The development of Higher Education at Loughborough, 1951–1966

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THE DEVELOPMENT OF HIGHER EDUCATION
AT LOUGHBOROUGH, 1951-1966

by

GEOFFREY FRANK MATTHEWS, M.A.

'A Doctoral Thesis'

Submitted in partial fulfilment of the requirements for the award of

the Degree of Doctor of Philosophy
of the Loughborough University of Technology
April 1973

Supervisor: Professor L. M. CANTOR, M.A.
Department of Education

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SUMMARY

This thesis presents an historical analysis of the development of higher education at Loughborough during the important period between Herbert Schofield's retirement and the granting of university status to Loughborough College of Technology. Since major changes occurred in government policy for higher education between 1951 and 1966, local factors are related to the national context.

The thesis is set out in four main sections. Part I provides a background survey of Loughborough College and considers why the institution broke up into separate colleges. Part II examines Loughborough College of Technology before and after its designation as a College of Advanced Technology (CAT). The national significance of the CATs in the development of higher technological education is analysed, as well as the contribution of the National Council for Technological Awards and the Diploma in Technology. This section concludes by examining the transitional phase preceding university status. Part III, on Loughborough College of Education, considers its special contribution in handicraft and physical education and discusses the significance of lengthening the Certificate Course in teacher education. There follows an account of the College's growth after the Robbins Report, with an assessment of the importance of the B.Ed. degree. Part IV, dealing with Loughborough College of Art, examines its particular achievements in applied art and makes an evaluation of the National Diploma in Design. It then analyses how the College became recognised for the Diploma in Art and Design, and discusses the significance of this award for advanced art education. The conclusion
evaluates the most important factors in the local development of higher education during the period, as well as considering national trends.

The thesis is based upon the author's own research into original sources, supplemented by secondary material, as indicated in Appendix A.
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I am indebted to a large number of people who, in a variety of ways, have helped me to prepare this thesis. The study of recent history can be greatly enriched by the personal recollections of individuals involved in the events under review: in this respect I have been particularly fortunate. At the local level, many people found time for extended personal interviews and the candour which marked these discussions added significantly to their value. I would like to record my deep appreciation particularly to the following: Dr H. L. Haslegrave, Mr J. W. Bridgeman, Dr S. C. Mason, Mr J. W. S. Hardie and Mr E. Sharp. For stimulating conversations on the national issues related to the period of study, I wish especially to thank Sir Peter Venables, Sir Cyril English and Dr S. C. Mason.

I would like to pay special tribute to my supervisor, Professor Leonard M. Cantor, for his wise counsel, constant encouragement and his willingness to devote so much time to reading and discussing my work.

In the sifting of the large amount of local documentary material used, I am very grateful to those who helped ease my task. Mr F. L. Roberts and Mr R. H. Gower, the Registrars respectively of the University and the College of Education at Loughborough, readily facilitated my examination of the records and minutes in their keeping, as well as being helpful in personal discussion. My thanks go also to Mr E. Sharp for enabling me to consult the institutional documents held at the College of Art and Design.

I am pleased to express my gratitude to the staffs of the following record offices and libraries for their patient
attention to all my requests for material: the Leicestershire Record Office, the Public Record Office, the Departmental Record Office of the Department of Education and Science (DES), the Library of the DES, the Library of Loughborough College of Education, and the Library of Loughborough University of Technology.

For the preparation of the figures and plates I would like to record my appreciation to Mr A. J. Brickwood and Mr M. Frost respectively.

Finally, I would like to thank my wife for all the secretarial work she has undertaken in connection with this thesis and perhaps even more for her encouragement throughout the period of my research.
PART ONE

THE BACKGROUND
CHAPTER I

Loughborough College: the legacy of Herbert Schofield

An essential prerequisite for a study of the development of the institutions of higher education at Loughborough is an examination of the origins and evolution of Loughborough College, for it is from this remarkable parent that the University of Technology, the College of Education and the College of Art and Design have grown. That post-school education should have developed at Loughborough on the scale and intensity that it did has been the subject of surprised comment. Few would dissent from Professor A. J. Allaway's judgment, when writing of the origins of the old College, that 'Loughborough is, after all, only a relatively small town, where the development of a great technical College with a national reputation could scarcely have been expected by the most sanguine educationists before the First World War.'¹

An East Midlands town, Loughborough had a population in 1901 of 21,500, but though modest in size its industrial growth was quite impressive. The hosiery industry had developed on a factory-basis in the town during the nineteenth century and at the end of the century large-scale engineering industry appeared. In 1889, the Brush Electrical Engineering Company came to the town, followed in 1900 by Herbert Morris Ltd, manufacturers of cranes and lifting tackle. These two major engineering companies soon acquired international reputations. Thus, although possessing the characteristics of a Leicestershire market town, Loughborough also had an important industrial aspect in its development. This was a valuable factor in creating the

possibilities for growth in technical education in the town.

Another and more important factor was the Education Act of 1902, by which the provision of technical education (previously carried out by technical education committees) was re-organised, becoming the responsibility of the new local education authorities. This had significant effects in Leicestershire, as elsewhere. The new arrangements did not lead to an immediate increase in material facilities in technical education but rather to a rationalization of existing resources. In particular the varied work of the Evening Schools could be co-ordinated by the local education authorities. It was in the context of this new legislation that in 1903 William Brockington became the first Director of Education for Leicestershire. A man of exceptional administrative ability and wide educational vision, his appointment proved to be of considerable significance in the development of technical education in the county, especially at Loughborough. The problem of finding permanent accommodation for adult technical classes in the town was solved in 1909 when Loughborough Corporation handed over to the County Education Committee premises near the town centre which had previously been used as municipal offices. The history of Loughborough Technical Institute may be said to begin with this development. The Governing Body of the Institute was energetic and had as one of its members Sir William Abney, by then retired but formerly a Director of the Science and Art Department at South Kensington.

That Loughborough Technical Institute, though just established

2. Brockington, knighted in 1946, was Director from 1903-47. His remarkable career, both in regard to the county and Loughborough, is admirably analysed in M. Seaborne's article 'William Brockington', in B. Simon, ed., 'Education in Leicestershire (1540-1940)', Leicester, 1968, pp 195-224.
3. See Allaway, op. cit.
in a small town and on a modest scale, nevertheless attracted considerable interest is indicated by the 157 applications for the post of Principal. The man appointed was Samuel Charles Laws, M.A., B.Sc., who remained Principal until 1915. Since Laws represents the pre-Schofield period his work at Loughborough has tended to stand in the shadows of his successor's remarkable achievements. But Schofield was fortunate in that he inherited a well-organised and efficient Institute, and one which derived strong support from local industry. Indeed, a Report of H.M. Inspectorate of 1913 declared, 'The growth ... and the general character of the instruction itself are matters for congratulation.'

The main function of the Technical Institute was to co-ordinate science, art and technical classes in the town, especially evening classes in engineering. Within the Institute was a School of Art, with a full-time Art Master. In 1910, the Institute had 468 students, most of them being part-time evening students. The Institute grew and developed on sound foundations during the Principalship of Samuel Laws; its evolution, however, was orthodox. As Professor Allaway comments, 'It looked as though Loughborough would soon possess a local technical institution appropriate to the size of the town.' But two events changed this pattern, firstly the coming of the First World War and secondly a change of Principal. Given the character and

1. See Minutes of first Governors' Meeting, 21 July 1909, Loughborough College Governors' Minutes, Leicestershire Record Office (hereafter LRO).
2. See Minutes of College Governors, 30 September 1912.
3. See Governors' Minutes, 8 September 1913.
5. Laws went on to a distinguished career in technical education, becoming Principal of the Northampton Polytechnic, London. He was a member of the Special Committee on Higher Technological Education, which produced the 'Percy Report' of 1945.
6. See Allaway, op. cit. p 262.
enterprize of Herbert Schofield it is likely that unorthodox methods would have been used to reshape Loughborough Technical Institute: but the unexpected and very rapid growth of the institution along radically new lines was made possible by the war, in particular by the 'shells crisis' of 1915.¹

In June, 1915, Laws resigned and he was replaced as Principal by Herbert Schofield. A dynamic young Yorkshireman,² Schofield proved to have exceptional abilities including an unorthodox view of how to train personnel for industry. In one sense, it can be regarded as a fortunate historical accident that the very year which brought Schofield to Loughborough co-incided with the great munitions crisis of the First World War. The congruence of events did not end there. The Governors of the Technical Institute, before Schofield's arrival, were zealous to do everything in their power to assist in the overcoming of the national munitions shortage. The official explanation, given in a publica- tion of the Leicestershire Education Committee states, 'When the urgent need for an increased supply of munitions led to a general expansion of manufacture throughout the country, Alderman Bumpus, the then Chairman of the Institute, and Mr W. A. Brockington, the Director of Education for the County, pledged their personal credit in Birmingham and procured a number of capstan lathes and other equipment, with a view to turning out shell-bodies.' Then,

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2. Herbert Schofield, (1882-1963), C.B.E., Ph.D., B.Sc., A.R.C.S., D.I.C. Born in Halifax, he was educated locally and then at the Royal College of Science. In a brilliant academic career, he collected Royal and Carnegie Scholarships, a Whitworth Exhibition, and was the first student to be awarded the Diploma of the Imperial College. He became President of the Institution of Production Engineers and Chairman of the Council of the Association of Technical Institutions, as well as being a member of the Committee which produced the Spens Report. His Principalship at Loughborough lasted from 1915 until 1950.
in an important point of emphasis, the statement goes on, 'A little later, after the appointment of Dr Schofield as Principal of the Institute, a novel scheme was laid before the Ministry of Munitions for the training of semi-skilled engineering workers.'

Thus Herbert Schofield arrived at Loughborough with the two most important Governors of the Institute anxious to assist above and beyond what was officially required of them to alleviate the munitions shortage. Furthermore, the Institute had been developed on sound lines by his predecessor. The national climate with David Lloyd George as Minister of Munitions was favourable to radical improvisations. With his sharp eye for new initiatives, his willingness to experiment and his tremendous energy, Schofield saw immediately the exceptional opportunities which suddenly and unexpectedly confronted his small, local institute.

Schofield was well-equipped to seize these opportunities. He had original ideas about industrial training, he had already demonstrated his exceptional academic gifts at the Imperial College of Science and Technology and he possessed valuable experience of the administration of technical institutions.

More important, perhaps, his character and outlook combined in an unusual way a practical view of education with a well-developed business acumen. One might say that Loughborough Technical Institute in the particular circumstances of 1915 surprisingly

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1. See the report on 'Loughborough College', published by the Leicestershire Education Committee, 1947, Archives, LUT. There are 'unofficial' interpretations of the initial response by Brockington and Bumpus to the munitions problem, in which Schofield is described as a co-initiator. This latter interpretation is presented in 'The History of Loughborough College, 1915-52', published by the Past Students' Association, 1957, and is followed by Seaborne, op. cit., and by F. E. Foden, in 'Herbert Schofield and Loughborough College', Vocational Aspect of Secondary and Further Education, Vol 15, No 32, November 1963, pp 231-46.

2. Prior to his Loughborough appointment, he had been Principal of the School of Science and Technology, Dover.
PLATE 1. A view taken in 1973 of part of the central site in the town used formerly by Loughborough College.
represented an embryo institution of considerable potential. What it needed was ideas: Schofield provided these and also the motive force to convert them into reality.

On the particular question of how to train unskilled workers to become shell-turners, Schofield had novel ideas. He had already seen the methods used by London County Council at the Shoreditch Technical Institute and had not been convinced of their validity.¹ Much has been written of Herbert Schofield's innovations in the context of 'training on production', the essential concept by which his Technical Institute successfully solved the problem of training munitions workers and the method which later gave to the work of Loughborough College its distinctive ethos and character. Fortunately, Schofield himself defined the method in an Association of Technical Institutions paper: 'The principle adopted was that in order to train a worker effectively to take his or her place in a factory, the training must be conducted on factory lines so that the learner should gain experience by the actual production of useful material capable of passing every requisite test for accuracy of workmanship. The adoption of this principle led to the systematic development of the whole of the training department as parts of a single organisation conducted on manufacturing lines - in fact, as a model engineering factory.'²

The Ministry of Munitions quickly backed this original approach. On 20 December 1915, the Chairman of the Governors reported that, 'the Minister of Munitions had requested that classes should be formed in the Institute for Munition workers and arrangements were now being made.'³ Schofield himself was so

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¹ See Foden, op. cit.
³ Minutes of College Governors, 20 December 1915, LRO.
busy with the project that he was unable to attend the Governors' meeting. In January 1916, the first women trainees entered the Institute, beginning a programme which trained 2,305 munitions workers during the First World War.

The original small premises did not provide for the Instructional Factory which Schofield's concept of 'training on production' required. However, the Ministry of Munitions provided the necessary financial assistance for major expansion both of buildings and equipment. The injection of capital was massive: £250,000 by the end of the war. Thus with money provided by the Ministry of Munitions rather than the Board of Education, the Institute expanded rapidly in 1917 and 1918, acquiring machine tool workshops, a tool room, a foundry and smithy, an engine-testing laboratory, an inspection department and a drawing office. It also came to have three hostels, a canteen and a rest-room. The College Instructional Factory became a substantial production enterprise, placing munitions contracts with engineering firms all over the country. With this physical expansion went a substantial increase of academic and workshop staff.

Thus the First World War provided Schofield and his Institute with a unique opportunity for unprecedented growth, along lines unlikely to have been sanctioned by the Board of Education. With the approaching end of the war, questions clearly arose about the future role of Loughborough Technical College, as it became renamed in September 1918. Schofield was plainly set on preserving both the substantial facilities gained during the war and also the continuance of 'training on

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1. See report on 'Loughborough College', dated 1947, Leicestershire Education Committee, Archives, LUT.
2. Public recognition of the service he rendered came with the award in 1917 of the M.B.E. In the same year Brockington received the O.B.E.
3. From this time the institution was more generally known simply as Loughborough College.
production'. To buttress the latter, the Principal announced in the summer of 1918 a plan for full-time Diploma courses in Engineering of five years duration. These full-time courses were to take the form of alternate weeks spent on College academic work and training in the Workshops, thereby embodying and extending the methods already proved successful in training munitions workers. The problem of whether or not the unusual Loughborough scheme would be permitted to continue clearly posed fundamental financial and policy questions for the Board of Education, which viewed with some consternation the remarkable growth and innovation at the College.

The central issue was the survival of the Instructional Factory in the post-war period. For without it, the workshop practice essential to the development of 'training on production' courses could not be continued. Both Schofield and Brockington recognised that the retention of the Instructional Factory might prove difficult: this is shown by their joint 'Memorandum on the Future Development of Loughborough Technical College and Instructional Factory', published in November 1918 (the same month in which the war ended and the visit of H.M. Inspectors to the College took place). This remarkable document put forward the case that 'it is highly important that the staff and equipment of both College and Factory should be retained in their integrity for the purposes of Engineering Training under the most modern conditions'. ¹ Both men were understandably proud of the Loughborough achievement and argued that, 'the system of technical education which has been developed under war conditions is readily adaptable to ordinary industrial conditions and that the experience gained at Loughborough has gone far to solve problems

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¹ See 'Preliminary Memorandum on the Future Development of Loughborough Technical College and Instructional Factory', November 1918, Leics. Ed. Com., Archives, LUT.
of industrial training which have defied solution in England for a whole generation.' Recognising that the institution could no longer be considered as part of a purely local provision, the Memorandum finally made this point, 'as a national rather than local institution, it is hoped that the Board of Education will obtain the consent of the Treasury to make a special grant in aid.' However, the direct-grant solution, which was finally arrived at in 1952 was, in the event, not realizable after the First World War. But by a timely coincidence, although the Board of Education proved lukewarm about supporting the Loughborough Instructional Factory, the Ministry of Labour—faced with the problem of a large number of men whose original craft training had been interrupted by the war—was keen to use the Loughborough facilities to complete the training of craftsmen.

The attitude of the Board of Education to the College was ambiguous. The Board’s Report on the College in 1919 began, 'The remarkable developments which have taken place during the years of war ... and the altered place which the institution must occupy henceforth in the educational life of the Midland Counties as a result of this growth, appear to call for a general review of the changes that have taken place.' The Report is generally very favourable in assessing the Loughborough method of 'training on production'. It makes the point that, 'although the organisation and discipline are those of a factory, there is one important distinction to be remembered when comparing the work of the Instructional Factory with that of a factory run on a purely commercial basis. In the latter case the manufactured output is the aim of the factory, whereas the primary object of

2. Ibid.
the Instructional Factory is trained workers, and its chief activity is instruction.' The Report also explicitly recognised the changed position of the College, "It will be evident ... that the institution has been completely transformed. From an inadequately housed local technical institute it has become - so far as buildings and equipment are concerned - an important college, in which facilities for the study of the 'production' side of engineering are probably unmatched in any other educational institution in the country."\(^1\) The Report recognised the fusion that had taken place between the College and the Factory and noted with regard to the Engineering Diploma Course, 'the growth of the demand for highly-trained men who have made a special study of the manufacturing side of engineering ought to lead to important developments in a form of training which is practically new in this country, and which should go far in the direction of filling a gap which our Colleges have so far failed to provide for.'\(^2\) But the Board could not envisage providing the necessary money to ensure the continued existence of the Instructional Factory but invited instead the support, financial and advisory, of the engineering industry.

Schofield immediately took up the challenge and arranged for a major conference on the future of the College to be held in Loughborough on 14 February 1919. This conference was attended by over 100 delegates from the engineering industry and by representatives of the County Council, the Ministry of Labour and the Board of Education. The industrialists were keen for the type of engineering education provided at Loughborough to continue and a College Engineering Advisory Committee with representatives from industry and the professional institutions was

2. Ibid.
agreed. But the central problem remained that of the maintenance of the College Factory: in the context of these discussions, the Ministry of Labour (being anxious to utilize the training facilities at Loughborough) agreed to take over the running of the Instructional Factory from 1 April 1919.¹ This intervention by the Ministry of Labour, taking over the financial role previously undertaken by the Ministry of Munitions, was decisive in retaining the college factory in the immediate post-war period, such support lasting until 1923. Once again the imaginative developments at Loughborough College owed more in their continuance to departments of state other than the Board of Education. Ironically, the Board itself became interested in the value of a three year Loughborough Diploma Course for the training of ex-service officers and sent large numbers of these students to the College. At the end of 1919 there were 600 students on full-time courses.

The transitional period of Ministry of Labour support, from 1919 until 1923, enabled the full-time Diploma courses to establish themselves and to recruit ordinary students (in addition to the ex-servicemen) who wanted an advanced engineering education of a practical character. For the Loughborough Diploma courses² (broadly equivalent in academic standard to a university pass degree) embodied new and important ideas about technical education which soon acquired a measure of national as well as international recognition.

It was not only in his approach to the engineering curriculum that Herbert Schofield's conception of the nature and function of a technical college was unorthodox. He was keenly interested in the value of residential facilities and of the corporate life

1. See College Governors' Minutes, 25 February 1919, LRO.
2. Successful students at Loughborough had the right to place the distinctive letters 'D.L.C.' after their names.
these made possible for students. Given the problems of accommodation in a small town, he may have made a virtue of necessity, but there can be no doubt of his commitment to the residential ideal. He wrote, years later, of this aspect of his policy, 'the residential character of Loughborough College has been of the utmost importance in moulding its development. It would be difficult to over-emphasise this factor. As a direct result Loughborough College has approximated very closely to the university ideal in which education is not confined to the classroom and laboratory but derives also from the whole corporate life.'¹ Schofield's residential policy began with the renting of a large house in Loughborough to act as a hostel in 1918: more permanent developments began with the purchase in 1923 of 'The Grove', an imposing house on the western outskirts of the town, for use as a hall of residence (see Figure 1). The financing of this project was the result of a private effort by the staff and students of the College, since official funds were not forthcoming.

Indeed, the unorthodox financial arrangements made in respect of the Grove Hall caused the Board of Education considerable concern and not for the only time did William Brockington write explanatory letters for the benefit of the Secretary of the Board.² This important local backing of Schofield's activities was a significant factor in his various tussles with the Board: it received very valuable re-inforcement from Sir Robert Martin, a much-respected local industrialist who had joined the College Governing Body in 1922 and who became Chairman of Leicestershire County Council and its Education Committee in 1924.³ Brockington,

3. Martin was Chairman of the County Council until 1960 and was Chairman of the College Governing Body from 1940.
Figure 1. Sketch map of Loughborough showing the location of sites used by Loughborough College.
Martin and Schofield established such a close understanding that they have been referred to as the 'triumvirate'. ¹ Given the unusual fiscal arrangements in regard to some aspects of the activities of the College, ² the support of two highly respected figures buttressed Schofield's position in a very important manner. For its part, the Board of Education tended always to cast a jaundiced eye at the necessary commercial aspects of the conduct of the College. The Board view was given a classic expression in this comment by an official in 1921, "It is not an exaggeration to say that this change resembles more a 'boom' in a business house than the steady and organic development of an educational institution." ³ Despite the negative attitude of the Board, Schofield with characteristic determination and enterprise continued with his residential policy, which reached a new peak of development in the 1930s with the opening - on the College playing field site - of two completely new Halls, Rutland and Hazlerigg, each accommodating approximately 80 students in single study-bedrooms (see Figure 1). Such residential developments were highly unusual for technical colleges to undertake and indicated again the breadth of Schofield's outlook and also his large ambitions for his College.

In Schofield's view residence went hand in hand with recreational facilities and with typical vigour he set about making generous provision, particularly for physical recreation. As early as 1919 he turned his attention to the acquiring of playing fields, persuading the County Council to purchase land on a magnificent site on the western edge of the town. Later, when in 1921 the County was unable to provide funds, he began a system of

2. Especially in regard to the privately-organised Refectory, which Schofield set up in the absence of official provision.
3. See letter dated 14 April 1921, ED 90/113, PRO.
PLATE 2. Hazlerigg and Rutland Halls of Residence. (Hazlerigg is to the left of the picture.)
private purchases. By 1950, the College possessed superb playing fields extending over 130 acres and including a modern athletic stadium,¹ indoor and outdoor swimming pools and a Sports Hall. This 'playing field site', acquired by Schofield's prescience, provided the physical area for the enormous expansion of higher and further education at Loughborough after the Second World War. As usual the Principal's private financial initiatives incurred the displeasure of the Board of Education but Brockington presented this possibly definitive statement concerning Schofield's activities in this field, 'What I wish to make clear is that Dr Schofield, although appearing as the owner of the land, has only acquired the land for the benefit of the Council, and that the price to be paid to Dr Schofield is the exact price which he himself had to pay.'² Thus Schofield, followed by a sometimes reluctant local authority and in the face of criticism by the Board of Education created the conditions from which the 'Loughborough campus' could become a physical reality.

The College steadily grew during the inter-war period. In 1925 when there were 155 full-time students, the advanced work was organised through four separate departments: Mechanical and Civil Engineering, Electrical Engineering, Automobile Engineering and Pure and Applied Science. The Principal had attracted to the College a vigorous and able staff, amongst then Dr A. Bramley, the Head of the Department of Pure and Applied Science, an outstanding metallurgist, who developed post-graduate courses and valuable research work. The College owed a great deal to the enthusiasm of Mr J. F. Driver, who was Head of the Electrical Engineering Department and also acted as Works Manager for the

¹. A Rotarian and avid traveller, Schofield was much impressed with American cinder tracks and determined that his college should have one. Ex. inf. Mr J. W. Bridgeman.
². Letter from Brockington to the Board, dated 14 September 1932, ED 90/115, PRO.
The Loughborough approach to technical education was now sufficiently well-known abroad that by the mid-1920s approximately one-quarter of the full-time students came from overseas, a further unusual feature of the college which again occasioned concern at the Board of Education.

From a national point of view, the hopes of expansion in technical education voiced for example by Lord Eustace Percy in 1929 faded in the subsequent years of the economic depression of the early 1930s and it was not until towards the end of the decade that effective development in technical education was begun again. It is against this national background of diminished opportunity that the inter-war growth of Loughborough College needs to be set. It can be argued that during this period Herbert Schofield, by stressing the importance of the 'university values' of residence and the niceties of academic life, made a very important contribution to raising the status of technical education in England.

In 1931 H.M. Inspectors carried out a Full Inspection of the senior technological departments of the College and also of its evening courses. The Inspectors reported in favourable terms, in particular they stressed the value of linking theoretical and practical training in the engineering courses, through alternate weeks devoted to academic work and workshop practice. Indeed, it was the provision of workshop training that most impressed the Inspectors, who described the facilities as unique in the country. Nevertheless, it was their opinion that even more integration of theoretical instruction with workshop training

1. J. F. Driver was actually appointed during the Principalship of S. C. Laws.
3. See the copy of the Report of H.M. Inspectors on Loughborough College, 1931, Archives, LUT.
should be attempted. The Report showed that the College enrolled 209 full-time students in the difficult year of 1930, of whom 161 were British, 25 came from the Commonwealth and 23 were foreign. The three College hostels provided accommodation for 132 students. The entrance qualifications for Diploma courses in Civil Engineering and Chemistry were the university matriculation examination, whilst Ordinary School Certificate was expected for the other courses, though requirements were flexible.

Thus the College passed with honour the 1931 Inspection: not that this removed suspicion of what Schofield was trying to achieve at Loughborough. Some Inspectors, it seems, regarded 'training on production' as less a genuine innovation in technical education than as an ingenious method for justifying the continuance of the College Instructional Factory. An official of the Board of Education wrote in March, 1932, 'Our Inspectors feel that the works training policy with industrial plant is on the whole a sham.' One of the Inspectors took the criticism further by saying, 'he regarded it as largely of a mechanical character and definitely weak on the electrical side; and he was under the impression that apart from the keeping of records not much stress was laid upon the educational side of the training.' Schofield's buccaneering methods did not endear him to officialdom and so he was subject to frequent sniping. But his approach, though controversial, did not lack defenders either amongst the educational or the industrial world. One of the most distinguished of contemporary educationalists, Sir Peter Venables, has written of his

2. Minute dated 23 March 1932, Records of the Board, ED 90/115, PRO.
3. Memo. in Records of the Board dated 18 April 1932, ED 90/115, PRO.
4. See James France's obituary in 'The Production Engineer', Vol 42, November 1963, p 727 where he argues, "Schofield actually introduced the 'modern' sandwich course in 1919."
'determined creativeness'. His abrasiveness of character did not always help his cause, but historically his achievements at Loughborough, particularly in the inter-war period, may be seen as an important step forward in English technical education.

