sixth, is catastrophic. This is in the main brought about, not by university entrance requirements, though I am not entirely happy about them, but by faculty requirements. A person is not allowed to do chemistry unless he has got 'A' level chemistry and he therefore has to start at thirteen—catastrophic is not too strong a word. In many schools anything like a suitable education for children up to seventeen or so is impossible. This is because of the university and faculty admission requirements and selection methods.

Chairman: If your point of view is accepted how does one get this righted?

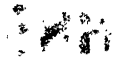
Dr. Bibby: I think one has to differentiate between universities. It is not mere piety when I say that, so far as I know, the university to which this criticism applies less than to any other is Cambridge, not of course that its selection is any easier. Indeed, as every schoolteacher knows, it is very much to the contrary. But the almost complete absence of faculty requirements makes it possible for people to get admission on their general 'A' level results, interview and so on, without having already, several years before, had to work at the right combination of sixth form subjects, so that they have the right combination of 'A' levels to take a particular course. This is why I think it is not merely a question of university standards; it is the multiplicity of faculty requirements that is the real evil. I would suggest that one way to help to get rid of this is to persuade the universities to maintain whatever standard of entry they think proper, but to abandon faculty requirements, and for those who are teaching in the universities to be prepared to take students of proven intellectual ability into their course, even if they have not got an 'A' level in a particular

subject. Neither Darwin nor Newton would get into a science faculty nowadays.

Chairman: It is not easy for any particular faculty to take the initiative. The faculty of Economics in London abolished all faculty requirements. The result was, I think, that a rather high proportion of not altogether suitable people crowded in, simply because it was easier.

Dr. Bibby: That is one factor, I agree. Another big question raised in the Committee's notes was whether there are special difficulties in higher education for women. It is my hope that the Committee will draw attention to the most blatant difficulty in all this, which is that two of our universities almost entirely fail to make adequate provision for women and keep the women in a minute minority, limited in number by university statute, and, in my own university—the university which a moment ago I was congratulating on its tripos system—I think the attitude to women's education is scandalous. I am thinking not only of the unfairness to the women but equally of the unsuitability of such a ten-to-one sex ratio for the men. I cannot see why half the men's colleges of Oxford and Cambridge should not become mixed colleges. The only way in which Cambridge, and I think the same applies to Oxford, could begin to meet this difficulty in the way of women, short of doubling the size of the university, which I think would be wrong, is for them to make a number of their colleges mixed colleges.

One last point, Sir, is that internal self-government is a matter that you refer to, and I have expressed the hope that the Committee will urge that those training colleges where it is not already done will be pressed to introduce more internal democracy. I did so because I am particularly concerned with training colleges. I would, however, like to point out that the overwhelming majority of training colleges are already much more democratically self-governing internally than the majority of universities, and that what I have said about training colleges ought to be said with ten times the strength about many



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universities where very few of the staff below professorial level have any control whatever. The criticism of lack of democracy that I am making of the training colleges is only because I want the training college to improve,

but compared with many of the universities I think training colleges are models of internal democracy.

Chairman: Thank you very much indeed.