Although the major work of Loughborough College centred upon its technological departments, its activities ranged beyond this area. The year before the Inspectorate's visit in 1931 had witnessed a very important stage in the evolution of the College, which was substantially to widen its base. With his usual pragmatism and grasp of the possibilities of expansion, Schofield saw the College workshops as providing a suitable background for the training of teachers in handicraft. The post-war emergency training scheme had given him the opportunity to start a small course for handicraft students in 1921. The course did not outlive the emergency scheme, though the Principal retained a strong interest in making a new initiative at an appropriate time. Thus in 1930 a permanent Department for the Training of Teachers (also known as the East Midlands Training College) was created at Loughborough through the joint sponsorship of Nottingham University College and Loughborough College. A two year certificate course in Handicraft with 39 students was begun under the direction of Mr J. W. Bridgeman. Such a course, with its craft orientation, fitted naturally into the ethos of the College, though the principle of 'training on production' was not entirely suited to the education of teachers. However, the department flourished and a supplementary course in Handicraft was started in 1934.

The existence of excellent facilities for physical recreation

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pointed towards courses in this direction, and Schofield was not the man to miss such possibilities. Thus in 1936, in what was to prove a development of major significance, the first supplementary course in physical education began. But owing to various difficulties of a largely national character, a two year certificate course in physical education could not be established in the late 1930s, but was in the event started after the Second World War. Indeed, the pre-war emphasis was upon craft. In 1935 Peter Waals was appointed as specialist adviser in design; he brought with him (as did Edward Barnsley later) the values of an artist-craftsman, which was profoundly to affect the nature of handicraft work at Loughborough.

That Loughborough College, a largely technical institution, should have founded a teacher-training department affords (from an historical point of view) interesting aspects of similarity with the present position of certain Polytechnics which have also developed departments for training teachers. A further point of historical interest is that there is evidence to show that Schofield hoped, in the context of the 1918 Education Act, that his College would be able to undertake the training of technical teachers. Indeed the Inspection Report of 1919 pointed in this direction: but in the event this promising possibility was never turned into reality. It may be argued that an important opportunity in the training of technical teachers was missed.

The general debate about educational policy during the years of the Second World War proved a powerful stimulus to reform in teacher-training, which culminated in the McNair Report of 1944.

1. Unable in the short-term to start an initial certificate course in physical education, Schofield proceeded to launch in 1937 an alternative venture, the School of Athletics, which although successful in recruiting students was less so in obtaining Board of Education approval.

From its recommendations there resulted the post-war pattern of teacher-training based on the Area Training Organisations (ATOs). The post-war shortage of teachers saw the establishment of an Emergency Training Scheme to swell the ranks of the teaching profession with suitable people. This growth-situation enabled the Teacher-Training Department at Loughborough to forge ahead and establish its own initial Certificate Course in physical education in 1946. Two years later post-graduate courses in physical education and handicraft were started. These subjects were to remain the two specialisms upon which teacher education at Loughborough largely rested as long as it retained its all-male character; and the Department became one of the largest teacher-training centres for men in the country. Until 1948 Nottingham University provided certain academic teaching assistance for the Department, but this provision was taken over by Loughborough itself in that year. However, formal links continued with Nottingham University through the Nottingham ATO, which lasted until the creation of the Loughborough University of Technology Sub-ATO in 1971.

Loughborough College had from its origins in the Technical Institute included a School of Art, headed by Mr W. G. Spooner. The School provided both day and evening classes with a small nucleus of full-time students, doing work of good quality. By 1925 the School had changed its name, to the School of Fine and Industrial Art, indicating the extension of its work to include new industrial art courses. Some of its courses were approved by the City and Guilds of London Institute, with four subjects recognised for the award of the Full Technological Certificate. Generally, the emphasis in the work of the School, in keeping

1. See the memo. by J. F. Driver, dated 15 June 1947, Archives, LUT.
with the Loughborough approach, was on the craft aspect. The School was also able to provide facilities for the study of art by students of the Teacher-Training Department (and it also developed a Junior School of Art). In 1931, the School had 8 full-time and 283 part-time students. In the post-Second World War period the School acquired a new Head, Mr J. A. F. Divine, and yet another name, the School of Art and Crafts: it grew rapidly and successfully developed courses for the National Diploma in Design (NDD). It is from this School that the present Loughborough College of Art and Design evolved.

As the Inspectorate Report of 1931 noted, Loughborough College under Schofield's Principalship embraced not only the activities from which grew ultimately the University, the College of Education and the College of Art but also a department for evening classes, an extra-mural education department and additionally a secondary school, known from 1938 as Loughborough College School.2

The Evening Department, which was renamed the Department of Continuative Education, gradually expanded its work in the inter-war period, under the direction of some notable heads, amongst them Dr H. L. Haslegrave and Mr J. C. Jones.3 The present Loughborough Technical College, largely providing part-time education for local needs, continues the functions in a

2. This school became fully separated from the main College at the end of the Schofield era and has now become an Upper School in the Leicestershire Plan.
3. H. L. Haslegrave, Head of the Continuative Department (1935-8) later returned as Principal of Loughborough College of Technology and was the first Vice-Chancellor of Loughborough University; J. C. Jones eventually became Director of the Regent Street Polytechnic.
contemporary form of this department of the old College.¹

Thus on the outbreak of the Second World War, Loughborough College (although originating in a technical institute) was a unique educational organisation whose varied activities, though centred on technology, also covered many other aspects of education. In its technological core, the College had set out in the inter-war period to establish itself, within the regulations of the Board of Education, as an institution approaching university rank with Diploma courses of approximately pass degree standard.² In the last session before the onset of the war there were 558 full-time students in residence: a fair indicator of the enrolment success of this policy and also of the content-value of the courses offered.

The Second World War did not provide the College with the same opportunities for physical expansion as the First, except for the aerodrome site on the northern edge of the town which was substantially developed, the first aircraft hanger being completed in 1940. There were no major innovative activities to compare with the introduction of 'training on production' and of the Instructional Factory of the First World War. The College continued with its Diploma courses, though eventually reduced in length to three years, whilst the armed forces utilized the facilities of the College for their own purposes, in particular for the R.A.F. Physical Training School and later the Medical Rehabilitation Centre. The technical departments of the College

¹. The extra-mural department of the old college performed valuable work, establishing close links with Nottingham University College and the East Midlands District of the WEA. This work has been carried on and developed by the present centre for adult education in Loughborough, Quest House. Another interesting aspect of the old College was that it provided a home for the Production Engineering Research Association (PERA) from 1938 until 1946.

². These aims are explicitly stated in 'Notes on Loughborough College!', 31 January 1931, File no. 1120, Registrar's Files, LUT.
carried out valuable training functions for the services, so that by 1945 9,500 technicians had been trained for all branches.

After the end of the Second World War, Loughborough entered upon its final phase of integrated life under a Principal who, though still very active by his own remarkable standards, was past his best years. The 1946 session opened with 1,170 full-time students, including a large influx of ex-service personnel. Schofield was still looking for areas of expansion for the College and through his involvement with the Library Association an important development occurred when in 1946 a School of Librarianship was created, within the Department of Continuative Education. This School, which began with an enrolment of 41 full-time students, under the direction of Mr R. Stokes, provided courses for both the Registration and Final Examination of the Library Association, with an approach influenced by the methods of the London University course.¹ In the last significant development of the Schofield period a School of Chemical Engineering was set up in 1947. This year was important in another way in that it witnessed the retirement, after a marathon career, of Sir William Brockington, who had been of such enormous assistance in the development of Loughborough College. Thus the era of the 'triumvirate' came to an end; and was indeed the prelude to Schofield's own retirement.

There can be little doubt that Schofield was exceptionally fortunate, in developing Loughborough College, to have received the unstinted support of a Director of Education of great ability and prestige. The partnership between Schofield and Brockington, which was early re-inforced by the weighty assistance of Sir Robert Martin, represented a strong local lobby, sufficiently powerful through ability, strength of purpose and continuity of

service to negotiate effectively with the Ministry. The achievements of the 'triumvirate' in developing Loughborough College can be seen as a classic example of the power of local initiative in the English educational system. ²

The two major questions facing the College after Brockington's retirement concerned the future development of the institution and the finding of a successor to Schofield, himself now of retirement age. In May, 1948, a Special Panel of H.M. Inspectors reported on the College with a view to defining its future role. The report ³ remarked upon the uniqueness of the institution and its unusual features, though it stressed the need for a proper perspective on its work, 'Among colleges for further education in England it is by no means the largest or the most important. A considerable number of provincial technical colleges and London polytechnics are as large or larger in volume of work and at least as significant in the standard of their work, while certain of them, for example, Regent Street Polytechnic and Birmingham Central Technical College, are far larger and more important institutions than Loughborough College.' ⁴ Also the report noted, 'the substantial organisation for residential students which includes 16 hostels' and made the point that 'this is the feature which mainly distinguishes Loughborough College from other colleges for further education in this country.' ⁵

After considering the many activities of the College, the

1. Their periods of office were of extraordinarily long duration: Brockington was Director of Education for 44 years, Schofield was Principal for 35 years and Martin Chairman of the County Council for 36 years.
3. See Memo. of the findings of a Special Panel of H.M. Inspectors concerning the future organisation of the College, May 1948, Archives, LUT.
4. Ibid.
5. Ibid.
Inspectors not surprisingly found some difficulty in evolving new policy proposals. The special historical circumstances of the growth of the College had created unusual features. One historian saw the problem as 'a large and imposing college which, however, lacked unity of function or purpose.' The Inspectors recognised the need for a radical re-appraisal of the activities of the College. They considered three main types of re-organisation. Firstly, the case was discussed for a complete separation of what they considered its three chief functions, in effect the creation of a College of Technology, a Training College and a College of Further Education, with a Bursar common to all three to control the whole of the residential and supply service. Secondly, the panel considered a partial separation, in which three colleges would be created, each with its own Principal and with a common Bursar, but "to provide unity of control by placing over these four responsible people a 'Super Principal', who might be given some special title, e.g. Warden or President". Thirdly, the panel considered the case for maintaining the organic unity of the college, with one channel of responsibility to the Governing Body.

The panel rejected the concept of complete institutional separation, using this interesting argument, 'Loughborough College has grown as an organic whole. Its activities were not developed in accordance with a pre-conceived plan with premises designed to suit; and use of its buildings, staff and equipment is very involved.' The second approach of partial separation, the 'presidency solution', left several difficulties in the judgment of the panel: it would not be easy to define the responsibilities of the three separate Principals, the art work of the college would not be properly represented and also the general

1. See Allaway, op. cit., p 263.
2. See Inspectorate Memo., op. cit.
3. Ibid.
structure would be top-heavy. The panel, therefore, came down in favour of maintaining the organic unity of the College, retaining one Principal with a number of Heads of Department working under him. However, the Inspectors recommended rationalization so that departments should be functionally organised for the whole of the College (though they recognised that the Teacher Training Department could not fit completely into such a new functional organisation).

Thus the Inspectorate view was that of retaining the essential characteristics of Loughborough College, by preserving its integration. Following this visitation, the Principal and the new Director of Education, Mr S. C. Mason, held discussions and outlined their conception of a five-year development plan for the College. This plan dealt especially with the problem of congestion of the 'central site' near the centre of the town. In a consideration of the various functions of the College the plan advocated the removal of the advanced technological departments and the teacher-training department to the 'playing field site', whilst retaining the departments concerned with local provision on the 'central site' in the town. The scheme envisaged extending the 'playing field site' and recommended the purchase of adjacent land for that purpose. The capital expenditure involved in the building plan proposed over a five year period was estimated at £1,000,000. The broad outlines of this plan for de-congesting the 'central site' and commencing a building programme on the 'playing field site' were approved by the Governing Body and accepted by the County Council.

As Herbert Schofield's Principalship neared its end, a further re-definition of future policy for the College became

necessary in view of the continued growth of the School of Art. This question was discussed in an important joint paper by Schofield and Mason in July 1949, making the point that the School of Art 'has shown remarkable development since the war and is now beginning to acquire a standing in art circles well beyond the boundaries of this county, particularly for its work in pottery and other crafts.' In the context of allowing for the future growth of the School of Art, a 'federal solution' to the problem of re-organising the College was arrived at, in which the overall unity of the College was to be preserved by the creation of the post of President but in which the main functions of the College - advanced technological, teacher-training, art and further education - were to be separated out. This shift in policy represented a resuscitation of the concept of partial separation discussed but finally discarded by the Inspectorate in their policy review the previous year. But in the revised scheme, to emphasise that the core of the Loughborough tradition and reputation lay in the field of engineering, it was decided that the new President of Loughborough College should be an engineer. Thus the intended solution to the problem of the continuance of Loughborough College was a federal structure, with autonomous units having their own Principals but still linked through a President. The role of the Director of Education, Mr Mason, in the evolution of this 'federal policy' was very important.  

Out of deference to Herbert Schofield it was agreed that the constitutional changes implicit in the federal scheme should not operate until after his retirement. The problem of the succession did not, however, prove easy. Of the candidates interviewed for the post of President on 25 October 1949 none was considered

1. See paper on Loughborough College, by H. Schofield and S. C. Mason, 9 July 1949, Governors' Minutes, LRO.
2. Ex. inf. Mr J. W. Bridgeman.
suitable; so Dr Schofield's retirement already once delayed was further postponed until the end of 1950. Eventually, a successor was found with the appointment of a distinguished military engineer, Major-General W. F. Hasted, whose duties were to commence on 1 January 1951.

On the occasion of Herbert Schofield's last attendance at a meeting of the College Governors on 12 December 1950, and it would seem at the instance of Sir Robert Martin, this minute is recorded, 'The Governors wished to place on record their appreciation of his 35 years of expert and devoted guidance, and that they counted it as a privilege to have worked with a man of such distinction. The cause of engineering owed a heavy debt to Dr Schofield's brilliant insight and to the boundless energy with which he put his ideas into practice.'¹ It is, of course, customary for such tributes to be paid at such times, yet even Schofield's adversaries might find it difficult to deny the scale of his achievement. His retirement clearly represented the end of an era which Governors, staff, students, and past students alike found tinged with strong feelings of gratitude and pride, as well as a sense of loss at his going. At the time of his retirement the College (though in serious need of capital development) possessed, in its senior technological side, departments of mechanical, civil, electrical, chemical, aeronautical and automotive engineering, and applied science. The institution also contained a very large Teacher Training Department and a growing School of Art and Crafts, as well as Continuative and Adult Education Departments. The College had 1,545 full-time students (of whom 750 were housed in 16 Halls of Residence) and 3,112 part-time students in day and evening classes, with an additional 1,250 students enrolled for extra-mural classes.²

¹ See Governors' Minutes, LRO.
PLATE 3. Dr Herbert Schofield, from a portrait by Sir Oswald Birley, painted in 1950.
As an educationalist, Herbert Schofield is rightly remembered more for institutional achievement than for educational theory. He was pre-eminently a man who could get things done, if necessary by unorthodox methods. Inevitably, his forcefulness and his unwillingness to be diverted from projects he regarded as important caused coolness towards him in some circles, including the Board of Education. But his vigour and vision were early recognised by men of high calibre such as William Brockington. He was throughout his career most deeply motivated by a desire to improve the quality of technical education, particularly in the field of relating theory and practice. To this end he developed the Instructional Factory at Loughborough and evolved his principle of 'training on production', which combined engineering theory with workshop practice on a concurrent basis. This approach provided purposeful training which was not normally available, at that time, in England. The concept was an important and progressive one, which made a significant contribution to English technical education. There was a limitation in that the College Factory could not fully replicate the economic conditions of industry, so that the Schofield method did not go as far as the post-Second World War system of sandwich courses, which involved periods of training with industrial firms. But in the pre-1939 context, Schofield's system represented a very considerable step forward.

His interests were not limited to technical education, but ranged widely and with insight over the general field of education, so that even towards the end of his career he initiated a

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1. Although he was awarded the C.B.E. in 1946, it is interesting to note that Schofield was the only member of the 'triumvirate' (Brockington, Martin and himself) not to be knighted.

2. I am grateful for discussion of the value of 'training on production' to Sir Peter Venables and Sir Cyril English.
significant development in library education at Loughborough. His firm advocacy of the educational value of residential life made Loughborough College into a more fully collegiate institution than any other English technical college. Further he saw the need for, and encouraged, the 'social mix' of students of different disciplines in residential halls. The 'clustering' of collegiate units as a method of structuring post-school education was an approach favoured by Schofield so that in this respect he was also ahead of his times. ¹

His methods, administrative and financial, were highly personal; and his authority was stamped vigorously upon all aspects of the affairs of the College. Thus the institution which he built up was so much his own creation that he left a 'succession question' of great complexity. However, his contribution to English technical education at the national level was one of very considerable significance; and at the local level, the unique campus at Loughborough is inconceivable without his enterprise and vision.

¹ Ex. inf. Sir Peter Venables.
CHAPTER II

The period of fission (1951-1952)

With Herbert Schofield's retirement from the Principalship, the debate about the structure and continued existence of Loughborough College intensified. The main question concerned financial provision for the College by the local education authority. Sir Robert Martin, Chairman of both the College Governing Body and Leicestershire County Council, took the occasion of Schofield's last College Diploma Day in December 1950 to define the problem in these terms, 'A stage has been reached in which a change is becoming inevitable. If the College is to take its due place in that further development of technological education, financial provision will have to be made on a scale quite different from that which can be expected from a local authority.'

This was an explicit recognition that the scale of capital provision necessary for the proper development of the advanced technological departments of the College could not for much longer be shouldered by the local authority, especially since these departments received students mainly from outside the county of Leicester. In this sense, it was unfair to expect Leicestershire County Council to make provision for departments which recruited nationally and indeed internationally.

Another fundamental point, implicit in Sir Robert's speech, was that only by a large injection of capital from central funds could the departments at Loughborough continue to provide advanced technological education. For in the last years of Schofield's Principalship the College had become seriously in need of major capital development and was struggling to maintain the reputation.

which it had gained by its earlier innovative activities.  

This fundamental question of financial responsibility for the advanced technological work of the College was to be the central issue upon which the future of the College came to depend. It was against this uncertain background that Major General W. F. Hasted took up his duties on 1 January 1951, in the newly-created office of President of Loughborough College. Even for a man with long experience of the administration of educational institutions, the situation could not have been easy; for General Hasted, whose previous brilliant career had been within the specialised area of military engineering, there arose the added complication of adapting to a different environment.

The office of President was created to permit that greater autonomy for the main functions of the College which hitherto had not been possible owing to Schofield's particular conception of his role as Principal. One of the disadvantages of Schofield's methods of administration had been the concentration of responsibility in his own hands, with the various Departments held closely together. It had been agreed even before his retirement that greater autonomy was desirable, though the necessary changes were delayed until after his departure from office.

Immediately Schofield retired, the new constitutional arrangements were implemented, with the Department for the Training of Teachers and the School of Art and Crafts becoming

1. The author is grateful for discussion of this point to Dr H. L. Haslegrave.
2. Major General William Freke Hasted, C.B., C.I.E., C.B.E., D.S.O., M.C. Born in 1897, Hasted was educated at Cheltenham College, Cambridge University, and the Royal Military Academy, Woolwich. In an important military career, he became Chief Engineer, 14 Army, (1944-5) and then Chief Engineer, Allied Land Forces, SEAC, (1945-6). He was the first and only President of Loughborough College, 1951-2; and was Controller of Development in Kuwait, 1952-4.
3. For discussion of this and related points the author wishes to thank Mr J. W. Bridgeman.
autonomous, with their own Principals, Mr J. W. Bridgeman and Mr J. A. F. Divine respectively. But these units were still linked through the President to the rest of the College. In this way, it was intended that some overall unity could be continued, particularly in maintaining the common use of academic and residential accommodation. Thus the teacher-training department, now called Loughborough Training College, and the School of Art and Crafts became colleges set within the larger administrative framework of Loughborough College itself.

The new constitutional devices, which amounted to the adoption of the 'federal' solution, or the system of partial separation as it might also be called, clearly involved certain ambiguities concerning the respective areas of responsibility of the President and the two Principals. This had been foreseen by the Inspectors in their policy review of 1948 and had been one of the main reasons for their rejection of this particular arrangement.

The central figure in the implementation of the federal system was Mr S. G. Mason, who succeeded Sir William Brockington as Leicestershire Director of Education in 1947. This change of office was very significant for the new Director proved to have different ideas about the development of Loughborough College to those of his predecessor, who had been a supporter of Schofield and the system of organic unity. Mr Mason recognised the need for more flexible administrative arrangements at Loughborough to allow the various parts of the College to achieve more autonomy and more identity. He was moreover concerned to achieve a re-definition of LEA responsibility in the activities of an institution, which operated costly non-local courses of an advanced type; and was also aware of the need for a re-assessment of the local further education function of the College, which had tended to receive a low priority in Schofield's schemes. In the debate about the
future of the College, the federal approach — although opposed by the Inspectorate in 1948 — had become the accepted policy of the Governors and the local authority by 1949.¹ Thus the LEA view, as articulated by a vigorous Director, had prevailed.²

The Director recognised that Schofield's autocratic administrative methods had come to have a constricting effect upon the work of the College. In this sense, the federal system was a device intended to promote the required autonomy for departments of Loughborough College to develop their own activities more effectively and also to establish more fully their own identities. At the same time, the federal relationship was intended to maintain a degree of overall College unity in the shared use of facilities. Autonomy was particularly important for the departments of teacher-training and art, which dealt in various areas of work widely-removed from technology and 'training on production'. Thus under the federal re-organisation of 1951 these two departments achieved autonomy as Loughborough Training College and Loughborough School of Art and Crafts. The other areas of work of the main College were not formally differentiated.

However, this limited federal system was a serious attempt to support the legitimate aspirations of the departments of teacher-training and art for more freedom to develop their own work; whilst at the same time recognising the value of maintaining a measure of College unity so that maximum use could be made of common facilities as well as of a common tradition. The federal scheme also explicitly recognised the preponderance in Loughborough's reputation of its work in engineering by ensuring that the College President should be an engineer. The question

¹. For a discussion of the Inspectors' Review, see Chapter I, pp 27-9; and for the College development plan, see Chapter I, pp 29-30.
². This and the following two paragraphs embody information provided to the author by Mr J. W. Bridgeman and Mr S. C. Mason.
was whether or not such a relatively sophisticated constitutional arrangement, for which there were no obvious precedents in England and whose feasibility the Inspectorate had doubted, could be made to function effectively.

The decision of the Governors in June 1951 to accept the dissolution of the Department of Adult Education carried one stage further that process of the radical reshaping of the College, which had begun as soon as Schofield retired.¹ The unusual arrangements for adult education in the area which had grown up during the Schofield period were terminated and the work of the College in this field was taken over by the Universities of Nottingham and Leicester. In one sense, many of the events at Loughborough during 1951 and 1952 can be seen as a process of rationalising the many-sided activities of a College created by Schofield's expansionist policies. For the institution which he had developed no longer fitted conveniently into the structure of post-war education, which emerged after the Education Act of 1944. It has been argued that the failure, in the event, of the 'presidency' arrangement to preserve the College stemmed from the fact that the institution was so much the creation of Herbert Schofield that without him it was likely to have minimal chances of survival.² Another point of view, for which there are powerful advocates,³ holds that the 'federal' system could have worked given the right blend of personalities in the responsible offices.

The summer of 1951 saw an intensified debate about the future of the College, particularly the work of its advanced technological departments and the unacceptable financial burden they now constituted for the local authority. In May there were visits

1. See College Governors' Minutes, 12 June 1951, LRO.
3. In conversation with the author, Mr J. W. Bridgeman identified himself with this position.
from the Inspectorate, headed by two Staff Inspectors, to discuss extensions to the College. The Inspectors agreed that existing facilities for Civil and Mechanical Engineering were strained beyond the limit, requiring the development of new provision on the 'playing field' site. In a statement of considerable significance, the Inspectors emphasised that the Ministry was most interested in developments in chemical engineering, production engineering, electronics and soil mechanics. From a national point of view all these subjects were inadequately developed, and the Inspectorate view was that Loughborough College had made a good start in the first two of these areas of study. The Inspectors went so far as to indicate that, 'if these subjects were properly housed and developed, the Ministry would be prepared to recognise Loughborough as a national centre for chemical engineering and production engineering technique.' But such developments would require substantial capital expenditure, which was clearly beyond the resources of the Leicestershire authority. Indeed, the local authority view, as expressed by its Director of Education, was to emphasise the need for the Ministry to take over financial provision for the College at the earliest opportunity.

The size and shape of the College in what proved to be its last academic session can be seen from the enrolment statistics made available for the Governors in November 1951. The senior full-time technological and science students numbered 817; the Teacher Training Department contained 479 students; the School of Art had 57 and the School of Librarianship 68 full-time students. In addition, there were 65 students on full-time courses in commerce and administration, making a total full-time student

1. See Notes on HMI visits, College Governors' Minutes, 9 October 1951, LRO.
2. See College Governors' Minutes, 9 October 1951, LRO.
3. See College Governors' Minutes, 13 November 1951, LRO.
enrolment of 1,487. The many part-time courses available at the College, which were largely of a non-advanced kind, enrolled 3,094 students, including 77 part-time students in the School of Art. The total College enrolment was 4,581.

In the autumn of 1951 the financial question was pressing, partly because the priorities for the College development plan, which had been agreed in outline in 1949, were being discussed. The plan had recognised the need for de-congesting the 'central site' and initiating a large-scale building programme. The intention was ultimately to re-house the advanced technological and teacher-training work of the College on the playing fields; whilst the more local provision of the College would continue on the site in the centre of the town. The major building programme envisaged in the plan, particularly the provision for the advanced technological departments, caused a close examination by the LEA of its financial role. The development plan had been devised initially on the assumption of the continued organic unity of the College. But the LEA had by this time come to question its financial responsibility for the non-local advanced technological work of the College. Thus the development plan could not be worked out in detail or fully agreed until a much more fundamental review of LEA/Ministry responsibilities in relation to the work of the College had been conducted. In particular the LEA regarded financial provision for the advanced technological departments as falling outside its area of responsibility. The question was whether or not the Ministry would be prepared to take over the financing of these departments; and even more fundamentally, whether or not, in the context of differentiated financial arrangements, some form of College unity could be maintained. In

1. There was also one student following a separate full-time course in physical education.
order to bring the matter to the urgent attention of the Ministry of Education, a delegation headed by Mr E. F. Winser (acting for Sir Robert Martin) and including Mr Mason, General Hasted and the County Treasurer went to London on 31 October 1951 to discuss matters with Mr F. Bray, Under-Secretary at the Ministry.

In a consideration of the future of the technological arm of the College, the delegation asked the Ministry to assume financial responsibility from the local authority. In reply, the Under-Secretary agreed to seek Treasury approval for the Ministry of Education to take over the technological side of the College, on a direct-grant basis, as from 1 April 1952.¹ Thus began that process of negotiation between local and central government representatives which was ultimately to determine the fate of the College.

Shortly after these discussions in London, Major General Hasted took leave of absence to pay a brief visit to the Persian Gulf to advise the Sheikh of Kuwait; and on his return he resigned as President, in order to take up an appointment in Kuwait, with effect from mid-January 1952.² To meet the crisis caused by Hasted's sudden resignation, the Governors met under the chairmanship of Sir Robert Martin to find a short-term solution. They decided to give responsibility for the day-to-day administration of the College to a committee, composed of Wing Commander H. E. Falkner, Head of the Aeronautical Engineering Department (acting as chairman), Mr J. W. Bridgeman, Principal of the Training College and Mr C. D. Bentley, the College Bursar. This committee carried out a holding operation whilst further negotiations about the College between the local and central authorities took place. A successor to Hasted was not appointed, for the brief experiment

¹. See Governors' Minutes, 13 November 1951, LRO.
². See Governors' Minutes, 11 December 1951, LRO.
of having a President operating a federal arrangement had not proved a happy one.

There were inherent weaknesses in the conception of the federal system, as implemented in 1951. Firstly, it did not provide for full differentiation of function. A proper separation of the various roles of the College upon Schofield's retirement required effectively the creation of four collegiate institutions: for advanced technology, teacher-training, art and local further education. But largely because of the difficulties of disentangling its provision in advanced and non-advanced technical education, these two functions were not separated out by the LEA re-organisation of 1951. Only later with the intervention of the Ministry of Education in 1952 did a full delineation of the four separate functions of the College occur. It can, of course, be argued that if the eventual intention of the LEA was to close down the advanced technological departments and utilize their resources for an orthodox further education college, then a logical pattern for the ultimate creation of three LEA colleges for teacher-training, art and further education is discernible. What can be said is that, in the circumstances of 1951-2, the federal system demonstrated an important structural weakness.

Secondly, it called for the operation of a complex system of responsibility on behalf of the President and the two Principals. The success of the whole scheme hinged upon full and proper cooperation between these three key figures. The new President succeeded to office after a debate in which it had been agreed that more autonomy was necessary for both the teacher-training and art departments; moreover Schofield's Principalship had come to be regarded as a period of excessive centralization. It was,

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1. This and the following three paragraphs embody information provided to the author by Mr J. W. Bridgeman, Mr S. C. Mason and Dr H. L. Haslegrave.
therefore, hardly politic for Schofield's successor to attempt to maintain the same type of regime as had existed before 1951, with a strict subordination of the Principals of the Training and Art Colleges. Nonetheless, this was what Hasted tried to do.

The whole federal edifice required of the President a degree of flexible delegation of authority and recognition of the autonomy of the two principals, which Hasted found difficult to accept. It was perhaps understandable that a General, accustomed to a direct-command hierarchy like the army, should be reluctant to respect the areas of responsibility of two principals he regarded as his subordinates. In that sense, the appointment itself was a miscalculation since it placed in an office, which would have tested the most experienced educationalist, a man whose previous career had been in a wholly different environment. The brief Presidency of General Hasted proved to be a damaging period for the College: the delicate machinery of the federal system was not put into effective operation and after less than a year in office the President was looking for another post. Hasted's failure to make the new office of the Presidency function properly and the unfortunate timing of his resignation made the Governors unwilling to appoint another President. Thus the dissolution of the federal system, centred on a President, was accelerated by the events of Hasted's period of office. The effect of the collapse of the Presidency was to make a partial separation of the various arms of the College into a complete separation. Whether or not such a development could have been avoided by the appointment of a more suitable President is an interesting point for speculation. It is quite possible that the Presidency could have been made to work in terms of effective personal co-operation between the President and the two Principals, since both the latter wished to maintain some kind of College unity.
But in addition to the question of personalities, two other factors - the cost of advanced technological education and the incomplete differentiation in the federal structure - militated against the long-term survival of the Presidency. No matter how successful at managing the federal machinery the President proved to be, financial exigency was already calling the system into question even at its inception. The system itself also failed to differentiate between the advanced technological and local further education roles of the College. The separation of these two functions could not have been long delayed. Thus even a successful President would have been presiding over a crumbling edifice, once the LEA had taken the key decision no longer to regard the advanced technological work as its own responsibility. When the Ministry of Education was forced to intervene to save this work it required the full financial and administrative separation of the advanced technological departments from the rest of the College. Thus the direct-grant arrangement of 1952 involved cutting through the federal relationship. The issue of the continuance of links was later put beyond doubt after Dr Haslegrave became Principal of the College of Technology in 1953. He saw little value in maintaining residual bonds through a Committee of the four Principals, but conducted a policy of complete separatism - believing that the best interests of his institution would be served by non-involvement with the LEA colleges, except possibly at student union level. Thus the federal approach, broken by the events of General Hasted's Presidency, was finally to disappear with the establishment of the direct-grant college and its pursuit of a policy of independence.

When assessing what to do about Loughborough College, the Leicestershire education authority had adopted the view, from 1950 onwards, that the advanced technological work of the
institution represented an unacceptable financial burden. By 1952, the local authority position had hardened to the point where it was determined to give up the advanced technological departments; and if the Ministry of Education did not assume responsibility, they would be closed. The Ministry was perhaps not entirely prepared for this resolute stand, but eventually its officials came to see that if no provision from central funds was forthcoming then advanced technology at Loughborough College would cease.

The Ministry was faced with a difficult policy decision. Was it to permit the unique technological departments at Loughborough, which might be of national value, to close; or was it to mount a financial rescue operation, in the form of a direct-grant arrangement, for which there were no immediate precedents?

Since the Ministry had yet to evolve a long-term plan for higher technological education on a national basis, the Loughborough situation was not an easy one to assess. Indeed, the limited amount of planning from the centre at this time and the consequent greater significance and stature of local education authorities (LEAs), probably strengthened the hands of the local authority negotiators when dealing with the Ministry officials. Also there was a tendency at this stage for the Ministry to make policy decisions under duress of circumstance.

Some indication of the Ministry position was later given by Mr Bray in an address towards the end of 1952. He made clear that the sole reason for the Ministry taking over the advanced technological departments at Loughborough was because the local

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1. On the question of these LEA/Ministry negotiations, Mr S. C. Mason provided the author with valuable information.
2. Certain specialised institutions, the National Colleges, were direct-grant; but up to this time there were no direct-grant Colleges of Technology of the more general type.
3. The author is grateful to Sir Peter Venables for discussion of this point.
authority could no longer finance them. At the time of the negotiations it was not the Ministry's intention that the direct-grant mechanism adopted at Loughborough should establish a national precedent. Nevertheless, the decision entailed wider national implications in the financing of advanced technological education in the 'public sector', by demonstrating the feasibility of maintaining a college of technology, outside the orbit of LEA control, and in a direct financial relationship with the Ministry. Such an arrangement was new in England and Wales and was immediately recognised by prominent figures in technical education as a development of a much more than local significance. The importance of the direct-grant arrangement at Loughborough grew after the designation of colleges of advanced technology (CATs), following the 1956 White Paper on technical education. Although Loughborough was for a time the only CAT maintained on a direct-grant basis, in 1962 the other CATs ceased to be the responsibility of LEAs and also became direct-grant institutions.

The third possibility after local authority provision or a direct-grant arrangement by the Ministry — that of transferring Loughborough's advanced technological core to the University Grants Committee — was not seriously countenanced. In fact, in a discussion following Bray's 1952 address it was made clear that such a decision could not have been taken by the Ministry at that time but would have required debate at Cabinet level. That the

1. See Governors' Minutes, Loughborough College of Technology, 28 October 1952, Registrar's Office, LUT. Mr Bray addressed the College Governors at their first meeting and made a statement about the Ministry view.
2. See discussion on Bray's address, Governors' Minutes, Loughborough College of Technology, 28 October 1952.
3. See the comment by P. F. R. Venables, 'Freedom and Governance and the Administration of Technical Colleges', ATI Paper, July 1952, p 18. The point is also made by Venables that whilst arrangements made at Loughborough in 1952 were novel in England and Wales, comparable institutions existed in Scotland in the Scottish Central Technical Colleges.
issue of a possible transfer to the UGC of Loughborough's advanced technological departments could only have been settled in Cabinet was an interesting indication of the circumscribed authority exercised by the Ministry of Education at that time.

There is evidence that the Ministry was by no means keen to take over the advanced technological side of Loughborough College. But when faced with the question of whether or not these departments were of sufficient value to the country to require their continuance, the Ministry somewhat reluctantly decided that it must take positive action in what had become a contest of wills with a local authority. Even then the Ministry intended the budgetary arrangements to be modest in scope, with the whole institution operating on a relatively small-scale and in a sense on trial.¹

Given a positive decision by the Ministry to save the advanced technological side of the College, the direct-grant method proved to be the only suitable answer to the problem of re-organising its financial support. But if, up to a point, the local authority had won the first round in the negotiations with the central authorities — in the sense that a reluctant Ministry had eventually agreed to assume a financial liability which an LEA would no longer accept — then the second round did not go the way the local negotiators had hoped.

Having obtained a Ministry decision to save the technological departments, the LEA wanted to retain some form of College unity by maintaining a common residential policy, through the shared use of the College Halls, run by the LEA for all Loughborough students. In this way it was hoped that some of the common tradition might continue. But this approach proved to be

¹ The content of this paragraph reflects information provided to the author by Dr H. L. Haslegrave and Mr S. C. Mason.
unacceptable to the Ministry, which insisted on completely independent arrangements for the technological departments, both for residential and teaching accommodation. This could only mean the creation of a fully separate college of technology; and the implementation of such a policy would bring to an end the organic life of Loughborough College. The separating out of functions would leave a direct-grant college on the one side and three LEA colleges on the other, without effective formal institutional links. There are those who argue that even in this context, a Committee of Principals of the four institutions (which did operate for a limited time) could have maintained some kind of federal relationship. But in the absence of formal links, such an arrangement would depend very heavily upon personalities and the willingness of all four principals to co-operate to that end, with a certain commonality of view. Given the very different modes of operation of the direct-grant college and the LEA colleges, it was unlikely that effective co-operation would go much beyond the level of recreative and other student union activity.

From an historical point of view, the delineation drawn by the Ministry between the direct-grant college and the LEA colleges in 1952 mirrors some aspects of the 'binary line', which was a major factor when amalgamation of higher education at Loughborough was discussed in the early 1970s. In 1952, the Ministry assessment of the Loughborough situation appears to have been concerned with the creation of a tidy financial and administrative structure in which there would be clear and sharply-defined areas of responsibility. Within this inflexible financial system there could be no place for Loughborough College as Herbert Schofield
had developed it.\(^1\)

The full extent of the Ministry's conditions for taking over the senior full-time technological side of the College was made clear in a letter from the Ministry of Education, dated 27 March 1952. The Minister agreed to assume responsibility for these departments from 1 September 1952, subject to a number of conditions.\(^2\) These were, firstly, that if the departments reverted to recruiting more on a regional than a national basis the local authority would be prepared to resume responsibility for them; and secondly, a suitable Governing Body should be created, independent of the authority.\(^3\) (The Chairman of the new Governors was to be appointed by the Minister.) Also the Ministry formally required that the direct-grant establishment should have 'reasonable residential and other facilities to carry on its work effectively'.\(^4\) The local authority additionally agreed to make an annual grant of £15,000 for ten years to the direct-grant institution.

After initial agreement had been reached on the principle of complete separation and differentiation of function, more detailed negotiations took place for dividing up the old College. These discussions having produced a draft agreement, the last meeting of the Governors of Loughborough College took place on 8 July 1952. In a symbolic gesture, the Governors sent a telegram to Sir William Brockington in recognition of his services to the old College, which was then dissolved.\(^5\)

The process of fission created four colleges, from 1 September 1952: Loughborough College of Technology, as a direct-

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\(^1\) This paragraph, and the preceding one, embody information arising out of the author's interviews with Mr S. C. Mason, Dr H. L. Haslegrave and Mr J. W. Bridgeman.
\(^2\) See Governors' Minutes, 13 May 1952, LRO.
\(^3\) Ibid.
\(^4\) Ibid.
\(^5\) See Governors' Minutes, 8 July 1952, LRO.
grant institution; and three local authority colleges, Loughborough Training College, Loughborough College of Art and Loughborough College of Further Education,¹ these three retaining a common governing body.

In the allocation of residential halls, the College of Technology acquired Hazlerigg and Rutland Halls, and five other hostels, and, for teaching accommodation, the newly-built Schofield Building on the 'playing field' site, various parts of the 'central site', and the aerodrome. The remaining accommodation, academic and residential, stayed with the LEA colleges. The one residual feature of the old College, which was to continue functioning for all four colleges was a common Loughborough College Union, providing recreative and other facilities for students.

The Ministry recognised the need for a transitional phase whilst the direct-grant college was being separated from the LEA colleges, though it required this period not to exceed 19 months.² To facilitate matters a Joint Advisory Committee was to consider all questions of common interest. In a final reminder of who ultimately called the tune, it was laid down that, 'In the event of any unresolved difference . . . the matter shall be decided by the Minister of Education.'³ The very involved nature of the activities of the old College and the overlapping use of its facilities had left a complex situation. However, by the goodwill and co-operation of the parties involved, the division was well-organised and a solution achieved.⁴

There were many who regarded this break-up of the old College with a certain sadness, chief among them Herbert Schofield, who later delivered this judgement, 'Before I finally retired in

¹ This College was renamed Loughborough Technical College in 1966.
² See College Governors' Minutes, 8 July 1952, LRO.
³ Ibid.
December 1950, plans had been afoot for a year or two to re-organise and expand our activities, but I must confess that when the changes did come I was not too happy to see so much of the fabric torn asunder. Breathing space and room for expansion was certainly needed but I feel quite sure that what had grown up as one integrated whole could have been maintained to the great advantage of the College and the country. ¹

Although Schofield understandably represents the viewpoint of those who stood for maintaining the unity of the old College, it was clear (even during the last phase of his Principalship) that the College he had built up before the Second World War was now so diversified that radical re-structuring was necessary. For the old College, although possessing a unified administrative structure, had four separate functions. ² It was a centre for advanced technological education; it had a teacher-training department and a School of Art and Crafts; and it also met local needs for part-time further education. There were, in effect, four colleges within the wider framework of Loughborough College itself. As the different parts of the College grew and developed, their paths increasingly diverged so that towards the end of Schofield's Principalship the College's unity of function and purpose was called into question. ³ Of particular importance in this context, advanced technological education became too expensive after the Second World War for local provision. Thus the foundation upon which Loughborough College had been built - the solid backing of the Leicestershire local authority - had been eroded. In these circumstances, fundamental changes were

2. This is without counting its work in the field of adult education which was less significant and which the College gave up in 1951.
3. See Professor Allaway's comment on this question, referred to in Chapter I, p 28.
necessary as Sir Robert Martin himself, that great friend of the old College, had recognised. ¹

The 'federal' system, a conception of the LEA, was rejected by the Ministry, which when it assumed responsibility for the advanced technological departments insisted upon separation. Given the attitude of the Ministry, it seems clear that the 'federal' device for maintaining the unity of Loughborough College was only viable whilst the institution was funded by the local authority. 'Federalism' ended when the Ministry accepted responsibility for the advanced technological departments. On balance, although the separation of institutions at Loughborough had disadvantages, particularly in regard to the loss of the 'residential mix' of students of different disciplines, the solution insisted on by the Ministry did keep in existence all four main functions of the old College. Without Ministry intervention, the advanced technological core would have disappeared - and this was arguably the most important part of the work of the old College. Thus even if Loughborough College, as a formal entity, was dissolved, all its main areas of work were preserved; and, in addition, a good deal of its tradition survived.

Finally, it may well be that the continuance of Loughborough College in its old form was likely to be of limited duration given the new shape of English education after the Second World War, with the greater emphasis upon centralization,² and also the growing cost of advanced technological education. Loughborough College had grown up in a situation where control from the centre was more limited and where costs were less. The decisions of 1952 preserved the main functions of the old College, and paved

¹. See the extract from his speech in December, 1950, already referred to in this chapter, p 35.
the way for bigger developments in the next twenty years than would have been possible on an integrated basis. Separation — although attended by some disadvantages — led to renewed growth; whilst an under-lying sense of a common past remained, and was still an important factor influencing the 'Mason Working Party' to recommend in 1971 the amalgamation at Loughborough of the University of Technology, the College of Education and the College of Art and Design.¹ However, in the early 1950s, the emphasis was upon fission and differentiation; and in 1952 Loughborough College as an organic entity came to an end.

¹ See the report, 'Higher Education at Loughborough', of the ad hoc working party, chaired by Mr S. C. Mason, March 1971, p 1.
PART TWO

LOUGHBOROUGH COLLEGE OF TECHNOLOGY
CHAPTER III
The years of preparation (1952-1956)

When the College of Technology came into being in 1952, in the aftermath of the dissolution of the old College, the national circumstances for growth in the 'public sector' of higher technological education were not auspicious. The long post-war debate about the proper structure for developing advanced technological studies was still unsettled. The Percy Report\(^1\) of 1945 had outlined a national blue-print for educational advance in this field, with both the universities and a strictly limited number of technical colleges contributing, according to their respective strengths. But a co-ordinated system, as envisaged in the Percy proposals, had not been achieved by the early 1950s.

In 1948, the central advisory body recommended by the Percy Report had come into being as the National Advisory Council for Industry and Commerce (hereinafter NACEIC). Its first report\(^2\) in 1950 reflected the Percy approach by recommending the development of advanced technological courses in selected technical colleges and the creation of a 'Royal College of Technologists', which would set standards and give new awards. The Labour government gave a general acceptance to the NACEIC report. But following the General Election of 1951, the new Conservative government reversed this policy since it was at that time wedded to a view of development along conventional university lines. The Royal College idea was dropped and the focus of government interest became the development of existing institutions for improving the output of trained technologists. In particular, government

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policy appeared increasingly to favour expansion of the technological departments of the universities,1 to the comparative neglect of the possibilities afforded by the technical colleges. However, two government actions offered some hope for the 'public sector' of higher technological education in 1952: one was the decision to increase the rate of grant for advanced courses at technical colleges to 75%; and the other was the saving of the advanced technological departments at Loughborough.

There was, nevertheless, in the decade after the end of the Second World War a conflict over how higher technological education should be developed. The Advisory Council on Scientific Policy (ACSP), set up to advise the government in 1947, favoured using the universities to achieve the desired expansion;2 whilst the Percy and NACEIC view also envisaged a substantial role at the advanced level for a small number of selected technical colleges. In the early 1950s, when the College of Technology at Loughborough was created, it seemed that the 'university interest' was dominant in the development of higher technological education.3 The Conservative government at this time also took up the idea, previously canvassed by Lord Cherwell and others, of establishing a new technological university:4 but in the event this proposal was not implemented. The main weight of government activity became directed to expanding the provision of higher technological education within the existing framework of the universities.

Thus the College of Technology at Loughborough was founded at a time when national policy-making, in the development of

2. Ibid., pp 170-7.
3. Ibid., pp 172-6; and see also Argles, op. cit., pp 91-2.
advanced technological studies, emphasised the university rather than the technical college sector, although the government retained an interest in maintaining an option for alternative growth in the technical colleges. Given this national background of fundamental debate concerning the structure of higher technological education, the establishment at Loughborough of the first direct-grant college of technology was of considerable significance.

The Trust Deed of the new institution defined its main aims in these terms, 'It is intended to establish a College at Loughborough for providing higher technological education and research for the engineering and allied industries.' As a direct-grant institution, the College was independent of the local authority and it was given a Governing Body of a national character with representatives drawn from the National Federation of Engineering and Allied Employers, the Trades Union Congress, the professional associations and also Leicestershire education authority, the University of Nottingham and the Association of Technical Institutions (ATI). To emphasise the direct responsibility of the Ministry of Education for the institution, the Chairman and two other Governors were appointed by the Minister.

The first meeting of Governors held on 28 October 1952 was an important occasion not only in the inaugural sense but also because it gave rise to a debate in which the main guide-lines for the future development of the institution were discussed. The significance of this aspect was underlined by the presence at the meeting of Mr F. Bray, Under Secretary at the Ministry of Education. The Chairman of Governors appointed by the Minister was Sir Harold West, a prominent industrialist, who opened the

1. He was managing director of Newton Chambers Ltd, Sheffield.
discussion by indicating that in accepting his office, 'the attraction to him was that in it he saw the possibility of trying to bridge the gap between the highly trained technical man and the man in the works who had learned by trial and error.' Sir Harold was here giving expression to a view similar to that voiced in the report 'Universities and Industry', published in the previous year by the Anglo-American Council on Productivity, which questioned the assumption of the need for men trained at the highest level and argued the case for paying more attention to the intermediate levels. This point was taken up by the Under Secretary when addressing the Governors, for he stressed that, 'the College should be developed to meet the needs of industry rather than on academic university lines.' He also made clear that the direct-grant arrangement at Loughborough should not be regarded as having any bearing upon the establishment of a technological university. Mr Bray made other important points concerning the Ministry view: he emphasised the need for the assistance of industry, and said that whilst the Ministry recognised the international reputation of the College and wished for this to be maintained, the number of foreign students should be kept 'within reasonable limits.' The Ministry view appears to have been that a British college should have a predominantly British student intake and that heavy reliance upon overseas recruitment might lead to uncertainties in enrolment.

In a discussion following Bray's address further points emerged: that the Ministry should be consulted if the Governors wished to conduct advanced aeronautical engineering courses,

1. See Governors' Minutes, Loughborough College of Technology (hereafter LC of T), 28 October 1952, Registrar's Office, LUT.
3. Governors' Minutes, LC of T, 28 October 1952.
4. Ibid.
which might overlap with the work of the College of Aeronautics; and also that the development of courses in Chemistry and Physics should not be over-emphasised. This latter point appears to be related to the view held at that time by the Advisory Council on Scientific Policy and the University Grants Committee (a view also shared by the NACEIC in its 1950 Report) that the fundamental sciences were a special concern of the Universities. 1

At this inaugural meeting of the Governors the formal title of the institution 'Loughborough College of Technology' was agreed. Since the College had yet to appoint its first Principal, Mr Bray argued that, 'it did not seem advisable to embark and agree on major changes in policy' until such an appointment had been made. 2 To provide for this interim period before the appointment and commencement of duties of the new Principal, arrangements had already been made for Wing Commander H. E. Falkner, Head of the Aeronautical Engineering Department, to be acting Principal.

The key appointment to the Principalship attracted 71 applications, and from a distinguished short-list, 3 Dr H. L. Haslegrave was appointed early in 1953, and commenced his duties in August of that year. The new Principal was a man of very wide experience of technical institutions, who had made a valuable contribution to the national debate about technical

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1. See the extract from the ACSP Report for 1949, quoted in Cotgrove, op. cit., p 71; also UGC, 'A Note on Technology in Universities', HMSO, 1950, para 5; and the NACEIC report, 1950, para 9.
2. Governors' Minutes, LC of T, 28 October 1952.
education. He combined brilliant academic gifts with a deep interest in, and experience of, the practical aspects of technology. Of great institutional significance, he had previously been a Head of Department at Loughborough College and was thus fully aware of its ethos and felt an affinity with it. Indeed this feeling of attachment to Loughborough and what it stood for was an important factor in Dr Haslegrave's acceptance of the post. It was helpful to the emerging institution to have as its first Principal a man who was deeply versant in the traditions and workings of the old College.

The institution for which Dr Haslegrave became responsible in 1953 comprised four main departments: Mechanical and Electrical Engineering (with Mr J. F. Peck as head of department); Electrical Engineering (Dr H. Buckingham); Aeronautical Engineering (Wing Commander H. E. Falkner); and Pure and Applied Science (Dr R. F. Phillips). In the academic session 1952 to 1953 the college had 793 full-time students. The situation facing the new Principal was not altogether encouraging. National policy still appeared to favour the development of advanced technological education in the universities; however, the local situation, after the break-up

1. Herbert Leslie Haslegrave, Wh.Sch., M.A., Ph.D., M.Sc.(Eng), C.Eng., F.I.Mech.E., F.I.E.E., F.I.Prod.E. Born in 1902, he was educated at Wakefield Grammar School, Bradford Technical College and Trinity Hall, Cambridge. A Rex Moir, John Bernard Seeley and Ricardo Prizeman, he obtained a First in Mechanical Sciences in 1928 - having previously served an engineering apprenticeship with the English Electric Company. Following lecturing appointments in technical colleges, he became Head of the Continuative Education Department, Loughborough College, 1935-8. He was then successively Principal of St Helens Municipal Technical College, Barnsley Mining and Technical College and Leicester College of Technology before his appointment as Principal at Loughborough. He was later the first Vice-Chancellor of Loughborough University of Technology; and was Chairman of the Committee on Technician Courses and Examinations (1967-9). He was also Chairman of Council, ATI (1963-4) and a member of the Anglo-American Council Productivity Team on Training Supervisors, 1951.

2. Dr Haslegrave indicated this in an interview with the author.
of the old College, required the creation of a new institution for advanced technological work at Loughborough, which would be viable in its own terms. Of particular importance in this respect was the re-definition of academic aims and standards, which had suffered in the last uncertain phase of the life of the old College. Thus the main problem was to define and justify the work of the new College.

The Ministry view, as expressed by Mr Bray to Dr Haslegrave, did not envisage a large-scale institution but one which would probably contract in the size of its student body to about 350 students and operate on a fixed annual grant, which was not to be increased. However, an important additional source of financial assistance soon appeared through a proposal in October 1953 that a grant from American Counterpart Funds, derived from U. S. Economic Aid, could be used to develop a Department of Industrial Engineering at Loughborough. This area of study was at the time comparatively neglected in Britain, and caused the Anglo-American Council on Productivity to stress the need for more provision. That the growth of Loughborough College of Technology might be assisted by outside sources was further demonstrated when towards the end of 1953 negotiations began with the Institute of Cost and Works Accountancy to promote the study of management accountancy at the College.

The period 1953 to 1954 saw a debate about the fundamental objectives of the College. Herbert Haslegrave had carried out his own review of the future development of the College and a policy document was presented at his first attendance at a meeting.
of the Governing Body on 23 November 1953. The paper presented the case that:

a. the strength of Loughborough lies in the facilities for corporate life and for practical training sandwiched with technical training,

b. there is a real need for a course of a type different from university courses and broader than the Higher National Certificate,

c. this course must be devised and provided in very close co-operation with industry,

d. this course can attain a standard accepted as equivalent to that of a university degree.1

The document then went on, 'the recommended framework of courses is a four year course, with the first two years common to all branches and consisting of alternate periods in the College workshops and other periods in lecture rooms and laboratories. The remaining two years of the courses would be biased to separate branches of engineering and would contain periods of practical training in industrial concerns. These courses would lead to the award of the College Diploma and would not be biased to preparing students for external degrees of London University. Upon the above structure would be built an extensive system of postgraduate, specialised courses of varying durations.'2 This paper, raising as it did basic questions, was deferred for further consideration by the Governors.

Fundamental decisions about the development of the College necessitated an exchange of views with senior officials of the Ministry of Education. For its part the Ministry was keen to promote Loughborough, its own direct-grant institution 'as a

1. See Governors' Minutes, LC of T, 23 November 1953.
2. Ibid.
training centre for industrial engineering, with management and control subjects introduced into all courses, the ultimate pattern being 5 year sandwich courses for middle management, 4 year courses for lower management, post-diploma and specialist courses.\(^1\) Clearly this was a conception at variance with that of the Principal.

In order to clarify policy guide-lines for the development of the College, a special meeting of Governors was held on 17 March 1954, with both Under Secretary Bray and Mr H. J. Shelley, Chief Inspector for technical education, attending. In a lengthy opening statement, Mr Bray summarised the Ministry view saying that, 'the College should not attempt to follow too closely existing University standards, but should try to produce engineers of a different type who would seek works and production engineering appointments rather than in the research and design field of engineering. It would be necessary for such engineers to have some knowledge of modern production techniques.'\(^2\) He went on, 'the Ministry envisaged two broad types of course: one for first grade people, and another for students of a lower grade. The courses should be so planned that the professional institutions would grant exemptions from their own examinations. The courses for the first-class men would therefore exceed the standard required for such exemption.'\(^3\) In further significant points, Mr Bray indicated that in the Ministry view, 'the first class students would be drawn from industry and include those who had taken the Ordinary National Certificate.'\(^4\) He also stressed the need for broad-based courses and indicated his feeling that students who were ultimately destined for works appointments

1. Governors' Minutes, LC of T, 17 February 1954.
2. Governors' Minutes, LC of T, 17 March 1954.
3. Ibid.
4. Ibid.
should be trained on a 'sandwich system'.

The Under Secretary estimated that the achievement of these objectives would entail 5 year courses, equivalent to existing university honours courses and two years of industrial training. He concluded by declaring in a revealing remark that, 'the College should produce real engineers prepared to play their part effectively in production, operation and servicing in industry.'

Bray's speech indicated that the Ministry retained a dualistic view of higher technological education, with the research function remaining largely in the university sector, whilst the output of practical, industry-oriented technologists might more effectively come from the technical colleges, co-operating closely with industry.

The central question was whether Loughborough College of Technology should adopt the 'Haslegrave scheme' for development, that of modernising and revamping the existing courses which covered a wide range of technologies or whether it should undergo radical restructuring to develop the five year sandwich courses, oriented towards industrial engineering, which was the approach favoured by the Ministry. During a lengthy debate, in which Sir Harold West raised some pertinent questions, the Governors gave a general acceptance to the 'Haslegrave scheme'. Doubt about whether British industry would support the industrial engineering approach of the Ministry's proposals seems to have played a significant part in the way the Governors evaluated the alternative courses. That the Ministry view was not adopted by the Governors was an interesting demonstration of the independence of a

1. A 'sandwich system' refers to alternating periods of academic study and practical training, the latter including a portion spent with industrial firms.
2. Governors' Minutes, LC of T, 17 March 1954.
3. Ibid.
prestigious Governing Body and also of the care with which the central authorities treated such a body. Moreover, the fact that the Under Secretary himself should travel from London to Loughborough, with a senior adviser, in order to present the Ministry's case to the Governors was in itself an important indication of the Ministry's recognition of the authority exercised over the institution by the Governing Body. Furthermore, the Under Secretary appears to have accepted without rancour the fact that the College Governors did not feel able to approve the Ministry proposals.

Since this debate over policy had, for the time being, settled the guide lines for future developments, this was indicated by the Principal in his Report on the academic session, 1953-4. In an analysis of the content and aims of courses at the College, Dr Haslegrave gave a clear indication of his thinking: 'The courses, whilst likely to prepare students more for production, operation and servicing than for design and research would not aim at training for any specific positions.' He went on, in a reference which was in line with Ministry thinking: 'the existing courses should have their bias towards industrial engineering (as entailing production, operation and servicing) strengthened and the minimum standard for the award of the diploma after their completion should satisfy the requirements of the professional institutions for associate membership.' The Principal then stressed in a familiar theme that the College viewed its role in higher technological education as differing from that of established universities by stating, 'the courses should not be influenced by the requirements of London University for external degree examinations and no special tuition for these

1. Principal's Report, 1953-4, Archives, LUT.
examinations should be included.'1 His final point dealt with industrial links: 'co-operation with industry should be utilized to devise and operate courses which would incorporate periods of practical training in industry, in addition to, or instead of, practical training in the College Workshops.'2 Here the Principal clearly recognised that whilst the workshops provided valuable training, only by the inclusion of some periods of training with industrial firms could a comprehensive system of practical training be developed.

This was an indication that the College should now move into line with the most recent developments in sandwich courses such as those pioneered in the post-war period by Dr Venables and his colleagues of The Royal Technical College, Salford, in collaboration with the Metropolitan Vickers Electrical Company.3 These new sandwich courses, which provided practical training under the economic conditions of industry itself, entailed going beyond the limits of the 'Schofield system', which was confined to College workshop practice. However, there was to be considerable delay before modern sandwich courses were introduced at Loughborough.

The Principal's report also dealt with the question of residential facilities declaring that, 'residential life is a most important factor in the Loughborough type of technical education',4 a point similar to the one made by Dr Schofield in his ATI paper of 1951. Dr Haslegrave indicated that since only approximately one-third of the student body was accommodated in residential halls, it was very desirable that more halls be provided as soon as possible. He also commented upon the problems caused by the physical dispersal of the College: 'the work of the

1. Principal's Report, op. cit.
2. Ibid.
College is carried out in buildings of various types situated on seven distinct sites, with distances of 1/4 and 1 1/2 miles between some of them. The Principal pointed towards the need for concentration of the College on the 'playing field site'.

The report was frank and recognised two areas of difficulty for the College: firstly, attracting staff of the necessary calibre; and secondly, the need to improve the quality of technical and practical instruction. At the same time, the Principal pointed to the opportunities that the creation of the new Industrial Engineering Department would present in developing 'cost and production consciousness'. The new department, the first of its kind in the country, attracted considerable attention.

This remarkable report also attempted a definition of the role of the Principal. In Herbert Haslegrave's view, this entailed three main functions:

'a. general organisation and supervision of the work of the College in all its aspects,
b. building up the College as a separate entity,
c. developing new courses.'

The statistical information given in the report is significant: it showed that the College in the academic session 1953 to 1954 had 777 full-time students (with a further 18 for specialist summer vacation courses). That the institution should have all its students on full-time courses was unusual, since colleges of technology normally had a substantial part-time element. There were 490 British students in the College; 159 were from the Commonwealth; and 128 were from foreign countries. In percentage terms, United Kingdom students represented 63%, Commonwealth

1. Principal's Report, op. cit.
2. Ibid.
students 20.5% and foreign students 16.5% of the total. The students came from 48 different countries in addition to Britain. There were only 2 women students in what was an almost entirely male institution. The College constituted, therefore, an unusual technological institution in the 'public' sector: its focus was upon advanced full-time study, with an emphasis upon residential provision, and it had a strikingly international student recruitment. That the Loughborough approach to technological education, whilst along lines differing from the universities and in no sense competing with them, nevertheless attracted the attention of industrial and professional circles was indicated by the establishment of scholarships, tenable at the College, by the Burmah-Shell Oil Company and by the Institute of the Motor Industry (IMI).

The policy decision to phase-out the London external degree was clearly a major one, which was not welcome to a substantial body of the College staff. The thinking behind the decision was that the London external degree system had a warping effect upon the work of the College, since it could not set its own objectives and the University conception of technological courses tended to be imposed. Also, since the College was not a University institution, a degree was not the appropriate vehicle as the main institutional award. Given that the aim of the institution was to produce practically-trained, industry-oriented technologists, the Principal's view was that the Diploma of Loughborough College (DLC), well-known in industrial circles and established for 30 years, should be the main College award. One clear advantage of such a policy was that it allowed the institution to evolve its own system of higher technological education, without the

1. Principal's Report, op. cit.
2. Ex. inf. Dr H. L. Haslegrave.
3. Ibid.
4. Ibid.
constraints such as existed under the London University external degree arrangement or the Higher National Certificate system. One disadvantage however of this 'self-reliance' approach was the restricted national credibility of the DLC. The second disadvantage of promoting the DLC was that it did not qualify students for post-graduate study for higher degrees. Hence the College tended to have a very limited research function.

Nevertheless, it was clear that there was a significant demand for technical education in the Loughborough manner. The Principal's Report on the academic session 1954–5 indicated substantial growth in the College student enrolment, which increased to a total of 902 (compared with 795 in the previous session). Of the total for 1954–5, 801 students were taking Diploma courses, 76 a Works Study Course and 24 were on specialist summer courses. The Industrial Engineering Department was now operational, with Mr James France as Head of Department. The first courses initiated by the new department were intensive short courses for Work Study, which had received a favourable reaction from industrial circles. The next development planned was a 5 year sandwich course in Industrial Engineering to begin in September 1955: in this innovation, therefore, the Ministry view of a 5 year sandwich course was taken up by the College. The Principal's report provided interesting statistical information about the educational background and financial support of the British students at the College:

1. See Principal's Report, 1954–5, Archives, LUT.
2. Ibid.
3. Ibid.
a. Previous education of U.K. students

<table>
<thead>
<tr>
<th>Education Type</th>
<th>Number (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grammar</td>
<td>241 (58%)</td>
</tr>
<tr>
<td>Public</td>
<td>165 (40%)</td>
</tr>
<tr>
<td>Other Independent</td>
<td>7</td>
</tr>
<tr>
<td>Secondary Technical</td>
<td>3</td>
</tr>
<tr>
<td>Secondary Modern</td>
<td>1</td>
</tr>
</tbody>
</table>

b. Financial support of U.K. students

<table>
<thead>
<tr>
<th>Financial Type</th>
<th>Number (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financed privately</td>
<td>236 (52%)</td>
</tr>
<tr>
<td>Grants from LEAs</td>
<td>193 (42%)</td>
</tr>
<tr>
<td>Open Scholarships awarded by College</td>
<td>14</td>
</tr>
<tr>
<td>Open Scholarships awarded by I.M.I.</td>
<td>9</td>
</tr>
<tr>
<td>Others</td>
<td>4</td>
</tr>
</tbody>
</table>

It can be seen from the statistical tables above that of British students at the College the overwhelming majority (98%) had been educated at either grammar or public schools, whilst disappointingly - the recruitment from secondary technical and secondary modern schools was almost negligible. It is also noteworthy that just over half of British students in the college were privately-financed. In the general composition of the student body, Commonwealth students numbered 204, or 25.5%, of the total, a substantial increase over the previous year and the most important factor in the enlarged College enrolment.

The general role of the College in higher technological education in the first half of the 1950s was a very complex one, partly because the debate over national provision and the respective functions of the universities and technical colleges was still in a state of flux. For whilst the government had

1. For a discussion of the small national numbers of school-leavers from secondary technical and secondary modern schools entering further and higher education in the mid-1950s, see G. L. Payne, 'Britain's Scientific and Technological Manpower', London, 1960, pp 142-4.

2. Principal's Report, op. cit.
emphasised the role of the universities in the expansion of higher technological education, it became disappointed with the relatively slow growth in the university sector. Despite a major post-war effort in the universities to improve the supply of scientific and technological manpower, it was expansion of output in pure science rather than in technology that was actually achieved. Thus in 1955-6, of 6,000 students obtaining first degrees in science and technology, 4,200 gained their awards in pure science. The problem has been described by Burgess and Pratt in these terms, 'After all the post-war effort, 31% of all scientists and technologists were actually technologists compared with 23% at the time of the Percy Report of 1945'. That is to say, only a small improvement had been made in a decade.

The Government was also concerned about the level of production orientation of university-trained technologists. Doubt centred upon whether 'the university product was too academic, theoretical and remote from industrial reality.' In 1955 the need for more technologists again became the focus of public debate, following the publication of evidence suggesting that Britain was in danger of falling behind other leading industrial states in this critical field of man-power.

At Loughborough a step setting the stage for expansion was taken in the earlier part of 1955 with the decision to concentrate the College, when practicable, upon the 'playing field site'. The College development plan also envisaged progressing towards a target of 1,200 students, of whom it was intended that 850 should be accommodated in halls of residence. At this time it was also decided to re-organise the Department of Applied

2. Ibid.
Science and Chemical Engineering into two separate departments. 1

In the summer of 1955 the Principal was able to report to the Governors some success in the policy of obtaining national recognition of the DLC, 2 which was awarded on a classified Honours basis, with first and second classes, and also at the Pass level. The Institution of Mechanical Engineers was prepared to accept the Honours Diploma of the College as an exemption from Section B of its examinations. However, the DLC did not by itself secure full associate membership, the attainment of which would require taking the Institution's examination in Industrial Administration. Other professional institutions also recognised the DLC at varying levels of exemption.

The national debate about the question of distinctive awards for technical colleges reached a new peak in 1955, when the national shortage of trained man-power led to a re-assessment of the role of the technical colleges in higher technological education. 3 The award question was complex because of the various interests involved. The technical colleges wanted a new award which would free them from the control of external-awarding bodies, but which would obtain national recognition. The universities were unfavourably disposed to proposals for the award of degrees outside the university sector; and the professional institutions were also anxious to protect their interests. The NACEIC had in 1951 proposed an ingenious solution to overcome many of these difficulties - the creation of the Royal College of Technologists, which would be able to approve and moderate courses in the technical college sector, leading to a distinctive and recognised award. This solution, accepted by the Labour government, had been abandoned by its Conservative successor. But with

2. Ibid.
a more urgent interest in the whole award problem, the government re-considered the NACEIC proposals and in July 1955, Lord Hives was appointed as Chairman of a new body, the National Council for Diplomas in Technology, which was to act as a national validating body for a new award. The qualification, whilst intended to be of degree-equivalence, was to be called the Diploma in Technology (Dip Tech). This new national award was to open up possibilities for the College of Technology at Loughborough, which the DLC could not match.

Although this clarification of the award question at national level was of great significance, it also became clear in the mid-1950s that major advances in English technical education could only be achieved through a programme of massive capital expenditure by the government. For its part, Loughborough College of Technology reached mid-decade in a position of financial weakness. Towards the end of 1955 representatives of the Association of Teachers in Technical Institutions (ATTI) had drawn attention to the difficult financial circumstances then facing the College.

On the basis of the Principal's estimates, the ATTI calculated that the Ministry contribution to the running costs of the college was only 39%, whilst the remaining 61% of costs were met largely from student fees. As a consequence, fees at Loughborough had become inflated. The ATTI also initiated a correspondence with the Ministry regarding the representation of the teaching staff of the College on its Governing Body. In an exchange of letters, the Under Secretary, in an interesting comment upon the Ministry's view of College governance, declared, 'we could not agree that members of the teaching staff of this particular college should

2. Governors' Minutes, LC of T, 1 February 1956.
serve on the Governing Body itself.¹ The Governors concurred with this view.²

Because of the heavy administrative burden carried by the Principal it was decided in June 1956 to appoint a Vice-Principal. Again that faithful servant of the College, H. E. Falkner, was appointed in an acting capacity until a formal appointment had been made. The Principal himself was engaged in the massive task of re-defining the role of the College in the light of the government's major policy announcement about technical education.

The White Paper on 'Technical Education',³ published in February 1956, established a blue-print for a radical revision of the structure of technical education in the public sector. It aimed at increasing by about a half the output of students from advanced courses (from 9,500 to 15,000); and also at doubling the numbers of part-time day-release students. Massive funds were promised: £70 million, with a further £15 million for equipment, over a 5 year period. The White Paper clearly intended that a new age in technical education was to be inaugurated: Sir David Lindsay Keir described it as 'one of the great turning-points in British education.'⁴ On the question of course-structure, the government supported the sandwich principle, endorsing the NACEIC Report on sandwich training.⁵ Indeed, the government was anxious to press the sandwich approach and the White Paper declared, 'the government believe that for the highest technological qualifications sandwich courses will become more and more appropriate. These are courses lasting 4 or 5 years and involving alternate periods, usually of 3 to 6 months, of theoretical education in a

1. Governors' Minutes, LC of T, 1 February 1956.
2. Ibid.
5. This report, sometimes referred to as the Weekes Report, was published as Appendix B of the White Paper.
technical college and specially designed practical training in industry.'

The White Paper assumed that these courses would be eligible for the new award to be given by the re-named National Council for Technological Awards (NCTA). The Paper then dealt with proposals of particular significance to Loughborough: 'the government consider that the bulk of full-time or sandwich courses should be carried on in colleges which concentrate on advanced courses of technological level.' It went on, 'the Government now wish to see the proportion of advanced work at these colleges vigorously increased, so that as many of them as possible may develop into colleges of advanced technology.' This was of great importance because it indicated that the Government wished to develop a new type of advanced technical institution in the public sector. As a further indication of government thinking, the White Paper announced that, 'within the five year programme of capital development announced in this Paper the colleges of advanced technology will be expected to make considerable progress in increasing their volume of advanced work, especially by means of full-time and sandwich courses, and in divesting themselves of work below the advanced level.' In these new proposals - although parts did not apply to Loughborough which was already concentrating upon advanced full-time work and was financed on a direct-grant basis, with an independent Governing Body - there was hope that the achievement of many of the College aims of the pre-1956 period might now be possible. Everything hinged upon

1. White Paper, op. cit., para 57. (See also the paper by Mr Part, Under Secretary at the Ministry of Education, underlining the value of sandwich courses, 'The future of professional sandwich courses', Report of Second National Conference between Industry and Technical Colleges, 1957.)
2. Ibid., para 65.
3. Ibid., para 69.
the Government making a massively-enlarged financial provision for technical education in general and the College in particular.

The College Governors met on 16 June 1956 and considered a long and closely-argued policy document presented by the Principal. Its central point was that, 'the contents of the White Paper show that the policy decided by the Governors some two years ago is in accordance with the national plan, and that the financial resources for carrying out this policy in a greatly accelerated programme should be available.'

Herbert Haslegrave was partly justified in arguing that the definition of College policy in 1954 had a congruence with the White Paper in that it was concerned to promote a practical industry-oriented approach to technological education at the Honours Diploma level. But the White Paper stressed even more heavily than College policy the value of a 'sandwich' structure, when defined to include periods of practical training with industrial firms. Although Dr Haslegrave had clearly recognised the need to conduct practical training outside the College workshops, as he noted himself in the policy document, 'training in industrial establishments is not yet included in the Loughborough course.'

There had been a delay in implementing such a development, except in regard to the works-based sandwich course in industrial engineering.

The White Paper proposed an increased provision of Technical State Scholarships and also asked LEAs to be more generous in giving major awards to technical college students. The Principal believed this to be of great significance for Loughborough because it 'should lead to more applications from English students to enter the College.' The institution was still heavily

2. Ibid.
3. Ibid.
4. Ibid.
dependent upon its overseas recruitment, which constituted at the
time 45% of the enrolment. Dr Haslegrave argued that, 'it is ad-
visable however to reduce rather than increase this proportion.'

In a comment upon the question of research, the Principal
bluntly reported that, 'the volume of research work now being
carried out at Loughborough is not great, and will not be in-
creased very much by the present staff.' The Principal was
clearly implying that if the institution became a college of
advanced technology (CAT) a greater research effort would be
necessary and that new staff would need to be recruited for the
purpose.

In view of the special relationship which existed between
the College and the Ministry of Education, the Principal noted
that, 'the omission of any reference to the College in the White
Paper was unfortunate. This omission was interpreted by many in-
dustrialists and educationalists as well as by some of the staff
and students of the College, to imply that the standard of work
carried out by the College is not as high as that of 24 colleges
named as receiving 75% grant for certain of their advanced work,
and that the College was not likely to be recognised as a college
of advanced technology.' Indeed, in his own private assessment,
Dr Haslegrave was pessimistic about the likelihood of the College
obtaining CAT status.

The issue of CAT recognition was linked to the question of
awards. In May 1956, the NCTA (also called the Hives Council,
after its first chairman, Lord Hives) issued its memorandum on
the recognition of courses for the Diploma in Technology (Dip
Tech). Dr Haslegrave, in reporting to the College Governors,

2. Ibid.
3. Ibid.
4. He indicated this in an interview with the author.
dealt with the implications of this new award and gave a full exposition of his own view, 'the Diploma in Technology is intended to provide a high standard of award for courses conducted in technical colleges. One of the aims of the Council is to encourage colleges both to develop courses that differ from the university type of course, leading to the external degree of London University, and to plan courses in conjunction with industry. It will take at least 5 years for the Dip Tech to be established as fully equivalent to a degree. The Loughborough College Diploma has attained this recognition in some quarters, but not yet universally. It is likely that only a few courses in engineering will be approved in the first case and the initial demands upon the approved Colleges will be heavy.'

In an assessment of the NCTA approach, Dr Haslegrave indicated that the suggested pattern of courses in engineering, 'is very similar to the pattern of the honours diploma course at Loughborough College' except in respect of practical training with industrial firms, which the Council appeared to require for recognition. The Principal concluded that, 'it is most desirable for prestige reasons and recruitment alone, that some of the courses at the College should lead to the Hives award.' In the event, the hurdle of obtaining NCTA recognition of courses was to prove a stiffer test than perhaps was realized at Loughborough at the time.

In dealing with standards at the College, the Principal said, 'the reputation of the College is high abroad and in some parts of Great Britain, but there existed, rightly, much doubt about standards of work at the College in the minds of influential persons in professional, industrial and educational spheres.'

2. Ibid.
3. Ibid.
4. Ibid.
The Principal proposed a plan to develop the College to an enrolment of 1,660 students of whom 1,260 were to be in residential accommodation, whilst the remainder would be training with industrial firms. This would entail a major new Halls of Residence building programme to provide a further 800 places. His proposals for courses envisaged four main categories:

a. advanced technological courses leading to the award of the Dip Tech and the College Diploma,

b. lower-level courses to meet overseas and U.K. demands,

c. special courses for industry,

d. post-graduate courses.

The Governors gave a general acceptance to the Principal's policy proposals, though some doubt was expressed about running the lower-level courses.

The problem of priorities for a building programme also required clarification in the summer of 1956. The main aim was to provide for the ultimate transfer of the whole of the College to the 'playing field site', where both its teaching and residential facilities could be centralised. In order to provide the necessary land for such a development it was agreed by a special meeting of Governors in July that the Burleigh Hall estate should be purchased if, and when, available (see Figure 2).

In June 1956 the vital Ministry of Education Circular 305, 'The Organisation of Technical Colleges', was published. This document elaborated upon the White Paper and defined in closer terms the new structure of technical education which the government planned. Briefly, it proposed what Sir Peter Venables has

2. Ibid.
Figure 2. Sketch map of the playing field site showing the location of the Burleigh Hall Estate. (Circa 1956)
termed a 'structured system of technical education',¹ and what Burgess and Pratt have called a 'hierarchy'² of colleges. Four main types of College were designated: local colleges, area colleges, regional colleges and colleges of advanced technology. This last category referred to colleges which were to have a substantial volume of exclusively advanced work, mainly full-time and sandwich. The number of colleges to be designated as CATs was likely to be very small: the question for Loughborough was whether or not it was to be given CAT status.

Doubts existed at Loughborough about CAT designation on three main grounds. Firstly, the College did not in any essential way serve local industry. Secondly, there was the factor of its geographical location in a relatively small town and the attendant question of whether this was a suitable centre for a CAT. Thirdly, in terms of its academic courses, the College did little specialist work.³ But it is difficult to envisage the Ministry of Education (which had created the College in 1952 to preserve advanced technological education at Loughborough) not granting the College such a status. The Ministry could be expected to regard its own direct-grant institution as part of the CAT scheme: otherwise the wisdom of its rescue operation of 1952 would be called into question. The logic of the decision-making situation pointed to the College becoming part of the CAT system - unless the Ministry was prepared to make, in the context of the new national plan, yet another special arrangement for Loughborough. This seemed unlikely since the 1956 proposals were clearly designed to create a coherent national structure. If Loughborough was to be accommodated within the national plan, then given the

². See Burgess and Pratt, op. cit., p 39.
³. Ex. inf. Dr H. L. Haslegrave.
Ministry attitude in 1952 and the commitment to maintaining advanced technological studies at Loughborough which it entailed, its place was likely to be within the CAT part of the general structure. If standards needed to be raised or methods altered this could be done within the CAT context.¹

The role of Loughborough College of Technology in the new national pattern, as outlined in Circular 305, was discussed at a very important meeting at the Ministry of Education on 10 August 1956. A College delegation, including Sir Harold West, Dr Haslegrave and Mr S. C. Mason met representatives of the Ministry, Mr A. A. Part, Under Secretary, and Mr H. J. Shelley, Chief Inspector.² It was made clear that the Ministry was prepared to sanction a large-scale expansion of the College. It was agreed that plans should be based on a College capacity of 1,200 resident students. This entailed a Ministry undertaking, which was forthcoming, to permit a massive halls of residence building programme at Loughborough. On the question of the composition of the Governing Body (a key test for CAT status) the Under Secretary said that it was, 'a very representative one.'³ Concerning the standard and nature of work at the College, the Ministry officials expressed no disagreement with the main outlines of the Principal's policy proposals. They did, however, emphasise the need for Advisory Committees of the Governing Body, particularly one for sandwich courses, and indicated too the need to encourage research work. On the question of capital expenditure for a building programme, the Under Secretary said that, 'it was assumed that the erection of teaching and residential buildings would

1. The author is grateful for discussion of the CAT-recognition question to Mr S. C. Mason, Dr H. L. Haslegrave, and Sir Peter Venables.
2. See Notes of this meeting, Governors' Minutes, LC of T, 10 October 1956.
3. Ibid.
proceed simultaneously, and that the programme involving an expenditure of £1,500,000 or more would go on continuously if possible.¹

In a definition of aims, the College and Ministry representatives agreed, 'that basic training should be given in engineering, directed particularly towards the productive side of industry, and that the ultimate position for which training was suitable could not be specified.'² The Under Secretary emphasised that, 'the Ministry requested that teaching and work should be developed within its context to as high a level as possible.'³ The Loughborough representatives could feel satisfied with the outcome of the meeting since the Ministry officials agreed with the main proposals for large-scale expansion of the College; and also the Ministry attitude implied that Loughborough was likely to become part of the CAT grouping of Colleges.

However, some months passed before the Ministry formally indicated, in a letter dated 19 December 1956, that the College was to be designated as a CAT, as from 1 January 1957.⁴ The College thus became one of eight such colleges in England and Wales, the others being: Birmingham College of Technology; Bradford Institute of Technology; the Royal Technical College, Salford; Battersea College of Technology; Chelsea College of Science and Technology; Northampton College of Advanced Technology, London; and the Welsh College of Advanced Technology, Cardiff.⁵ The designation of colleges as CATs and the criteria for recognition constituted a complex question.⁶ Circular 305 had

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1. See Governors' Minutes, LC of T, 10 October 1956.
2. Ibid.
3. Ibid.
4. Governors' Minutes, LC of T, 6 February 1957.
5. Bristol and Brunel Colleges also became CATs later. (See Appendix B.)
indicated the conditions for recognition: 1

a. the scope and standard of the work: 'The college must provide a broad range and substantial volume of technological and allied work exclusively at advanced level (whether full-time, sandwich or part-time courses) including research and post-graduate work.'

b. the governing body: this should be constituted on a widely representative basis, including 'strong direct representation of industry' and must have financial authority 'to spend within the heads of annual estimates.'

c. advisory committees: these should be established for 'each technology studied in the college.'

d. staffing: 'the teaching conditions at these colleges will have to approximate to those for work of equivalent standard at the universities.' Research work by staff should be encouraged; and teaching methods should provide for seminars and private study.

e. research and consulting work: 'The Minister attaches much importance to these activities both as a means of attracting good staff and in order to encourage the closest contacts between the college and industry.'

f. accommodation: 'must include adequate library provision, staff rooms, space for private study and communal facilities.' Also 'provision for residential accommodation is important.'

These criteria defined in a sense what was desirable rather than what existed, since in probably no technical college in the country did they all apply in their various aspects: they acted more perhaps as a general yardstick, and also as objectives for future development. The Circular itself implicitly recognised

1. See the Appendix to Circular 305.
this by saying, 'colleges concerned will be designated as soon as the Minister has been able to satisfy himself that the college already fulfils the conditions . . . or will be able to do so in the near future.' Despite later statements to the contrary, Loughborough College of Technology in 1956 did not completely satisfy all the conditions. Although it concentrated on full-time courses, had an independent governing body and possessed a fair amount of residential accommodation, little research work was being done; and the physical facilities and conditions of work left much to be desired. This applied particularly in respect of poor laboratory provision; and also the refectory, which was a converted dance hall in the town. But conditions in other colleges designated as CATs were no better and in several they were apparently worse. Indeed, in certain respects Loughborough enjoyed a special position: it was a direct-grant institution (none of the other CATs obtained this status until 1962); it had a governing body independent of the LEA; it possessed several halls of residence; and it provided no part-time, lower-level courses. Thus adjustment to CAT status was not as complicated for Loughborough as for those other CATs which had to shed their part-time and lower-level courses.

However, Loughborough had its problems. The site situation was serious in 1956 because of physical dispersal and the unsuitability of some of the buildings, though this was soon to be rectified by a massive new building programme. The other factor, that the College was not located in a large industrial town or

2. For example, see Argles, op. cit., p 110, 'At first only three colleges - Loughborough, Chelsea and Battersea - really measured up to these exacting standards.'
3. Ex. inf. Dr Haslegrave.
conurbation (as were most CATs) required a special effort to build up industrial links on a national rather than regional or local basis.

The achievement of CAT status came at a crucial time for Loughborough College of Technology since it signalled a major injection of capital to develop the institution in all directions: a building project to improve its physical facilities and house the whole College on one site; the substantial enlargement of its student numbers; and the raising of the quality of its work. Although the College in its pre-1956 policy had set itself on a path in accord with modern and progressive ideas of technological education, it faced many difficulties. In particular, since the budgetary provision by the Ministry before 1956 was restricted, the site and physical facilities of the College remained relatively poor. The sudden opening of the financial sluice-gates in 1956 changed all this: the College could look forward to being housed on a centralized site with the most modern facilities, both academic and residential. Furthermore, the Diploma in Technology, validated by a national council, was a fundamentally better award for the institution than the DLC, which for all its various merits had still not achieved effective national credibility. Although membership of the CAT grouping caused a certain reduction in Loughborough's separateness of identity, in most senses it presented a much wider range of possibilities than existed in the pre-1956 situation. As part of a national plan for higher technological education, the College had a clearer definition of its objectives and was also assured of the necessary

1. Ex. inf. Dr Haslegrave.
2. The Loughborough award, like the associateship of Birmingham College of Technology, was not included in the Ministry of Labour's definition of 'qualified scientists and engineers' for its 1956 manpower survey. See G. L. Payne, op. cit., p 207.
financial backing. It could now contemplate a larger enrolment of British students, attracted by a nationally-validated award, and reduce its dependence upon overseas recruitment, which might in the long-term prove unpredictable. Also the government and NCTA insistence upon the sandwich approach to technological education set a national context within which the College could move towards setting up those sandwich courses which the Principal had long advocated.

In retrospect, it seems that the Ministry decision in 1952 to save the advanced technological departments at Loughborough led to the more important decision of 1956 by which the College became a CAT. Loughborough had provided useful precedents for the CAT experiment: the desirability of an independent governing body, concentration upon full-time courses, and financial provision on a direct-grant basis. This last feature was possibly Loughborough's most important role as a precursor of the CATs, since the College had played a major part in demonstrating the practicability of financing advanced work through the Ministry of Education, rather than through the University Grants Committee.¹ Later, in 1962, the direct-grant mechanism was applied to all the other CATs. Loughborough was also important in developing the concept of residential provision in the public sector, though generally other CATs were to remain less fortunate in the development of residential halls than Loughborough. This was partly because of the historical circumstances in regard to residence at Loughborough and also because full residential provision at Loughborough was dictated by circumstances, owing to the inadequate supply of lodgings in a small town. Nevertheless, Loughborough College of Technology helped to promote the residential collegiate model in the non-university sector.

¹ The author is grateful for discussion of this point to Mr S. C. Mason.
The College had not, however, taken a leading role in the development of modern sandwich courses; nor had it, in common with the other major technical colleges which became CATs, been able fully to solve the award problem in the public sector by promoting its own diploma. But the new national policy of developing sandwich courses and establishing a nationally-validated award in technology offered a solution to these difficulties.

Thus the re-appraisal of national needs and the elaboration of a new national plan for advanced technological education in 1956 established new financial and policy perspectives at Loughborough, which soon led to a complete transformation of the College. From being a 'special case' institution, operating with difficulties both in regard to financial provision and the recognition of its work, the institution became part of a larger grouping of similar advanced colleges, all generously financed and able collectively to make a nationally-recognised contribution to advanced technological education. Generally Loughborough College of Technology was to derive great advantages from belonging to the 'CAT grouping'; and the years of delay before 1956 gave way to a period of rapid advance.
CHAPTER IV
The period of rapid growth: from Advanced College designation to the Robbins Report (1957-1963)

The immediate background in national policy to the emergence of the Colleges of Advanced Technology was the acceptance by the government of the recommendations of the Advisory Council on Scientific Policy in 1956 that the existing annual output of about 10,000 professional scientists and engineers should be increased to at least 20,000 by the late 1960s. The 1956 White Paper on Technical Education stated the government's intention that both the universities and the technical colleges, especially the colleges of advanced technology, would contribute about equally to the required increase in scientific and technological manpower. The White Paper and its accompanying Circular 305 established a pyramid of technical institutions in the public sector, with the Colleges of Advanced Technology (CATs) forming the apex. These Advanced Colleges, strictly limited in number, were expected to shoulder national responsibilities for improving the output and quality of technologists. To this end they were accorded special financial treatment and 'university-quality' conditions of work. The CATs emerged as a very small group of carefully selected Colleges: eight were designated by 1958 and a further two by 1962. Thus Loughborough College of Technology, following CAT-designation, became part of a favoured group of colleges with a distinct status within the public sector.

The policy of concentration of advanced work in a carefully

2. To avoid frequent repetition of the full title of College of Advanced Technology, the shortened term 'Advanced College' suggested by Venables will be used, and also the abbreviation CAT.
restricted number of technical colleges had been advocated by the Percy Committee Report in 1945: in this sense the CATs were the product, a decade later, of the 'Percy strategy'. But such a plan for the development of higher technological education had been the subject of prolonged controversy in the post-war period. A powerful lobby argued the case for permitting advanced courses to be conducted in a generality of technical colleges. The debate centred, therefore, upon the merits of a policy of concentration as against a policy of dispersal.¹ By one of those oddities of British governmental decision-making and of its penchant for compromise, both of these policies were officially adopted, at least in part. For in 1955, prior to the White Paper, the Government approved the creation of the National Council for Technological Awards (NCTA), the body for a new degree-equivalent award, the Diploma in Technology. This award was to be available to any college which could satisfy the requirements of the NCTA. In this sense the NCTA pre-empted the CATs,² so that Dip Tech courses were not restricted to the Advanced Colleges but were available in some other technical colleges. However, partly because of the superior resources available to the CATs, the bulk of such courses came to be conducted in the CATs. Thus the combined effects of the policy decisions of 1955 and 1956, which created the NCTA and the CATs, caused the concentration of advanced work, though the system carried within it certain tendencies towards dispersal. The CATs were the privileged recipients of resources; and whilst in principle the NCTA award was available to all, in practice its standards restricted Dip Tech courses to a few, especially the CATs.³ Thus the emphasis was essentially

2. I am grateful for discussion of this point to Sir Cyril English.
upon concentration.

The distinct and elevated position in the public sector of the CATs raised questions about their position vis-à-vis the universities. One of the main objectives of the 1956 White Paper was to foster the growth of advanced technological courses, involving intimate links with industry through sandwich courses. Such courses, whilst favoured by industrialists, did not at that time form part of the established pattern of technological education in universities. It can be argued that the decisions of 1956 leading to the creation of the CATs represented a deliberate effort by the government to meet the need for production-oriented technologists, since there was continuing doubt in industrial circles about whether university graduates in technology were really educated and trained in the way that industrial practice required.¹

If the CATs were to concentrate on advanced work, with an emphasis upon a degree-equivalent award, this raised important issues both for advanced technological education in particular and higher education in general. The first concerned the question of the aims and methods of the CATs as against those of the technological departments of the universities. The most influential of the CAT Principals, Dr P. F. R. Venables,² offered this important definition of the difference of the CAT approach when compared with the universities: 'the content and relationships with industry will differ in significant ways, notably in providing courses having integrated industrial training.'³ Thus from the beginning the CATs were seen as making a vital

¹ For discussion of these points, see Burgess and Pratt, op. cit., pp 24-5.
² Dr P. F. R. Venables was Principal of Birmingham College of Technology and Chairman of the Committee of CAT Principals. He was knighted in 1963.
contribution in higher technological education complementary to, and different from, the work of the universities. Few people, however, expected in the early stages of the CAT experiment that the Advanced Colleges would, within a decade of the first designations, become universities. But with the setting up of the Robbins Committee on Higher Education in 1961, and particularly after 1962 when the other CATs joined Loughborough as direct-grant institutions, parity with universities became a more marked CAT objective.

However, in the first few years after designation, the CATs were concerned not so much with the goal of university status as with establishing and developing new courses for the Diploma in Technology, and in organising and extending their links with industry. The NCTA set rigorous standards for recognition of Dip Tech courses which caused difficulties for most CATs, including Loughborough, in obtaining recognition of their courses. The key concept of the honours degree equivalence of Dip Tech was fully applied by the Council in its approach to assessing proposed courses.

The Diploma in Technology was innovative in a number of directions but most importantly in its emphasis upon the sandwich principle: for the Diploma was typically gained through following a sandwich course of integrated academic and industrial training. The concept itself was not new: it was introduced in Scotland in the late nineteenth century and at the Sunderland Technical College in 1903. But by insisting on its inclusion in a degree equivalent course such as Dip Tech, the NCTA enabled sandwich

1. See Burgess and Pratt, op. cit., p 172.
2. Ex. inf. Sir Cyril English and Sir Peter Venables.
3. In certain cases, the NCTA recognised full-time courses.
courses to gain full academic recognition. ¹ The organisation of sandwich courses, including training with industrial firms as against the College Workshops, was to prove a particular challenge to Loughborough College of Technology. Two other important innovations of Dip Tech were the introduction of project work in the final year of the course and the inclusion of 'liberal studies' in the technological curriculum.

The courses were to be of at least four years' duration, were to include an aggregate of not less than one year's integrated industrial training, and entry requirements were flexible - either two 'A' levels or a good O.N.C. or the equivalent. This flexibility of entrance was a further major innovative feature established by the NCTA for degree-equivalent awards. Moreover, the NCTA operated in a radically different way to the National Certificate scheme since it accorded a great deal of academic autonomy to the Colleges. Nevertheless, the NCTA arrangement required of the CATs a dependence upon external recognition and validation of courses which was to prove increasingly restrictive.

The CATs were a grouping of eight, later ten, institutions of considerable diversity. Initially, Chelsea Polytechnic² for example had no departments of engineering but possessed the largest School of Pharmacy in the country,³ whilst Battersea Polytechnic did little sandwich work.⁴ Indeed, the original three London CATs (the other was Northampton Polytechnic) constituted a 'group within a group' since they were permitted to enter students for internal degrees of London University, thereby

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² This use of the term 'polytechnic' in London predated the designations following the 1966 White Paper on new Polytechnics.
⁴ Ex. inf. Sir Peter Venables.
avoiding many of the difficulties of the external registration of students for London degrees which faced other CATs. However, under the energetic and far sighted leadership of its chairman, Dr Venables, the Committee of CAT Principals maintained (at least until the publication of the Robbins Report) a considerable degree of unity — despite the heterogeneous background of its members. But the CAT grouping lacked complete cohesion, partly because there was no inherent unity of commitment to sandwich courses. ¹

The college at Loughborough was itself in a special position within the CAT grouping since it continued until 1962 to be the only direct-grant institution amongst the Advanced Colleges. Loughborough was also different from the others in the scale of its commitment to the residential principle. Furthermore, since it offered only full-time advanced courses in the pre-CAT period it was not involved in that complicated process of the shedding of lower-level, part-time work, which was the case for other CATs.

In the light of the decisions at both national and local level in 1956, Loughborough College of Technology at the beginning of 1957 embarked upon a five year programme of intensive development: in the expansion of its physical facilities, the increase of its student population and the re-organising of its academic work. For the provision of those residential facilities to which the College attached such importance, early in 1957 the Governors discussed the idea of building a 'student village' on the playing field site. ² During this five year period of development at Loughborough a major programme for the erecting and equipping of new buildings to the value of nearly £3 million was carried out,

1. I am grateful to Sir Peter Venables for discussion of this point.
2. See Governors' Minutes, LC of T, 6 February 1957.
from funds provided by the Ministry of Education. The College was able, by the end of the plan, to centralize both its teaching and residential accommodation on a magnificent new campus on the western edge of Loughborough and to end its reliance upon old and unsatisfactory premises in the centre of the town. Nevertheless, the process of transferring from the old central site to the playing fields entailed a difficult transitional period at a critical phase of the CAT experiment.

In April 1957 the Chairman of the Governors, Sir Harold West, indicated his intention to resign his office: he was succeeded by Sir Edward Herbert, a man whose considerable reputation and influence at a national level proved of great assistance to the College in a period of rapid change. Another important internal event happened at the same time with the appointment of Mr R. L. Cannell as Vice-Principal.

In early 1957 the first visitation to the college of the NCTA occurred to examine College courses with a view to their possible recognition for Dip Tech purposes. The College put forward proposals for four year sandwich courses in production, mechanical, electrical and aeronautical engineering and in industrial chemistry; and also three year full-time courses in chemical engineering and industrial chemistry. The visitation proved to be a severe test for the institution, for the rigour of which the College, in some senses, was not fully prepared. Since the College was at the time still using the old and inadequate

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1. See Governors' Minutes, LC of T, 10 April 1957.
3. Governors' Minutes, LC of T, 10 April 1957.
buildings of the central town site, the physical facilities were relatively poor and did not impress the visiting panel,¹ which was headed by Sir Walter Puckey. Nor was the calibre of some of the staff at the College regarded by the NCTA as fully satisfactory for conducting advanced courses.² Indeed, these two problem-areas, the inadequate physical facilities and the weak calibre of some of the staff of the College, were to prove the main impediments in preventing the College from obtaining recognition of courses for Dip Tech awards. By their nature, they were not difficulties which could be overcome in a short time. The content of the proposed College courses also posed problems: but these generally were not of a major kind and were capable of much quicker solution.

The NCTA did prove 'agreeable for the College to award its own Diploma as well as the Diploma in Technology for the same course.'³ But the Council representatives raised other important issues. Firstly, they pointed out that there was no programme of liberal studies in the College – and such provision was required for Dip Tech recognition. Secondly, they asked for clarification of the role of College Workshop practice in the context of the industrial training requirements of the NCTA. The Principal had attempted to anticipate the point concerning liberal studies and a senior lecturer responsible for this field was to be appointed, as from 1 January 1958. On the second point it appears that the NCTA whilst prepared to concede the value of the College Workshops for basic practical training, nevertheless insisted on the full NCTA requirement of an aggregate of one year's training with industrial firms. As to the arrangements made for the visiting

1. Ex. inf. Dr Haslegrave.
2. Ibid.
3. See Minutes of Heads of Departments' (HODs) meetings, LC of T, 3 April 1957, Archives, LUT.
party, the Principal's view was that the panel should see the College in normal operation without any deliberate setting of the scene for the visitation. In the event this proved to be a tactical mistake: a point later put to the Principal by the Under Secretary at the Ministry of Education. ¹

From the College point of view, the result of the visitation was a very serious set-back. The Secretary of the NCTA informed the College that, 'the Council could not recognise any of the courses in the form submitted.'² It would appear that the Principal and his colleagues had under-estimated the stringency of the requirements of the NCTA. Faced with this serious situation the College quickly made revisions in its proposed courses in production, electrical, aeronautical and mechanical engineering; and within a few months two courses (those in production and electrical engineering) were recognised.³ But difficulties were still encountered in respect of the other proposed courses. The Principal informed the Governors that physical facilities and staffing still represented the biggest problems.

Thus the College at Loughborough, like most of the CATs, found that the NCTA both established exacting standards and interpreted its brief in a very rigorous way. The extent of NCTA rejection of courses was high: of 83 considered by the Council, by August 1957, only 49 were accepted.⁴ In the context of obtaining Dip Tech recognition, the performance of the CATs at this early stage was indifferent, and demonstrated the need for major improvements in conditions in the Advanced Colleges.⁵ Initially

1. Ex. inf. Dr Haslegrave.
2. Governors' Minutes, LC of T, 5 February 1958.
5. Ex. inf. Sir Cyril English. The author is also grateful to Sir Peter Venables for discussion of issues related to the NCTA.
Salford CAT also had all of its courses rejected, whilst two of the eventual CATs, Bradford and Bristol, did not submit (at this stage) any courses to the NCTA. The performance of Birmingham CAT, however, was markedly better and all of its courses were accepted for Dip Tech. It is interesting to note in regard to the approval of courses, that the successor body to the NCTA, the Council for National Academic Awards (CNAA) has also demonstrated a relatively high rate of rejection of proposed courses: approximately half have been turned down.

The NCTA machinery and especially the composition of its boards of studies became the subject of controversy and many Principals were critical. Dr Haslegrave was particularly concerned about the extent of university representation within the NCTA and the likelihood that this would involve a 'university approach' to the structuring and shaping of the Dip Tech. On the other hand, it can be argued that a body concerned with validating a degree-equivalent award would necessarily have to contain a substantial number of university representatives. To meet CAT criticism, in 1958 and 1961, changes were made in the NCTA structure, the most important of which permitted representation of the Committee of CAT Principals on the Council's boards of study, because of the substantial contribution that the CATs were making to the development of the Dip Tech. There are interesting similarities between the general CAT attitude to the NCTA and the view of the CNAA taken by the present-day Polytechnics. In some important senses, the Polytechnics voice parallel complaints about the CNAA as the CATs did about the NCTA: that the Council is too slow in approving courses and that it has not given precise

1. See Burgess and Pratt, op. cit., p 62.
indications of its requirements to the Colleges.  

In 1958, the internal government of the College at Loughborough was re-organised in order to permit the establishment of a more representative Board of Studies. In April Dr Haslegrave presented a memorandum to the Governors proposing to extend membership of the Board of Studies to teaching staff below the level of Head of Department. The enlarged Board would then comprise the following: the Principal, Vice-Principal, Registrar, Heads of Department and one representative from each department, and also the senior lecturers in Liberal Studies and Mathematics. Following this re-organisation and strengthening of the Board of Studies, the Principal submitted a further memorandum to the Governors concerning the representation of academic staff on the Governing Body. After discussion the Governors resolved that three Heads of Department and two other members of teaching staff should be invited to attend meetings of the Governing Body. Their function was, however, to be a strictly limited one: they could help and advise the Governing Body, but not vote. Such was the narrow interpretation of the role of academic staff in College governance at this time.

On Diploma Day in 1958, Dr Haslegrave was able to review both the previous academic year and also the evolution of the College over the five year period from 1953. In respect of one criterion of progress, that of student numbers, the Principal

1. Cantor and Roberts, op. cit., p 53. In fairness to the CNAA, it could be said that (like the NCTA) it has not given detailed course specifications in order to permit a flexible situation for individual colleges to put forward their own proposals for courses. Also the CNAA (again like the NCTA) has quite properly established irreproachable standards for approval of courses: hence the relatively high rejection rate.

2. Governors' Minutes, 2 April 1958.


could report a gratifying increase. In the academic session 1957-8, he reported that there were 940 students on diploma courses and 306 on specialised courses. He summarised the position thus: there had been an increase from 795 to 1246 students (a 57% rise) including a most significant increase of 21% in diploma students. He further indicated that the proportion of overseas students had fallen from 42.5% in 1953 to 38%, and was likely to fall gradually to 30%.\(^1\) In terms of residential provision Loughborough CAT was able by this time to accommodate over one third of its Diploma students in Halls. In respect of residence Loughborough was better placed than any other CAT.\(^2\)

Commenting upon the contribution of the Industrial Engineering Department, the Principal stressed the importance of its work in post-graduate and specialist courses in management and work study. These courses were the spearhead of the advances made by the College in the post-graduate field. Dr Haslegrave was also able to announce that a new course in metallurgical works engineering was started in the session 1957-8 in co-operation with the British Iron and Steel Federation. This was something of a break-through, since it represented the first known example of an industry, not a single firm, formulating an educational scheme and asking a College to co-operate in it. In a reference to the difficulties that the College had experienced with regard to negotiations with the NCTA, the Principal indicated that considerable progress had been made in bringing closer together the views of the Council and of the College.\(^3\)

Dr Haslegrave did not often comment publicly upon the larger

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issues in higher technological education. But in this instance, he made an important and justifiable point: that there was a period of transition in which the Colleges faced up to the necessary requirements of the NCTA, and the Council became more fully acquainted with the very real difficulties which the Colleges faced. A particular problem for Loughborough CAT in its relationship with the NCTA was that the Principal himself was unhappy about both the machinery of the Council and its general approach to technological education. It was, therefore, unlikely that negotiations would prove easy.

In his private thinking about the CAT experiment, Dr Haslegrave was unconvinced that CAT status would make very much difference to the achievement of the goal of producing practical, industry-oriented technologists. He was personally of the opinion that an Institute of Technology, of major reputation such as that of the Massachusetts Institute of Technology (MIT), would be a more suitable mechanism for the attainment of the desired objectives. At Birmingham, Dr Venables wanted to see the emergence of chartered royal colleges of technology, a concept which had considerable congruence with the ideas of Dr Haslegrave. But obtaining a common conception of the nature and objectives of the institutions over which they presided did not prove easy for the CAT Principals: arguably the CATs would have been even more effective with a unified approach by the Committee of CAT Principals on these basic questions. The Principals were, however, united on one cardinal point: that of the need to be given degree-awarding powers.

1. Ex. inf. Dr Haslegrave. His view of an Institute of Technology did not, however, stress to the same extent such commitment to research as that which characterises the work of MIT.

2. The author is grateful for discussion of this point to Dr Haslegrave and Sir Peter Venables.
Writing in 1959, Dr Venables identified two factors which might prevent the CATs from their full emergence. Firstly, he was concerned lest opposition from the Regional and other colleges in further education would prevent the CATs obtaining full academic autonomy. Secondly, he was apprehensive about the attitude which the universities might adopt towards the development of institutions of quasi-university status, which might conceivably be regarded as rivals to established universities. In the event, these apprehensions, though understandable at the time, proved to be largely unfounded. The NCTA was accepted nationally as setting irreproachable standards for the Diploma in Technology and the universities quickly recognised it as equivalent to their own bachelors' degrees. Also the NCTA did not become a vehicle for 'Regional college resistance' to the CATs: if anything, the CATs came to acquire a powerful position within the NCTA machinery.

For his part Dr Haslegrave discussed the functions of CATs at the Governors' meeting in July 1958. He emphasised the point that advanced technological education should not be thought of in terms of technical training from which it had been evolved. In an interesting observation, the Principal said, 'Our students must be educated to meet the technological requirements of the future and not be trained in technologies of the present. We must not borrow time from fundamental scientific training to use in the teaching of applications [For they can be taught during industrial training periods.]' Here the Principal was expounding a very forward-looking conception of technological education and

2. Ibid.
5. Governors' Minutes, LC of T, 23 July 1958.
one which went beyond the Schofield system of training.

In the autumn of 1958, the College - in what was an important development - made moves to purchase the land of the Burleigh Estate, adjacent to the playing field site (see Figure 2). With ownership of this estate the College would acquire an integrated campus of approximately 300 acres, thus securing the physical space for its long-term development. The College regarded possession of the Burleigh Estate as vital in this respect. After protracted negotiations and by bringing strong pressure to bear upon the Ministry, which included the threatened resignation of the whole Governing Body if the money were not forthcoming, the funds necessary for the purchase were found and the College acquired the land.¹ The role of Sir Edward Herbert in the difficult negotiations with the Ministry was of particular importance.²

It was also vitally necessary at this stage for the College to formulate a strategic plan with regard to sandwich courses, as the Principal fully realized. Thus in November 1958 he presented a memorandum on such courses to the Governors.³ He began by identifying two important general aspects of the sandwich system: the integration of academic and industrial training, and the supervision of the industrial training periods. The Principal stressed that the NCTA required college staff to visit students when on training with industrial firms; and he indicated that College staffing would have to take account of the additional work-load this would represent. He was anxious that the Governors should appreciate the extent of the pressure from industry for

¹. After the purchase Burleigh Hall itself was found to be in such a state of disrepair that it was demolished.
². Ex. inf. Dr Haslegrave.
³. Governors' Minutes, 15 November 1958.
these sandwich courses.\textsuperscript{1} Industrialists were keen on sandwich courses because they were seen as the remedy to the problem of the divorce between theory and practice in English technological education. In short, these courses were expected to produce students with an understanding of the industrial environment as well as of theoretical knowledge.

Dr Haslegrave indicated that the NCTA had recognised two broad variants within the sandwich system: the so-called 'thin' and 'thick' arrangements.\textsuperscript{2} The Principal also drew attention to the NCTA requirement for the 'integration' of academic and practical training, with the consequent need for College staff to visit students in industry. Nationally, 'integration' of academic study and practical training was to prove the most difficult problem in operating the Dip Tech scheme, as the NCTA itself recognised. There existed a fundamental difference of approach between that of the NCTA, which emphasised the education of technologists, and that of industry which stressed the training aspect. This question of the distinction between education and training proved very difficult to resolve.\textsuperscript{3}

The framework within which the College could operate sandwich courses had by now been fully assessed by the Principal. The tempo of NCTA recognition of proposed College courses began to quicken. At the end of 1958 the Council recognised the sandwich course in aeronautical engineering and the full-time course in chemical engineering, both on condition that more staff be

\begin{enumerate}
\item Governors' Minutes, 15 November 1958.
\item The 'thin sandwich' course was a four year course in which six months in every year were spent in College and the other six in industry. The 'thick sandwich' involved four years in which one term in each of the first two years, with an additional 8 week period during vacations, was spent in practical training in College Workshops and a period of 24 weeks later in the course was spent with industry.
\item See Burgess and Pratt, 'Policy and Practice', op. cit., pp 86-7.
\end{enumerate}
appointed.

At the beginning of 1959 the College appointed Mr (now Professor) K. J. Hume as its first Reader to work in the field of production technology. The post of reader had been specially introduced into the Burnham scales in 1956 in order to encourage CATs to embark seriously upon research programmes. But Loughborough, like other CATs, found it difficult to attract men of suitable calibre to fill such posts. Indeed in 1959, the Under Secretary at the Ministry of Education himself stated publicly that real problems were being encountered in filling the key posts of both Heads of Department and Readers in the CATs. Burgess and Pratt have described the general problem of CAT staffing in these terms, 'Vacancies at all levels remained unfilled for long periods though the problem was more serious at the top.' In respect of Readers, there is an interesting parallel between the CATs and the new Polytechnics. For although it has become possible since 1967 to make such appointments, the number of Readers in Polytechnics is still very small.

In the summer of 1959 the Loughborough Governors awarded the £1½ million contract for the major phase of the new building programme to the large and reputable firm of Messrs W. Moss & Sons Ltd. Thus the important decisions concerning the main part of the building programme and the acquiring of the Burleigh Estate were taken before the beginning of the academic session 1959-60. The building programme was indeed central to all further development of the College: a point re-inforced by the continuing refusal of the NCTA to grant Dip Tech recognition to the mechanical

1. See Burgess and Pratt, op. cit., p 108.
3. See Burgess and Pratt, op. cit., p 121.
4. See Cantor and Roberts, op. cit., p 188.
engineering course until the laboratory provision had been improved.¹

The academic year 1959–60 began with 920 students in residence. The new session provided the Principal with the opportunity to make new proposals for a personal tutor scheme to operate in the residential halls. Such a scheme was seen as important in the light of the planned development of the 'student village' accommodating approximately 1,000 students. Dr Haslegrave's view was that the basis of the scheme was 'moral tutorship' and that, since the College was to become almost entirely residential, it seemed sensible to have a tutorial scheme linked to the Halls. Thus Loughborough College of Technology maintained and extended that commitment to the residential principle and corporate life which had characterised the growth of the old College during the Schofield period. It retained, however, an almost entirely male membership with very few girl students: indeed as long as the CATs remained monotechnic institutions oriented towards the technologies, it seemed unlikely that they would develop into effectively co-educational colleges.

Early in 1960 the Principal submitted a radical proposal to the Governors to create a post-graduate department within the College in the field of Ergonomics. This specialised and, from an English point of view, rather novel subject was regarded by the Principal and some of the senior HMIs as an important field, whose development at Loughborough seemed appropriate. There was at that time no such provision in any other CAT or technical college. There were certain difficulties in implementing the scheme. Firstly, ergonomics² was not an area of study readily

¹ Governors' Minutes, LG of T, 17 October 1959.
² Ergonomics is a field of study concerned with the capabilities and limitation of human performance at all kinds of mental and physical tasks carried out in different working conditions.
acceptable in academic circles at that time: the fact that Lough­
borough was a direct-grant institution may have helped in getting
such a subject started, because of the intimate involvement with
the College of senior and respected HMIs who wished to promote
such work.¹ Secondly, the proposal for an entirely post-graduate
department was not initially very welcome to the Ministry of
Education.² However, after some negotiating, the Ministry
accepted the scheme and it was approved by the Governors.³ Thus
the Department of Ergonomics and Cybernetics came into being at
Loughborough, with Dr (now Professor) W. F. Floyd, a leading
authority in this field, as its Head.

In March 1960, in an important indication of both the valu­
able college/industry links which existed and of industry's own
interest in production engineering, the Loughborough based firm,
Brush Electrical Engineering Company, offered to make a grant to
attract to the College a very highly qualified man as Head of the
Production Engineering Department. Following a lengthy process
to find a suitable senior person, Mr (now Professor) M. Seaman,
a man with a substantial reputation in this field, was appointed
towards the end of 1960.⁴

In the summer of 1960, the state of research work in the
institution came under review.⁵ A report of the Board of Studies
on research at the College in the period 1957-60 indicated a
modest level of activity. It was hoped that a much bigger re­
search effort could be made: the Principal had previously proposed

1. Ex. inf. Sir Cyril English, now Director-General of the City
   and Guilds of London Institute, but formerly Senior Chief
   Inspector, Further Education. He was knighted in 1972.
2. Ex. inf. Dr Haslegrave.
3. The role of HMI French in gaining Ministry approval was very
   important; ex. inf. Dr Haslegrave.
5. See paper, 'The development of research at Loughborough
   College of Technology', Governors' Minutes, 26 June 1960.
an expansion of the research establishment to provide for fifteen research fellows, scholars and assistants. One difficulty which the College encountered in common with other CATs was that the NCTA higher award, the Membership of the College of Technologists (MCT), did not seem likely to establish itself effectively. It is now generally agreed that the MCT experiment failed: partly perhaps because it was given such an odd title. Conceived of as broadly equivalent to a Ph.D., it was regarded by the Universities as equivalent to a Master's degree. What is certain is that the MCT exercised little attraction for students so that even by 1964 nationally only eight such awards had been made.

In the middle of 1960 the question of library facilities at the College was highlighted by a report to the Governors which showed how inadequate the service was for an institution of higher professional education. In comparison with the neighbouring University of Nottingham, Loughborough lagged far behind. This inadequacy of library provision was, however, a general problem for the CATs.

The new academic year of 1960-61 began with a rather marked fall in the number of students in residence, the total dropping to 829 as against 920 in the previous session. In explaining the situation, Dr Haslegrave stressed three factors. Firstly, the Pakistan government had stopped sending military officers for works training at Loughborough; secondly, many universities had increased the size of their engineering faculties; and thirdly, the often-criticised Higher National Certificate courses had proved their resilience by actually increasing in number in

2. For example Venables, Burgess and Pratt, and English all concur on this point.
5. Governors' Minutes, 26 June 1960.
technical colleges. An encouraging development, however, occurred at the end of 1960. The Ministry of Education agreed to the creation of a Computing Centre in the College together with the appointment of a Director. Also as an indication of its interest in developing its international contacts, the College agreed upon an interchange of staff with Aachen Technological University.

At the national level, a major event took place in February 1961 when the Prime Minister appointed a committee under the chairmanship of Lord Robbins, 'to review the pattern of full-time higher education in Great Britain and in the light of national needs and resources to advise Her Majesty's Government on what principles its long-term development should be based. In particular, to advise, in the light of these principles, whether any modification should be made in the present arrangements for planning and co-ordinating the development of the various types of institution.' The decision to set up such a far-ranging enquiry was taken against the background of increasing evidence that higher education was not growing fast enough to meet the pressures generated by expanding sixth forms in the schools. Also the CAT experiment and the introduction of the three year certificate in the teacher training colleges was altering the balance between university and non-university provision in higher education. The setting-up of the Robbins Committee was clearly likely to lead to a major re-definition of the structure of British higher education. It created a climate of both debate and expectancy, in which the CATs in particular pressed their claims for complete academic autonomy and degree-granting powers.

Indeed, it has been suggested that CAT pressure upon the Ministry of Education for the power to award degrees may have hastened the setting-up of the Robbins Committee.¹

One problem for the CATs of 'waiting for Robbins' was that inevitably their forward-planning was overshadowed by the need to wait until the Committee had completed the lengthy process of gathering and evaluating its evidence and of submitting its report; a process which in the event took two and a half years. Such a lengthy period created difficulties for the CATs in that they were left waiting upon decisions which would settle their future status.² In the interval, they had to try to maintain their momentum and to attain the initial CAT objectives, despite what was collectively regarded within the CATs as the fundamental inhibiting factor: their inability to award their own degrees.

This question of awards, particularly higher awards, was again raised at Loughborough shortly after the creation of the Robbins Committee. The Principal submitted a memorandum on the subject to a meeting of the Governors in March 1961. He highlighted two important points, the first of a general kind expressing concern about the implications for CATs of the emergence of new universities able to award first and higher degrees. Seven new universities were established in Britain between 1961 and 1965 - Sussex, York, Essex, Kent, East Anglia, Warwick and Lancaster. The idea of the development of these new universities pre-dated the creation of the Robbins Committee.³ The new universities although founded in a technological age, surprisingly tended to do little technology. Also, they were given complete independence from their inception, thus avoiding the

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1. Ex. inf. Dr Haslegrave.
2. Ex. inf. Sir Peter Venables and Dr Haslegrave.
3. For a discussion of these points, see W. R. Niblett, 'Recent developments in higher education in Britain', Ontario Journal of Educational Research, vol 9, no.3, Spring 1967.
long periods of apprenticeship which had characterised the growth of the University Colleges. It was, therefore, understandable that the CAT Principals should see in the new university movement, not only a threat to their own ability to attract able students but also the urgency of pressing their claims for expanding technology at university level - by according university status to the CATs. The Advanced Colleges had, after all, served their period of apprenticeship.

Dr Haslegrave's second point concerned an issue internal to the CAT grouping. This was that the London CATs could register students for internal degrees of London University; furthermore, other CATs had taken a less radical line in dissociating themselves from the London external degree than Loughborough. Thus Loughborough since it concentrated upon its own Diploma and the Dip Tech was in a difficult position in promoting its research and post-graduate functions compared with some of the other Advanced Colleges. The DLC was not recognised as qualifying holders to read for higher degrees; and the higher award intended to develop out of the Dip Tech, the MCT, never got off the ground. It can be argued that the College decision to ignore the London external degree and concentrate wholly upon the DLC and the Dip Tech (a policy-decision for which Dr Haslegrave was primarily responsible) was a major tactical error. For the net result of this policy was to create a situation in which the only external award available to Dip Tech holders at the College was the unattractive MCT.

The Principal's paper proposed as a solution to the problem of awards that the college should seek powers to award the higher degrees of M Tech and D Tech. In this sense, by seeking

credible higher awards, Dr Haslegrave was admitting the partial failure of his policy of dissociation from the London external degree with its related problem of isolation from the field of higher degree work which this decision entailed. Following a discussion in which Mr A. Thompson (representing the Ministry of Education) indicated the official view that the College should wait until it was given a charter to award degrees, the Governors understandably withheld their support from the Principal's proposals.¹

The Principal was under pressure at this time from his Heads of Department to press the case for Loughborough becoming a technological university.² For his part, Dr Haslegrave still adhered to his conception of an Institute of Technology, of university status.³ The Principal and Heads of Department, therefore, compromised by agreeing that the cardinal point of degree-awarding powers granted by Royal Charter should be pressed.⁴ When this important matter was discussed by the Governors, however, their opinion was that it was best for a collective CAT case to be put for degree-granting status, rather than for Loughborough to make its own independent claim.⁵ This sensible view was, however, not implemented because the CAT Principals again failed to find full agreement.

In this rather confused situation, the Principal had discussions with Sir Edward Herbert,⁶ the Chairman of the Governors, to establish a framework within which the College could assess its future. Sir Edward was of the opinion that there was likely

2. See Minutes HODs meetings 26 November 1960 and 18 January 1961, Archives, LUT.
3. Ex. inf. Dr Haslegrave.
4. See Minutes of HODs meetings, 22 and 29 March 1961.
5. Ibid., 22 March 1961.
6. Sir Edward Herbert had been appointed as a member of the Robbins Committee.
to be very strong opposition to the establishment of technological universities and that the whole issue was extremely delicate. \(^1\)

Nevertheless, he undertook to see the Minister of Education for a discussion of the situation.

It is possible to gauge local opinion at this time on these crucial issues from a joint memorandum submitted to the Governors by the Principal, Vice-Principal and Heads of Department. The paper, presented in the summer of 1961, summarised their view of the evidence which the College should submit to the Robbins Committee. \(^2\)

It began by presenting the case for a new type of institution in Britain comparable in status to the Massachusetts or California Institutes of Technology, and argued that Loughborough was especially well-placed for building up into an institution of higher education of the highest rank, in the international sense. \(^3\)

Reviewing Loughborough's experience of CAT status thus far, the memorandum stressed the value of sandwich courses and the linking of academic education with practical training: 'the experience of CATs, although limited, has shown that this type of education and training can lead to considerable improvements in the education of scientists and technologists.' \(^4\) The paper then made some radical suggestions about internal organisation and teaching method indicating the need to revise the traditional departmental structure and institute 'subject teams', using 'directors of study'. \(^5\)

In returning to the question of research and the type of work applicable to such an institution, the memorandum argued the

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1. HODs Minutes, 31 May 1961.
2. See 'The future development of CATs, with particular reference to LC of T', August 1961, Archives, LUT.
3. Ibid.
5. Ibid.
case for expansion of research activity and the creation of Research Institutes, mentioning in particular the need for an Engineering Design Centre. The document argued that the majority of work should be directly related to the problems of industry and carried out in co-operation with industry.¹

In dealing with the award problem in depth, the paper was forthright and declared that the Diploma in Technology had not achieved national status and that it was doubtful if it ever would. It again emphasised the inadequacy of the MCT and commented upon the widespread belief among CATs that they should be able to offer degrees, a view shared at Loughborough. The memorandum then made a further major point, 'It would be an error of the first magnitude to allow degree awarding powers under the supervision of local or other universities. The College must have freedom to devise its own syllabus and courses.'²

On the theme of the governance of the College, the memorandum was also explicit. It argued for a relaxation of the control exercised over the College by the Ministry of Education and H.M. Inspectorate, and also presented the case for increasing the part played in College government by the academic staff, particularly the senior staff.³ The document concluded by arguing that the technological manpower demands of the country could not be successfully met merely by expanding the universities and the Advanced and other colleges: 'It is necessary to create a small number of Technological Institutions that differ in many respects ... from both universities and existing CATs.'⁴ This was clearly a reference to the possible development of Institutes of Technology, which so exercised Dr Haslegrave and to which other

1. Memo., op. cit.
2. Ibid.
3. Ibid.
4. Ibid.
influential figures in the CAT world, like Dr Venables at Birmingham, also paid great attention.¹ There was also a similarity between this conception and the later (unsuccessful) advocacy by the Robbins Report of the creation of a small group of Special Institutions for Scientific and Technological Education and Research (SISTERS). It may well be argued that exaggerated institutional ambitions are evident in the memorandum, particularly in the claims to build up Loughborough as an institution of high international rank, by inference as an English equivalent to the Massachusetts Institute of Technology.

The document was considered by the College Governors who expressed a general agreement, except for two important reservations. The Governors did not favour the proposal that some institutions should be singled out and set up as a new type of institution of even higher standing.² Sir Edward Herbert indicated that it would be impolitic to discriminate between the CATs.³ Also the Governors thought that the student target of 5,000 was not practicable within the next ten years.

The summer of 1961 witnessed not only major policy statements by the College at Loughborough but also the 'CAT grouping' generally, for the Committee of CAT Principals made a collective statement of evidence to the Robbins Committee.⁴ This thorough and well-presented document gives a synoptic view of the CATs at this stage of their development, from the standpoint of the CAT leadership itself. It is perhaps fair to say that the influence of Dr Venables is evident in the drafting. This important document probably provides the best collective summary of the CAT

¹ Ex. inf. Dr Haslegrave and Sir Peter Venables.
² Governors' Minutes, 5 February 1962.
³ Ibid.
⁴ See a copy of this 'Statement of Evidence', July 1961, Archives, LUT.
concept and it is therefore worth examining in some detail.

One of its first points was a response to the charge concerning the narrow base of the CATs: 'such has been the vast expansion of knowledge that no institution can comprehend the whole spectrum from philosophy to technology, either in its teaching or its researches.' It went on to argue that the new universities were to be based mainly on the arts and science end of the spectrum, and the CATs at the other. Both were part of the same spectrum of knowledge and higher education: there was no fundamental difference between them, only a difference of orientation and specialisation.

Having attempted to establish a case for 'parity of esteem' with the new universities, the paper then turned to debate what should happen to the CATs. It discussed three major possibilities: firstly, that the CATs should be gathered into local universities; secondly, that they be broadened in their work in order to become universities; and thirdly, that they should be broadened in their work, as necessary, to enable them to become institutions of higher professional education. The CAT Principals were of the view that the first two possible courses of action were based on traditional assumptions and unnecessary time would be spent in covering this well-trodden ground. They preferred to consider the implications of the third possibility. They argued that the CATs should be expanded mainly but not exclusively as institutions of higher professional education for industry and commerce. The Principals wished, however, to see the CATs broadened so that they possessed faculties of pure science, social science and also a faculty to deal with other appropriate areas of study, such as architecture or languages.

The paper stressed the value of contact with industry and the particular virtue of sandwich courses.

The paper further emphasised the need to encourage postgraduate and research work in all CAT departments. In this connection the CAT Principals declared, 'Here we wish most strongly to emphasise that the experience of the last five years has increasingly shown the critical need for higher academic awards of the colleges, especially in those colleges to whose students the London internal degree system is not available.'

If the CATs were broadened in the way the Principals proposed, they argued that, 'with such a range of studies, and with very close relationships with industry, we consider that the Colleges would be viable institutions of higher professional education provided that university-quality conditions of work were properly provided for them.'

Although the report accepted that the institutions for which the CAT Principals were pressing would in many, if not most, countries - except Britain - be described as technological universities, they strongly recommended that the Colleges should become Chartered Royal Colleges of Technology, styled as such.

In certain cases, the paper recognised that it might be appropriate for a College to apply for incorporation within a particular university. This point was made especially in respect of the intimate links of the London CATs with the University of London and referred particularly to Chelsea College of Science and Technology. The CAT Principals were unanimous that the Royal Colleges should be degree granting institutions, with full academic autonomy, at first degree and higher levels. (There is a parallel

2. Ibid., para 19.
3. Ibid., para 21.
between the CAT insistence on degree granting powers at this time and the present position in which a number of Polytechnics are anxious to validate their own courses.)

On the financing of transformed CATs, the Principals discussed a number of possibilities, including joining the existing UGC machinery and creating a Technology Grants Committee. However, they came to no firm conclusion, but preferred to wait for the Robbins Committee to report. Over the specific question of direct grant status (although appreciative of its advantages which all CATs were shortly to be given) the Principals saw this as falling short of obtaining the full independence appropriate to institutions of university rank.

In a significant conclusion, the paper dealt with the question of whether or not the CATs should be developed into technological universities, styled as such. The CAT Principals declared, 'We believe in a diversity of institutions, and we are concerned to establish a route in higher education parallel to that of traditional universities. We think this would be best secured by fully implementing a suggestion of the Percy Committee Report in the light of modern requirements, namely, that the Colleges should become chartered Royal Colleges of Technology.'

Such was the seminal influence of the 'Percy approach' that even in 1961 the CAT Principals re-stated Lord Percy's objective of Royal Colleges of Technology.

The CAT Principals' document is remarkable for the tenacity with which it argued the case for the creation of institutions of university rank, but devoted to professional higher education and without the formal title of university. In the event, although many of the CAT Principals' proposals appear to have gained the

2. See 'Statement of Evidence', op. cit., conclusion.
acceptance of the Robbins Committee, on this central question of the title to be adopted by the CATs in their new form, the Committee came down against the advice of the Principals. The Robbins Committee in fact recommended that the CATs should in general become technological universities. ¹

In June 1961 a very significant decision was announced by the Ministry of Education: from April of the following year all CATs would be brought into direct grant relationship with the Ministry and be removed from LEA control. Thus the other Advanced Colleges were to join Loughborough (which was already direct-grant) in a 'CAT grouping' further identified in its separateness from the rest of the public sector. In a rather paradoxical way, this decision - although binding the CATs closer to the Ministry - permitted them to acquire greater academic standing, and may have helped in their subsequent elevation to university status. As a small and clearly defined group of Advanced Colleges within the public sector, with a special relationship with the Ministry, their later transference to the university sector was probably a more simple operation than would have been the case if LEAs had been involved. Possibly the Ministry saw the need for a rationalizing operation for the CATs in anticipation of the findings of the Robbins Committee. With the decision to make all CATs direct grant, the Ministry also required the Advanced Colleges to re-organise the constitution of their governing bodies and the internal government of the institutions. In order to co-ordinate their views, a meeting of CAT Principals and Chairmen of Governing Bodies took place at Loughborough in September 1961.

Faced with the need for a common front with which to meet the Ministry, the CAT representatives agreed on the following

¹. Robbins Report, para 392; for a fuller discussion see pp 133-4.
policy proposals.\footnote{See Note on this meeting, Governors' Minutes, LC of T, 26 October 1961.} Firstly, they decided that the Colleges should have the maximum amount of independence. Secondly, it was agreed that the Governing Body of a College should have a membership of between 25 and 30 persons, of whom about one-fifth should be members of the academic staff of the College. The Chairman should be appointed by the Governors – and not by the Minister as under the original direct grant arrangement at Loughborough. It was also agreed that there should be an Academic Board for each College, broadly representative of the academic staff, with the College Principal as Chairman.

The CAT representatives noted, presumably with satisfaction, that the Ministry intended to create a separate CAT salary scale related to those for staffs of universities. This was a belated recognition by the Ministry of the need for higher remuneration in order to attract high calibre staff into the CATs. On the question of overall financial arrangements, the CAT Principals and Chairmen agreed that the system operating at Loughborough was generally suitable though they suggested certain modifications,\footnote{Ibid.} including estimates based on both triennial and annual terms and the ending of the requirement for Ministry approval of the Senior Lecturer establishment. The Loughborough model for a direct grant relationship with the Ministry fell short of what the CAT Principals and Chairmen wanted because the system still involved close Ministry control in certain key financial and academic matters. Indeed, the CATs wanted ultimately to move beyond the direct grant system to a position of full autonomy.

The Loughborough Governors considered the implications of these collective agreements for their own College. In general terms it could be said that the other CATs were adjusting to the
Loughborough model, but there were two areas at least in which the College Trust Deed would need alteration to bring it into line with the scheme being adopted by the other CATs. Firstly, it was necessary to appoint members of staff as full governors, with voting rights. Secondly, there was the requirement to give legal standing to the Board of Studies, or Academic Board as it was re-styled.¹ A further major revision was also introduced: the election of the Chairman by the Governors rather than appointment by the Minister. These changes were implemented in 1962.

By the summer of the same year the new buildings of the College, centralized on the playing field campus, were well on the way to completion: the College had acquired a much more suitable and spacious situation for itself than the old and congested site in the town. There can be little doubt that the College was exceptionally fortunate in possessing such a superb natural site for its re-housing: in this respect, as in many others, it owed a large debt to the foresight of Herbert Schofield. It might also be said that the re-siting and expansion of the College occurred at an opportune time,² before the later massive increase in building and land costs.

At about the same time that these local changes were being discussed at Loughborough, there was a very important meeting at the national level to discuss CAT policy. In July 1962, the CAT Chairmen of Governors and Principals met the Minister of Education, then Sir David Eccles, and the senior permanent officials at the Ministry. The Chairman of the UGC, Sir Keith Murray, was also present.³ As a recognition of the need to co-ordinate policy, it was agreed to have regular consultative meetings. The

¹ Governors' Minutes, 23 October 1961.
² Ex. inf. Sir Cyril English.
³ See Memo. on this consultative meeting, dated 27 July 1962, attached to Governors' Minutes, IC of T.
PLATE 4. A recent photograph showing in the foreground part of the 'student village' of the former Loughborough College of Technology. The background affords a view of 'the Loughborough campus'.
Ministry policy for CAT expansion was outlined: "the planning of new buildings on a planning target of 21,000 places to be reached in 1970." In the light of this national target, Loughborough was to be allowed no further increase beyond 1,580 for which buildings by then completed were planned. The Ministry's national total of 21,000 places for the CATs was regarded by some Principals as being far too small. The vigorous protest of the CAT Principals was successful in getting the Ministry to accept the need for raising its expansion target to 26,000. There also emerged from the discussion a general agreement that the minimum size for each College should be 3,000 and that each College should plan for some target between 3,000 and 5,000 students. In this context, the Ministry then asked each College to submit broad estimates of its proposed student numbers, its range of courses, dates of progressive expansion, and estimates of building costs.

The CAT Principals, supported by the Governors, then raised the biggest immediate issue: they asked if the Ministry could obtain, in advance of the publication of the Robbins Report, powers for the Colleges to award their own degrees. The Ministry gave a firm reply in the negative, that such powers could not be given before the Robbins Committee had reported.

In the same month as the consultative meeting between the CAT Principals and Sir David Eccles took place, the Ministry of Education issued a document to help clarify the relationship between the Ministry and the CATs. This paper indicated that the Ministry required the continuance of the annual estimates system, and of the necessity to keep within the approved heads of

1. See Memo., op. cit.
2. Ibid.
3. Ibid.
estimates.\(^1\) It stressed the desire of the Ministry for assessors to be able to attend Governors' meetings, and stated the need for specific prior approval for the number of posts at Principal lecturer and above, and also of the gradings of Heads of Department. Thus the Ministry was insisting, despite the reservations of the CATs, on continued detailed control of the colleges in certain vital financial and academic appointment matters. On the important question of approval of courses, the policy document declared, 'although the CATs will increasingly develop as national institutions, it seems very desirable that they should have links with Regional Advisory Councils.'\(^2\) It then proposed a procedure for advance notification of any new courses to permit scrutiny by both the Ministry and the Regional Advisory Councils. On the general question of the Regional Advisory Councils (RACs) and their relationship with the CATs, Burgess and Pratt have written, 'On becoming CATs, the Colleges tended to inform the RACs of what they intended to do, rather than apply for approval. No College had a course refused in this way once it had become a CAT.'\(^3\) The relationship now existing between RACs and the Polytechnics is rather different, with the RACs performing a more active role in approving courses before they are forwarded for scrutiny by the Regional Staff Inspectors (RSIs) and later by the CNAA.\(^4\)

The key relationship for the CATs was with the Ministry of Education, and the crucial figures in providing the links between the Ministry and the CATs were the HMIs, whose role was often of

\(^1\) See Ministry of Education document, dated 4 July 1962, attached to Governors' Minutes, LC of T.

\(^2\) Ibid.

\(^3\) Burgess and Pratt, 'Policy and Practice', op. cit., p 136.

\(^4\) See Cantor and Roberts, op. cit., p 53. Essentially the RACs and the RSIs have to decide whether a course is needed and the CNAA whether it is of degree level.
great significance. In some respects the RSIs presently perform a similar function for the Polytechnics.

The academic session for 1962-63 began at Loughborough with a freshman intake of 560 - a gratifyingly large increase. The total enrolment was 1,233. This meant that all the halls of residence were full and a small number of students had to be accommodated in registered lodgings. One notable point about the freshman intake was that only 74 were from Commonwealth and foreign countries. Thus the College policy of earlier years of reducing the percentage intake of this type of student had been successfully implemented.

In the autumn of 1962, the Ministry of Education, in the light of its earlier consultative meeting with CAT representatives issued a memorandum on the expansion of the CATs. The paper began with some interesting statistical information which showed that CATs still had a considerable number of part-time day students to shed - though this was not applicable to Loughborough. In the session 1962-63 there were about 9,500 full-time and sandwich students and 6,700 part-time day students in the CATs. The Ministry called for a substantial increase in the number of full-time and sandwich students in CATs, and indicated a willingness to consider a target of 26,000 for 1970. The Ministry then asked for individual Colleges to give their ideas on forward planning up to 1973-74.

The response at Loughborough to this Ministry request was immediate. Within a week a Special Sub-Committee had produced a

1. Burgess and Pratt, op. cit., p 136; and also information provided by Dr Haslegrave.
2. Governors' Minutes, 11 October 1962.
3. Ibid.
4. See Memo. from the Ministry, 'The expansion of CATs', dated 14 September 1962, attached to Governors' Minutes.
5. Ibid.
long and detailed survey on 'The long-term and short-term development of the College.'¹ The paper concentrated upon two specific issues: a) the numerical size of the College in 1970 and later, and b) the range of technologies, science and other branches for which the College should make provision (at undergraduate and post-graduate level) during the next five years, and from 1970 onwards. The memorandum argued the case for raising the total CAT target to 35,000 by 1970, as recommended by the CAT Principals' Committee. The Sub-Committee then gave its view of Loughborough's own contribution in the achievement of such a target, 'It is recommended that the forward planning of the College aims at providing the College with a capacity of 3,000 within the shortest period of time.'² The long-term figure of 5,000 was considered appropriate. (In the event these Loughborough targets proved to be much too optimistic, so that even the short-term figure of 3,000 had not been achieved at the beginning of the 1970s by what had become the University of Technology.)

On the range of academic courses in the College, the Sub-Committee was anxious to broaden the base of the institution by the inclusion of pure science and social sciences, using this weighting formula for faculties: engineering - 50%; pure and applied science - 35%; social science - 10%; and other studies - 5%.

This paper, prepared at such short notice, brought high praise from Sir Edward Herbert.³ In the subsequent discussion the Ministry assessor, Mr H. French, significantly spoke in favour of the proposals. Indeed, his contribution to the

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1. See Memo., dated 21 September 1962, attached to Governors' Minutes.
2. Ibid.
evolution of the College was important, and he had a receptive attitude to what the College was trying to achieve. The Governors accepted the report for formal submission to the Ministry.

When writing in September 1962 about the Advanced Colleges and their possible future development, Dr Venables suggested that a long-term national target of 40,000 places for the CATs was justifiable, in the context of the major expansion of higher education provision then under discussion; and he indicated that the existing minimum target for the Birmingham College was 3,500 and that it might well go up to 4,500. He concluded his article by declaring, 'Certain it is that the Colleges have an important, arduous not to say exciting task of development in the decade ahead. In order to accomplish this successfully, they feel very strongly that they must become chartered corporate degree granting institutions. They have been encouraged by the fact that many important bodies, including the Committee of Vice-Chancellors and Principals of British Universities have made this recommendation to the Robbins Committee.' This new attitude by the universities who had been highly sceptical of the viability of CATs and who had also helped prevent the NCTA obtaining degree granting powers, was greatly encouraging to the Advanced Colleges. This change of heart by the universities was partly the result of their new understanding of the quality of work undertaken in the CATs, gained through the university representatives on CAT advisory committees and the subject boards of the NCTA.

This mood of optimism was, however, quickly shattered in the CATs by moves towards financial retrenchment by the government.

1. Ex. inf. Dr Haslegrave.
3. Ibid., p 1599.
At the Loughborough Governors' meeting in February 1963, it was announced that the Ministry of Education proposed cuts for the College of about 52% on capital and about 12% on recurrent expenditure, and there was also to be a drastic cut-back in the student intake for 1963.\(^1\) The institution suffered a further setback at the same time through Sir Edward Herbert's resignation, on medical grounds, from the Chairmanship of the Governing Body. The College owed much to his wisdom and statesmanlike qualities. In his place, Sir Herbert Manzoni was elected as acting Chairman.

The implications of the Ministry's requirement for a cutback were discussed at the next Governors' meeting. The Principal reported that he and the Heads of Department were greatly worried about the future development of the College, and requested that a deputation from Loughborough be sent to see the Minister of Education about the serious situation facing the College. Generally, the Principal's initiative received little backing from the Governors. Sir Herbert Manzoni felt that not much could be achieved by sending a deputation to the Ministry at that time. The Ministry Assessor, Mr French, again made the point that the Ministry could not make any statement on the long-term development of the CATs in advance of the Robbins Report.\(^2\)

The overall situation facing the CATs could not have been helped by a further Ministry of Education memorandum, highly critical of the CATs' proposals for expansion.\(^3\) The paper summarised the proposals of the Colleges as follows: they amounted to a total target of 40,000 students by 1972, of whom 22% were to be post-graduates. This compared with the current number — according to the Ministry — of 10,346, of whom 4% were post-

2. Governors' Minutes, 11 June 1963.
graduates. The Ministry paper then asked a number of pertinent questions. Firstly, it enquired how realistic the proposed CAT growth rate was, pointing out that six colleges proposed expanding by four times or more of their existing size. Secondly, it asked what form of organisation an institution of over 3,000 students should have. Thirdly, it queried the proposed postgraduate percentages, which averaged 22%, as against the existing overall university figure of 14%.

At about the same time as its salvo over expansion targets, the Ministry also fired a broad-side over the question of CAT failure rates. The Ministry study showed a failure rate of 63% on degree courses and 39.6% on Dip Tech courses. This compared with a wastage in technological faculties of universities of approximately 20%. In the light of these two Ministry papers, the Loughborough Governors prudently decided not to accede to the Principal's request for a meeting with the Ministry for the time being.

At the last meeting of Governors before the publication of the Robbins Report, Sir Herbert Manzoni was elected Chairman for the period ending 7 October 1967. The Principal gave a report on enrolments for the session 1963-64, which showed a total of 1,451. Dr Haslegrave indicated that, in common with all CATs, the college had received fewer entrants for the session than expected. This was perhaps related to the uncertainty caused by the delay in the presentation of the Robbins Committee recommendations.

However, in October 1963, the long-awaited Robbins Report on 'Higher Education' was published. The result of the Committee's

2. Governors' Minutes, 8 October 1963.
unprecedented labour was a survey, remarkable both for the clarity of its conceptions and the vision of its approach. The report was, as the Committee itself rightly claimed, the first comprehensive study of British patterns of higher education. It provided 'an explicit philosophy of expansion and a detailed plan embodying it, including a five year crash programme up to 1967-68.'

A major section of the Robbins Report was devoted to assessing technological education, the achievements of the CATs and their future role in higher education. The Report analysed recent developments in higher technological education, both in universities and the CATs, and although it noted considerable progress, it observed that a great deal remained to be done. This applied both to science and technology, but particularly to the latter. The Committee found that by international comparison, Britain was weak in the output of technologists. Of first degrees in science and technology, the proportion of those given in technology was lower in Britain than in Canada, France, Germany, the United States or Sweden. Also the calibre of students studying technology, judged by 'A' level performance was not as good as those taking science. This situation led the Committee to propose radical revisions in the structure of British higher technological education.

The Committee argued the case for the creation of five Special Institutions for Scientific and Technological Education and Research (SISTERs), comparable with MIT or similar advanced technological institutions. In the event, this radical proposal was not implemented.

Turning to the CATs, the Committee was favourably impressed

by their record: 'Since their designation from 1956-7 onwards, the CATs have made remarkable progress... Much of the expansion has been associated with the introduction of the Dip Tech, and in 1962-3 four-fifths of all students for this qualification were studying in these 10 Colleges.'¹ The report observed that the Dip Tech was particularly associated with sandwich courses, and commented, 'This is but one, though perhaps the most notable, example of the orientation of the CATs towards industry, a connexion which is proving of particular value.'² Here was the indication that sandwich courses had at last achieved academic respectability.

The Committee was quite firm in its stance on the status of the CATs: 'We consider that the present powers and status of the Colleges are not commensurate with the work they are now doing. They lack many of the attributes of university self-government; they have not full power to award their own qualifications, and in particular cannot award degrees.'³ The Committee found this position anomalous since the CATs were acknowledged to be doing work of honours degree level and many could point to a long history; by comparison, the new universities so recently established had been given complete academic freedom from the outset. The position of tutelage of the CATs made them less attractive to students and staff. The Report declared, 'We recommend that in future these Colleges should in general become technological universities, and that this should be recognised in their title if they so wish.'⁴ The Report indicated that the Committee of Vice-Chancellors and Principals was agreeable to university status for the CATs. The Report thus advocated that immediate steps be taken

2. Ibid.
3. Ibid., para 390.
4. Ibid., para 392.
to grant charters and to transfer responsibility for finance to the UGC. The mechanism of Academic Advisory Committees, such as those established for the new universities, was recommended for the CATs to assist their evolution as universities.

The Committee noted that currently 90% of CAT students were taking science or technology and although it recommended that social and humane studies be developed and pure science strengthened, the Committee argued that 'the central feature of the Colleges should continue to be teaching and research in the sphere of technology: when they are granted charters, we think it appropriate that some indication of this should be given.' The Committee thought that as technological universities the ex-CATs could grow to a student population size of between 3,000 and 5,000.

Although the government did not implement all of the 179 recommendations of the Robbins Report, it nevertheless made an immediate statement accepting the intermediate Robbins targets for the expansion of places in full-time higher education up to 1973-4 - that is to 390,000, as against 216,000 in 1962-3. On the specific question of the position of the CATs, the Government accepted the basic Robbins proposals of elevating the CATs to university status and permitting the creation of technological universities.

The quite new climate created by these national decisions caused understandable enthusiasm in CAT circles, though mixed with some anxiety about entering the orbit of the UGC. At Loughborough, the Principal examined the implications of the Robbins proposals and their acceptance by the government in respect of the CATs at the meeting of Governors in December 1963. His information at that time was that the CATs would be given university

1. Robbins Report, para 396.
2. Ex. inf. Dr Haslegrave and Sir Peter Venables.
status without delay, though in the event this did not happen. He was also able to report a warm response from the universities to the CATs and disclosed that discussions were already taking place between the Ministry of Education and the UGC on the future transfer of responsibility for financial grants from the Ministry to the UGC.\(^2\) The time-lag between the Robbins Report and the actual chartering of the CATs as universities appears, therefore, to have arisen not through any impediment caused by the Ministry of Education or the UGC.

That the College at Loughborough hoped for a quick implementation of the Robbins proposals for CATs can be seen from the report to the Governing Body of the Joint Standing Committee on Planning and Development, dated 1 November 1963.\(^3\) It indicated that the College hoped to have a Charter by September 1964, and aimed to submit the petition to the Privy Council by the end of April 1964.\(^4\) In fact (and for reasons discussed in the next chapter) the process by which the formal granting of the charter occurred took much longer than anticipated and was to prove a period of frustration and delay.

For his part, Dr Haslegrave had hoped that the Robbins Report would recommend that the CATs become, not technological universities, but Institutes of Technology with degree granting powers:\(^5\) a conception similar to that proposed to the Robbins Committee by the CAT Principals in 1961. Dr Haslegrave was further of the view that the establishment of a Technology Grants Committee would have been preferable to incorporation within the UGC system, since he regarded the inevitable consequence of such

1. Governors' Minutes, 10 December 1963.
2. Ibid.
3. See the Paper attached to the Governors' Minutes. This Committee was a Joint Committee of the Governing Body and the College Academic Board. It came into being in July 1963.
4. Ibid.
5. Ex. inf. Dr Haslegrave.
an arrangement to be adjustment to the UGC conception of the
to the UGC conception of the
to the UGC conception of the

nature and functions of a university.¹ Nor was Dr Haslegrave
alone in these fears: they were shared in certain respects by,
for example, Dr Venables.²

However, the Robbins recommendations for the CATs, and their
acceptance by the Government, represented something of a triumph
for the Advanced Colleges. Established only from 1956 onwards,
within less than a decade they were recommended for elevation to
university status: a development which practically no one had
foreseen when they were first designated. The attainment of uni-
versity status by the CATs brought with it a number of very im-
portant consequences. Firstly, it set the seal upon the academic
respectability of sandwich courses.³ In this sense, the colla-
boration between the CATs and the NCTA in developing the Dip Tech
had been very successful. Secondly, it established the accepta-
bility of close collaboration between industry and university-
level institutions. This was important in that industrial organ-
isations became more involved in the activities of the univer-
sities,⁴ and the latter correspondingly appeared less remote from
the industrial and commercial world. Thirdly, the CATs (with the
NCTA) did a great deal to extend opportunity in higher education
by permitting entry to degree-level courses to those possessing
good ONC qualifications,⁵ thus creating more flexible entrance
arrangements than were possible under the 'two A levels' system.
It can also be argued that the CAT experiment re-inforced the
concept of higher professional education as a fit purpose for

¹. Ex. inf. Dr Haslegrave. For a fuller discussion of this
whole question, see Chapter V, pp 144-5 and 162-3.
². Ex. inf. Sir Peter Venables.
³. See Burgess and Pratt, 'Innovation in Higher Education:
⁴. Ibid.
⁵. See Venables, 'Dualism in Higher Education', Universities
universities. Furthermore, it buttressed the university commit-
ment to the application of knowledge, in addition to the gener-
ally recognised functions of the preservation, transmission and
extension of knowledge.¹

In the context of the application of knowledge, Loughborough
CAT made an important contribution through its work in the field
of the applied technologies. Loughborough emphasised the prac-
tical aspects of technology with regard to the problems of manu-
facture and cost. There was a real need for this applied ap-
proach because of a tendency in English technological education
to over-emphasise the mathematical and analytical aspects.²

Thus at the end of 1963 Loughborough College of Technology
began the final phase of its transition towards becoming a uni-
versity. The institution had come a long way since its origins
in the little Technical Institute, founded in 1909. Unfortunately
the man who had contributed so much in making this transformation
possible, Herbert Schofield, had died in September 1963 – shortly
before the Robbins Report was published. Nevertheless, the
institution to which he had given so much in terms of its ethos,
sought in the years of transition ahead to preserve that funda-
mental commitment to technology, which he had himself so
strenuously fostered.

¹. See Venables, 'Developing institutions in higher education',
Magnus Memorial Lecture, 1963-4, College of Preceptors,
p 11.
². The author is particularly grateful to Sir Cyril English for
discussion of this point.
In the period after 1945, three main ways were used to increase the number of universities in the United Kingdom. Firstly, there was the orthodox method by which university colleges, after a period of tutelage, became fully independent. Secondly, given the need for a much greater expansion of higher education, completely new universities were founded, which received full autonomy without undertaking any period of apprenticeship. This chartering of new institutions as full universities constituted a departure from the existing method. Thirdly, following the Robbins Report, the Colleges of Advanced Technology were able to achieve full university status. Since the CATs were already established institutions before their elevation to university rank, their transformation conformed more obviously to the traditional British pattern than was the case with the founding of the new universities.

When assessing the three methods of achieving full university status, the new universities had the easier passage since they achieved immediate and complete autonomy without any transitional phase. The university colleges, although lacking full academic freedom during their period of tutelage, were not subject to the financial control of the Ministry of Education. The position of the CATs during their transitional period was probably the most

1. The University College of North Staffordshire, founded in 1949, represented a partial departure from the pre-war norm in that it was granted a charter to award its own degrees immediately. It had, however, to undergo a period of sponsorship by three other universities, before attaining full autonomy as the University of Keele in 1962. Nevertheless, the foundation of this university college can be seen as an intermediate stage between the traditional university college concept and the idea of completely new universities.
difficult. They were not transferred from the 'public sector' to the UGC for financial purposes until about a year before they received charters, and they were largely committed to preparing students for an award, the Diploma in Technology, which although of degree-equivalence was not called a degree as such. The position of the CATs was, therefore, much more ambiguous during the transitional period than was the case for the university colleges, which came under the aegis of the UGC and taught for degree awards. Furthermore, by the time the Robbins Committee reported, the transformation of the university colleges into full universities was complete, so this method of elevation was effectively at an end. After 1963 there remained the two methods: the founding of new universities, without any period of tutelage, and the transformation of the CATs, which entailed - in the event - a period of waiting before charters were granted. It was understandable, therefore, that many people in the CAT world thought that the Advanced Colleges were being placed at a disadvantage in comparison with the new universities in the competition for resources and students.  

It is important to remember, in studying CAT attitudes to this problem, that the delay over the granting of their charters followed a previous phase of 'waiting for Robbins'. In effect, the CATs had to wait from 1961 until 1966 for the final and formal definition of their status in the structure of higher education. Therefore, it is not surprising to find CAT Principals regarding the period of transition which their institutions underwent as too long, and that in particular the formal granting of charters was unnecessarily delayed. Sir Peter Venables, the Chairman of the CAT Principals' Committee, was of the opinion that an earlier

1. The author is grateful for discussion of this point to Sir Peter Venables and Dr Haslegrave.
establishment of Academic Advisory Committees (such as had already been used successfully to assist the new universities) could have expedited the process of transforming CATs into universities. Indeed, Venables himself regards the effective transitional period for the CATs as occupying an eight year phase from 1958, when they were largely able to concentrate upon degree level work and 1966, when the first charters were granted. Using this perspective, the relative position of the CATs in comparison with the new universities is even more obviously disadvantageous. Thus Venables believes that the transitional period should have been telescoped.

It is interesting to speculate upon why the process of chartering took as long as it did. The CATs themselves cannot escape their share of responsibility. As institutions they proved, perhaps understandably, not very skilled in the complex procedures of petitioning and devising draft charters and statutes. Some of the CATs required a lot of time to submit the necessary documents to the Privy Council. Furthermore, internal differences arose at some CATs, including Loughborough, over the drafting of charters and this contributed to delay. It has also been suggested that the CATs generally were too tentative in their whole approach to the process of chartering.

As regards the Privy Council, it decided to wait until all the proposed charters had been submitted and scrutinised before making the formal grant of university status. This procedure was quite justifiable in the sense that in raising the CATs to full university rank, the Privy Council was granting charters to the biggest group of institutions yet to be so elevated - and all more or less at the same time. It is interesting to note,

1. Ex. inf. Sir Peter Venables.
2. Ibid.
however, that the method adopted by the Council for the CATs was not applied to the new universities. The effect of the procedure applied by the Privy Council to the Advanced Colleges was that those, like Loughborough, which submitted well in time were held back by the slowness of submission of some of the others. One further possible explanation for the delays, suggested by Dr Haslegrave, is that some Privy Councillors were not particularly well-disposed to the elevation of CATs to university status. On this point, it is the opinion of the Chairman of the CAT Principals' Committee, Sir Peter Venables, that there was no deliberate delay by the Privy Council in this matter.

It can also be argued that acceptance by the government of the Robbins recommendation that the CATs become universities tended to defuse the issue of their ultimate status. In a sense, this reduced some of the pressure for the granting of charters and also reinforced the desire not to rush the charters, but to prepare them very carefully. Nevertheless, the period of waiting for charters from 1963 to 1966 was generally a very frustrating one for the Advanced Colleges.

There were several difficulties associated with the transitional period, in addition to the uncertainties related to when university status would actually be granted. Firstly, there were problems associated with the dual role which the Colleges were required to play in continuing their functions as CATs whilst simultaneously preparing to become universities. Since the CATs were mainly conceived of as monotechnic technological institutions they had to continue meeting their obligations in this direction, whilst at the same time having to face – as nascent universities – the major challenge of substantially widening their spectrum of studies outside the technological field. Also the CATs, until they received charters, were still largely committed to teaching
for the Dip Tech award, which although of degree equivalence was not a degree as such. The CATs were unable, therefore, to develop their work from a secure degree granting base, and students could not be freed from unease about when their Dip Tech courses would become degree courses as such, until the formal grant of charters removed all doubts about university status. Secondly, the CATs had to compete for students with both established and new universities on unfavourable terms because they were unable to offer their own degrees. The CATs were also at a disadvantage in the competition for resources with the universities, especially the new foundations, which were able, in a sense, to pre-empt the Advanced Colleges. \(^1\) Thirdly, until their charters had been granted the CATs could not develop their forward planning with real confidence. It was against this general background of uncertainty that the debate took place about how the Advanced Colleges were to emerge as technological universities.

The firm recommendation of the Robbins Report was that the CATs should develop into technological universities, styled as such if they so wished. \(^2\) But agreement on what constituted a technological university proved difficult to find. Sir Peter Venables, when delivering the Magnus Memorial Lecture in January 1964, made this contribution to finding a definition: 'for the technological university, ensuring competence in the application of knowledge in order to meet the needs of industry is a definite commitment.' \(^3\) But he drew attention to the need to be aware of the conforming influences which the former CATs might meet on entering the orbit of the established universities and of the

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1. The author is grateful for discussion of this point to Dr Haslegrave.
possibility of their being weakened in their original purposes by the traditional pattern. In this same address, Venables raised the important question of how many of the former CATs would in the end follow the Robbins suggestion and incorporate the word 'technological' in their title. He asked if it might be felt even by the former Advanced Colleges that such a word would create a restricted or impoverished image. Equally, he wondered if the inclusion of the term 'technological' in the title of the university would ensure its prime orientation in the future. In the event, of the former CATs which became independent universities, as against joining an existing university, all except two chose to omit an explicit reference to technology in their titles — the two which did were Loughborough and Bath.¹ Venables was particularly concerned in this pre-charter period with the effects which joining the UGC system might have upon sandwich courses and links with industry. These apprehensions were shared by Dr Haslegrave at Loughborough, if anything in more marked degree. Assessing the transformation of the CATs into universities in 1964, Venables defined the problem thus: 'at the basis of all this development as technological universities there must be close, flexible and enduring relationships with industry, otherwise I cannot see them evolving fully at all.'²

However, not all of the pre-charter debate in the CATs was concerned with the protection of technology and links with industry. It was recognised that the CATs needed a wider spectrum of studies, in particular that more provision should be made for the inclusion of pure science and the social sciences. Clearly

1. Bath University (which developed out of the former Bristol CAT) has recently dropped the term 'technology' from its title, thus leaving Loughborough as the only institution styled 'university of technology' in the United Kingdom.
the change to university status afforded the possibility for a broadening of their base and for a re-assessment of the whole context of professional education. Nevertheless, when the CATs came to define their aims and objectives in their charters, it proved no easy task.

The College at Loughborough had set up a charter group shortly after the publication of the Robbins Report: it felt able to make draft proposals to the Governors as early as March 1964. Arguably, the charter group at Loughborough should have waited longer in order to gauge national opinion on the complex issues involved. Over the vital question of the title, it proposed that the institution should be known as 'Loughborough University of Technology', on the grounds that technology needed a public boost and that this would recognise the origins and roots of the institution.¹ This signalled the beginning of what became a serious internal dispute at Loughborough since concern was expressed both within the Governing Body and amongst some of the academic staff that the title was too restrictive and implied that the university when created might be divorced from the arts and pure sciences. However, with the Principal and Vice-Principal strongly in favour, the Governing Body as a whole accepted the general thinking of the charter group. In advocating the proposed title to the Governors, Dr Haslegrave spoke of the need to nail the College's colours to the mast and of 'evidence that pressure was being brought to bear on the CATs to make them conform . . . to the pattern of orthodox universities.'²

Dr Haslegrave personally took the view that it was necessary to call the institution a university of technology, as a public indication of its commitment to technology, which would help

1. See Governors' Minutes, LC of T, 9 March 1964.
2. Ibid.
guard against any erosion of that orientation. As has been indicated, he was not alone in his apprehensions about the future development of the former CATs when they joined the UGC system. But Haslegrave's view of the UGC was probably over-critical and he seems not to have recognised the extent of the autonomy permitted by the UGC to each university to decide its own policy. He also under-estimated the impact that the ten former CATs would have in helping to inform and change the UGC itself. On the central issues of continuing sandwich courses and of maintaining links with industry, the UGC has accepted such arrangements since the former CATs came under its aegis.

That Loughborough intended to depart from the traditional pattern of a civic university, and retain its strong technological bias, was evident from the draft Charter and Statutes, which were prepared in the summer of 1964. The objects of the university, which were incorporated unaltered into the formal charter, were described as follows: 'to advance knowledge, wisdom, understanding and professional competence, particularly in the fields of engineering and other technologies and sciences, through teaching, research and collaboration with industrial and other bodies.' The Academic Advisory Committee, set up by the UGC to assist the College in its evolution to university status, indicated its willingness to endorse this technological orientation. Indeed, such a development was explicitly approved in the Robbins Report.

Whilst these vital matters concerning the future nature of the institution were being discussed, the work of the College as

1. See the copy attached to Governors' Minutes, 20 October 1964.
2. Ibid.
3. See the First Report of the Committee, December 1964, attached to Governors' Minutes, 19 January 1965. The Committee was composed of the following: Mr E. S. Sellars (Chairman), Professor H. Barcroft, Dr D. G. Christopherson, Professor G. H. Garner, Dr H. L. Haslegrave, Mr G. S. Lucas and Professor W. W. Phillips. Mr F. L. Roberts acted as Secretary.
a CAT continued. Student numbers rose from 1,340 in the session 1963-64 to 1,483 in the subsequent year. Most of the students at the College followed courses in technology or applied science. When reviewing the work of the institution the Academic Advisory Committee, in its first report, recommended that the College should broaden its range beyond its rather narrow technological band, and in particular should strengthen its coverage of pure science and the social sciences. The Committee recommended in the latter field the development of Economics, Econometrics and Sociology. However, the committee was satisfied that all the Dip Tech courses in the College should be accepted for the award of an honours degree. It also recommended that heads of department be given professorial status. Its report concluded, 'The Committee, having satisfied itself that the academic standard and motivation of the Governors and staff of the College are of the necessary level, recommends that Loughborough College of Technology be granted a charter as a technological university.'

As an indication of Loughborough's high reputation in the technological field, in 1964 the National College of Rubber Technology approached the College with a view to becoming attached to it. The National College favoured Loughborough in preference to two other Advanced Colleges it had considered: Brunel and Salford. These negotiations were later to lead to an important development after the College became a university, when the postgraduate work of the National College was absorbed and the Institute of Polymer Technology was created.

At the beginning of 1965 the Governors again debated the draft charter and statutes. The original draft had made provision

1. See First Report, op. cit.
2. Ibid.
3. The National College of Rubber Technology, at the time part of the Northern Polytechnic, London, is now part of the recently-created North London Polytechnic.
for a permanent Deputy Vice-Chancellor: this unusual provision had been objected to by both the UGC and the Academic Advisory Committee, the latter on the grounds that no person should form a barrier between the Vice-Chancellor on the one hand and the Deans and Professors on the other. Following a discussion the Governors agreed to delete the provision for a Deputy Vice-Chancellor. The Governors were also informed that Sir Harry (now Lord) Pilkington had accepted nomination as Chancellor of the university when it was created.

In April, the Governing Body met to review some critical matters. Firstly, some members of the College academic staff had petitioned the Privy Council, objecting to the proposed title of the university, and wishing to call it instead the 'University of Loughborough'. In the discussion that followed many Governors reported that senior men in industry were delighted that Loughborough intended to retain the word 'technology' in its title. It was decided that the title as agreed by the Governors and the Academic Board (and supported by the Academic Advisory Committee) should be retained; and in the event this was accepted by the Privy Council. Secondly, the Governors discussed the future development of the physical facilities of the College, the inadequacies of which the Academic Advisory Committee had noted. Having just been transferred to the grant list of the UGC, the College was anxious to commence a major building scheme in 1966-7 at a cost of £800,000, but the UGC had indicated that only £400,000 would be forthcoming. In connection with the UGC estimates, the Vice-Principal reported that the Grants Committee was not at all sympathetic to Loughborough's desire to be entirely residential - the Committee had made the point that the

2. Governors' Minutes, 14 April 1965.
development of Keele had been held back because of such a policy. However, as the draft charter indicated, Loughborough was still fully committed to the value of corporate life.

In early 1965, the Principal drew up an important memorandum putting the case for a policy of expansion, despite the obvious financial restraints which were facing the College. He was not inclined to accept the existing student target of 1,500 and recommended increasing the number of admissions. The Principal argued that a policy of growth was necessary in order to ensure that Loughborough obtained a good slice of the available national resources. To finance expansion despite official stringency, the Principal indicated that if the National College of Rubber Technology came to Loughborough, industry would probably contribute to the building of a hall of residence. Secondly, a grant might be made from the Nelson Fund for the development of management studies. He also hoped that an Engineering Design Centre might be a viable proposition as a special project.

The question of financial treatment and priorities had already been discussed by the Joint Standing Committee of the College. Mr Mason had made some pertinent points. He argued that the basic problem was the low priority given to technology by the DES and the UGC. He was of the opinion that the CATs were unlikely to get any priority in financial treatment by the UGC but that, on the contrary, the order of precedence was the older and civic universities, the new universities and then the CATs. The Vice-Principal reported that it had been made clear by the UGC that there would be no preferential treatment for CATs. In respect of Loughborough, the UGC's intention was that its target

1. Governors' Minutes, 14 April 1965.
2. See Memo. entitled, 'Likely trends in national policy', February 1965, attached to Governors' Minutes.
for 1973-74 would be 2,500 students - an effective halving of the College target.

It was against this discouraging background of likely trends in the allocation of resources, that a special meeting of Governors met in June 1965 to consider the proposed organisation of the institution when it became a university. The draft charter and statutes made provision for a general structure somewhat similar to that of civic universities with a Court, a Council and a Senate. The Court would act as a general supervisory body and be responsible for the appointment of the Chancellor. The Council would be the executive governing body controlling finance and the general management of the university, and responsible for appointing the Vice-Chancellor. The Senate would be responsible for the academic work of the university. Provision was made for extensive lay membership of both the Court and the Council, thus following the recommendations of the Robbins Report in this respect. There are those, however, who have argued that the CATs in producing their charters tended to follow the broad lines of existing arrangements instead of taking the opportunity of introducing major constitutional innovations.

In the supervision of academic work in the university, the draft charter and statutes proposed that Schools of Studies, responsible to the Senate, should organise academic activities in given fields of study. This was a structure intended to create greater flexibility and to avoid departmental rigidities. It had precedents in arrangements made in some new universities. The Academic Advisory Committee whilst regarding the arrangement as satisfactory in respect of undergraduate courses, nevertheless

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doubted the wisdom of centralising control of research and postgraduate work under a School structure, believing that this would be better done at departmental level. ¹

The College, however, decided to set up the School structure as proposed and the Governors, following the recommendations of the Academic Board, agreed to the creation of three Schools in the first instance: the School of Engineering, the School of Pure and Applied Science, and the School of Human and Environmental Studies. (Later, a fourth School, for Educational Studies, was created.) Within each School there were to be departments, so that the Schools did not signal the end of departments. This dualistic structure of maintaining Schools but also permitting the existence of Departments within Schools was intended to differentiate between academic and administrative matters. Thus the Senate would control the academic work of the university through the Schools, whilst the Departments would be responsible administratively to the Vice-Chancellor.

By the summer of 1965, there was still no news about the likely date of the granting of the charter, so the college was still kept in a state of suspense and its planning in a condition of suspended animation.² Also at this time disagreements arose at Loughborough about the operation of the combined students union, the Union of Loughborough Colleges, which embraced all four colleges in the town. The difficulties had reached such a stage that the Principal felt it necessary to ask the Governors to authorise a separate Students Union for the College of Technology. Mr Mason, representing the LEA point of view, told the Governors that he would regret a split and pointed out that the College of Technology would have to secede, with important legal

¹ See First Report of the Committee, op. cit.
² Ex. inf. Dr Haslegrave.
implications in regard to the land owned by the existing union. That is, secession would involve forfeiture of certain rights in these matters. However, the Governors agreed after discussion to the creation of a separate students union for the College of Technology, and the Principal suggested that the separate unions become operative from the beginning of the academic session 1965-66.

In August 1965, the Academic Advisory Committee issued its second report.¹ It welcomed the definite steps taken by the College to appoint Professors in Social Sciences and Economics and the appointment of a second Professor of Chemistry. It further supported the College proposal to proceed with the appointment of a Professor of Education. The Committee then gave its formal approval to the recognition of courses for the award of degrees in all three Schools of the university. The Committee also expressed great interest in the proposed establishment of an Engineering Design Centre - which later came into being and received its first students in 1967.

On future academic developments, the Committee considered possible growth over a time-span of ten to twenty-five years. It suggested that the university should build up to a size of 7,000 students during that period, some of whom it anticipated would be in other colleges in Loughborough. In an undergraduate population of 6,000, the Committee thought approximately 2,200 would be in Engineering, 1,300 in Pure and Applied Science, 1,000 in the field of the Humanities and Social Studies, and 1,000 in Education.

In a very interesting passage, the Committee then dealt with the possibility of developing links with other colleges in Loughborough. It observed that the existence of a campus with four

¹. See the Second Report, attached to Governors' Minutes, 16 December 1965.
colleges 'presents a unique opportunity for some of the academic work in the Training College, the College of Art and the School of Librarianship, which is part of the College of Further Education, becoming part of the academic programme of the university.' The Committee envisaged that at an appropriate stage, and after full consultation with the University of Nottingham, Training College students taking the B.Ed. course would obtain their degree-awards from the University at Loughborough. The Committee thought that the final stage would be for the Training College to become a constituent part of the university. As regards the School of Librarianship, the Committee anticipated that degrees in library studies could well arise out of collaboration between the School and the University. For the College of Art, the Committee saw the possibility of combining to provide courses in design that contained a strong element of visual art. The Committee left no doubt about its interest in the development of links between the university and the LEA colleges. Unfortunately its proposals co-incided with the local disputes over the student union question; in that sense, the timing was not propitious. Indeed, some time elapsed before the right local climate for such negotiations existed again. (However, in 1971 and 1972 positive steps were taken which led to formal proposals being put to the Department of Education and Science for the amalgamation at Loughborough of the university, the college of education and the college of art and design.)

The Committee concluded its report by declaring that it was satisfied that the development plans of the College were academically sound. Generally, therefore, the College could feel pleased with the view taken of its work by the body set up by the UGC to supervise its elevation to university status. It could be

said that the Committee, whilst subjecting College proposals to a very critical examination, was in agreement with the College on fundamental principles. Indeed, Dr Haslegrave himself wondered if the Committee brought anything new into the thinking at Loughborough. He also questioned whether such a Committee was really necessary, a view shared by Burgess and Pratt. They have argued that the UGC was uncertain about how to deal with the CATs and so applied the same machinery of Academic Advisory Committees which was used for the new universities - as if the CATs were not already established institutions. However, the Robbins Committee had made a clear recommendation that such committees should be created to assist the evolution of the Advanced Colleges to complete independence as universities.

Furthermore, the Academic Advisory Committee was unquestionably helpful at Loughborough. Firstly, it stressed the need for the institution to make a strong effort to diversify into other fields of study, especially pure science and the social sciences. Secondly, it underlined the long-term desirability of collaboration, or amalgamation with, other Loughborough Colleges where appropriate.

Although the Committee earnestly supported such developments in its 1965 report, institutional differences between Loughborough CAT and Loughborough Training College at the time, which continued until the appointment of Dr E. J. Richards as Loughborough University's second Vice-Chancellor in 1967, delayed the initiation of effective local negotiations. Following Dr Richard's appointment, positive and meaningful discussions took place at Loughborough between the University, the College of Education (as the

1. Ex. inf. Dr Haslegrave.
Training College became renamed) and the College of Art and Design, which led to the formulation of proposals to amalgamate the three institutions. The LEA and the Director, Mr Mason, proved to be warmly in favour of such a development.

If the College had been basking in the warmth created by the second report of the Academic Advisory Committee, it was soon to receive a shock in the form of a magisterial visit from the UGC itself. In November 1965, Sir John Wolfenden and his UGC colleagues spent two days at the College. Sir John himself stressed that the visit should be regarded as the first step in the procedure of operating the quinquennial system of the UGC. In his report to the Governing Body, he referred to the change of status that the College was about to undergo by making this somewhat less than candid statement: 'by far the most important factor in the change was the recognition by everybody that the university had complete responsibility for its own affairs and ultimately its own destiny; the UGC was the agency for the granting of money from the national exchequer to the university and for giving advice and information.'¹ Wolfenden was trying to allay apprehensions about joining the UGC by emphasising the autonomy of the individual universities. But it has been argued that although UGC arrangements implied a fairly loose overall control, in practice they involved a considerable degree of detailed limitation.²

Sir John then turned to the question of quinquennial financial settlements and stressed that when the UGC made the grants they would be in the form of global sums, leaving the university to decide its own priorities. This system, therefore, was one which provided more financial freedom than the annual budgets,

2. See Burgess and Pratt, op. cit., p 156.
under heads of estimates, required by the DES. Nevertheless, the DES arrangements did entail detailed collaborative discussions between the Ministry and the colleges. By comparison, the UGC procedure involved less continual consultation. Thus in their initial absorption into the UGC system, the CATs found that they had gained their freedom from annual budgets but that they also had to adjust to a procedure involving less consultation, which some of the colleges found difficult to accept.¹

In assessing the general role of the UGC for the benefit of the Loughborough Governors, Sir John Wolfenden made an important observation: that the Committee was in effect facing two ways. Firstly, there was the need to preserve the internal autonomy of all universities. Secondly, there was the requirement for some central strategic planning of university development on a national basis. This involved, though Sir John did not say so, the formulation of an order of priority for university institutions. The central question was what priority would be given to the former CATs and to their development of new courses. The UGC's later 'Memorandum of General Guidance' issued in 1967 was not encouraging to the former CATs since it implied, as Mr Mason had guessed, that their priority would be relatively low.

In dealing with the UGC's general impressions of the College, Sir John said that the change to university status would probably involve a loosening up of the existing administrative pattern, and more delegation of responsibility for decisions.² He also commented upon one obvious difficulty facing the students at the College - that they possessed no union building which they could call their own. He further suggested bringing into existence certain joint committees of staff and students.

1. See Burgess and Pratt, op. cit., p 156.
In dealing with the crucial points of future development and long-term growth, Sir John struck a note of caution. He said that the most pressing problem was to consider the rate of growth of Loughborough during the quinquennium 1967-72. He warned that there no longer existed an explosive expansion of the universities: indeed, on the then existing estimates the total increase in student numbers in all universities would be no more than 21,000 during the five year period. Sir John stressed, therefore, that the urgent task facing Loughborough was to make a realistic assessment of its student totals for each year of the next quinquennium.

He then declared in an important statement of the Committee's view of Loughborough: 'the UGC therefore believes that it would be prudent for Loughborough to use the next quinquennium as a period of qualitative consolidation.' He argued that this did not imply stagnation but added that his Committee felt that the numbers to be taught had outstripped the provision for staff and students. Therefore growth in undergraduate numbers should be held back and the next quinquennium be used to build up research and postgraduate work, and to bring facilities both for staff and students up to the required standard. He concluded by advising a reduction in the academic work load on both staff and students since the Committee had gained the impression that it was unduly high.

The UGC report was received with mixed feelings by the Governors. Reactions varied from being sharply critical to those of positive appreciation. In regard to the UGC criticisms of certain aspects of the College and its work, Mr Mason pointed out that comments similar to those made about Loughborough had been made concerning the Universities of Leicester and Nottingham.

For his part, Dr Haslegrave's own view of the visit was that it had gone rather badly. He was critical of the procedures used by the visiting party, which he considered did not provide for a full check of the accuracy of the various memoranda submitted to it. But his fundamental disagreement was with the general recommendation of the UGC for 'qualitative consolidation' during the next quinquennium, since such a policy contrasted markedly with his own ideas for expansion. He regarded the result of the UGC visit as damping and discouraging to the institution.¹ However, he recognised that similar points were put to the other CATs as were put to Loughborough.

On the more obviously personal level, Dr Haslegrave could only regard the UGC findings as something of a criticism of his own methods of administering the College: in particular of the need to pay greater attention to the delegation of responsibility. Indeed, he appears himself to have felt more suited to the role of Principal of a College than to that of Vice-Chancellor of a university.² Nor was he alone amongst former CAT Principals when he compared favourably his former position as Principal with that of being a Vice-Chancellor.³ Certainly the change from Principalship to Vice-Chancellorship required the CAT Principals to adjust their whole style of administration. This adjustment was more difficult for some than for others.

As regards the institutions themselves, as Sir John Wolfenden had hinted at Loughborough, becoming a university would signal the beginning of academic democracy, no matter how imperfect. The administrative structure of CATs, and this was certainly true of Loughborough, was of the hierarchic type. The

1. Ex. inf. Dr Haslegrave.
2. Ibid.
3. See Burgess and Pratt, op. cit., p 143.
Principal had extensive powers and decision-making tended to be centralized around him and the Heads of Departments. The introduction of Academic Boards had certainly helped to introduce more democratic aspects into CAT administration. However, as the CATs were transformed into universities, the change to the university system of government tended to strengthen considerably the democratic elements in their institutional government.

After the College at Loughborough debated the UGC recommendations for consolidation, which would clearly be reflected in its financial disbursements, the Joint Standing Committee accepted them. In a report in January 1966, the Committee proposed that undergraduate numbers should be stabilized at the existing level for the next three years, but that some growth in postgraduate work of all types, up to 10% per annum, should be encouraged.¹

At the beginning of the academic session 1965-66, the last before it became a university, Loughborough CAT had a total student enrolment of 1,759, of whom 1,672 were undergraduates and 87 were postgraduates. The student population was very largely British, with British students numbering 1,556 whilst Commonwealth and foreign students numbered only 203. Therefore, the College policy of reducing its dependence upon overseas recruitment had been successfully accomplished. In terms of students enrolled, the three biggest departments in the College were Industrial Chemistry, Electrical Engineering and Mechanical Engineering.

On 28 March 1966, the Governors held their last meeting. The Principal reported that the Academic Board proposed that, as from September 1966, the academic year should be organised into 3 terms of 10 weeks each. This illustrated nicely the point that Venables had made in 1964 about conforming tendencies on achieving

¹. See Report attached to Governors' Minutes, 28 March 1966.
university status. He had predicted that the length of CAT terms would be reduced, but had questioned at the same time whether such a reduction would be good for sandwich courses or for industry.¹ Since this was their last meeting, the Governors were not in a position to make a final decision on this question. The Governors then agreed that no further meetings would be held and that the Registrar would convene the first meeting of the University Council at the appropriate time. In April 1966, Loughborough University of Technology formally came into being by the authority of a Royal Charter and the University Council met for the first time shortly afterwards.

The CAT experiment and the effects of the elevation of the Advanced Colleges to university status have become the subject of an important controversy. It forms part of a wider debate about the structure and development of British higher education, which has gathered momentum since the 'binary policy' was first adopted by the government in 1965. In broad terms, the binary policy committed the government to viewing higher education as being based upon two sectors, and not one.² It recognised two traditions and related institutions in the way that British higher education had developed. On the one hand there was the autonomous sector, represented by the universities, which was financed by the UGC, was associated with the tradition of learning for its own sake, and was permitted a certain degree of autonomy by the government. On the other hand, there was the public sector, represented by colleges financed through local education authorities and expected to be responsive to social needs. The Woolwich

¹. See 'The future of the CATs', op. cit., p 108: 'In the CATs the terms are 10 to 11 weeks, in Redbrick, about 10, in Oxbridge 8: is it really difficult to predict the likely direction of change?'
². See Parry, op. cit., p 135.
PLATE 5. The Library of Loughborough University of Technology.
speech by the Secretary of State for Education, which foreshadowed the adoption of this highly contentious policy, was significantly made a few weeks after the CATs were transferred to the grant list of the UGC. Government policy, therefore, may have been partly a response to the departure of the CATs to the autonomous sector and indicated the desire to find successor institutions to them at the apex of the public sector. In May 1966, the government announced its policy to deal with this question: new institutions, called Polytechnics, were to be set up, typically through the amalgamation of certain colleges of technology, building, art and commerce. Eventually, 30 such Polytechnics were designated.

The binary policy produced immediate controversy which indeed still continues. Critics of the policy objected, amongst other things, to the implication that the universities were unresponsive to social needs and that professional education was of little interest to them. They could point, to begin with, to the historical involvement of the universities in the medical and legal professions. The CATs, shortly to become full universities, felt that the binary policy gave insufficient recognition to the achievements of the Advanced Colleges in promoting higher professional education and of developing links with the industrial world. In particular, they felt that the fusing of the traditions of the two sectors in the CATs in their future role as technological universities was being ignored. Since the foundation of the Polytechnics a lobby has grown up which has strenuously pressed the public sector case and has questioned the achievements

of the universities.¹

The chief critics of the CATs have been Tyrell Burgess and John Pratt.² They argue that the CATs, during their 10 year existence, turned away from the technical college tradition and embraced that of the universities; and that during this time they became less comprehensive by dropping lower-level work. At the end of the CAT period, according to Burgess and Pratt, the Advanced Colleges retained a public sector outlook 'only in their adherence to sandwich courses, in the continued intimacy of their links with industry and perhaps in their continuing acceptance of ONC entrants.'³ (It might well be thought that the need to introduce three such major caveats into their argument, would militate strongly against the validity of their case.) The essence of the Burgess and Pratt argument is that the CATs, in pursuing those developments which led to university status, tended to conform to established university patterns and in doing so permitted the erosion of their original orientations. This is, needless to say, a serious charge.

It is important to restate, in defence of the CAT leadership, that the Principals were well aware of the dangers of possible conforming pressures. The Chairman of the CAT Principals, Sir Peter Venables, repeatedly and publicly underlined this issue during the transitional period from 1963 to 1966. Dr Haslegrave, as has been indicated, was also fully cognisant of the problem and used all of his influence to resist such pressures at

1. See for example the various contributions by George Brosan in 'Patterns and Policies in Higher Education', by G. Brosan, C. Carter, R. Layard, P. Venables and G. Williams, Harmondsworth, Middlesex, 1971. Brosan is Director of the North East London Polytechnic.

2. Both are currently on the staff of the North East London Polytechnic. Their critique of the CATs can be found in 'Policy and Practice: the CATs', op. cit., but see also 'Innovation in Higher Education: Technical Education in the U.K.', op. cit.

Loughborough. Thus if the CATs did meet conforming pressures during their transitional period, which it was to be expected they would, it can also be said that CAT leaders strove to preserve fundamental CAT objectives in the transformation of their institutions into technological universities. There were differences of view amongst the CAT Principals as to the likely effectiveness that the CATs would achieve in maintaining their orientation once they entered the orbit of the UGC. At Loughborough, Dr Haslegrave was not optimistic, believing that conforming pressures were inevitable and would be difficult to resist. He felt that once the ten former Advanced Colleges became part of a much larger group of over 40 universities their relative position would be weakened.¹ He seems to have under-valued, however, the impact which the admission of such a relatively large and distinctive group would make upon the UGC.

At Birmingham, Sir Peter Venables recognised the dangers of conforming influences very early in the transitional period. Speaking with the benefit of hindsight, he has admitted that the extent and subtlety of these pressures took longer to recognise.² Nevertheless, his view is that the record of the CATs on becoming technological universities can be used to demonstrate their continuing commitment to their original orientation.

Firstly, there is the question of sandwich courses, which Burgess and Pratt regard as the most radical academic innovation in higher education for half a century. On this crucial point the record of the CATs is good. Not only were the Advanced Colleges mainly responsible for getting the sandwich principle accepted for courses at degree level but their commitment to such courses has remained strong since they became universities. It

¹. Ex. inf. Dr Haslegrave.
². Ex. inf. Sir Peter Venables.
is pertinent to note, in this respect, that the proportion of sandwich students in the former CATs is still higher than in the majority of the new Polytechnics. Indeed, Burgess and Pratt have conceded on this cardinal point of commitment to the sandwich principle that the CAT record is impressive.

Secondly, on the question of the shedding of lower-level work, the Polytechnics (like the CATs before them) have also been required to shed such courses, in order to concentrate upon developing their advanced work. To take the point further, the Polytechnics are primarily oriented towards advanced courses, especially degree awards of the CNAA.

Thirdly, on the question of links with industry and the outside world, the technological universities have maintained the general orientation they had as CATs. Indeed, the introduction of industrial Ph.D.s and industrial professorships at Loughborough, for example, has shown that the technological universities wish to pursue developments in this field and to strengthen the links between the academic and industrial environments.

On the more general question of whether the former Advanced Colleges have, as technological universities, reduced their commitment to technology, the argument is complex. Certainly, the former CATs, responding to the requirement to broaden their base, have developed both social science and humanities courses. But this was a change recommended by the Robbins Report and one for which there were sound educational and social reasons. It would be profoundly disturbing if the former Advanced Colleges, as technological universities, had come to be regarded as service stations for a technological society, the values of which were

1. Ex. inf. Sir Peter Venables.
unquestioned. To extend the point: the organisation of professional education in a vacuum, without regard to the social context within which professional expertise is exercised, would in the long-term be unsatisfactory. In this sense, therefore, the build-up of social science and arts faculties in technological universities is a welcome development, educationally and socially. Only if the former CATs had diminished substantially their volume of technological work and disproportionately built up their arts courses would they be culpable of the charge of eroding their technological orientation. However, the technological universities have generally maintained their commitment to technology: this is certainly true of Loughborough.

It might be said that Burgess and Pratt argue too subjectively from the public sector side of the binary line and presuppose a dichotomy between the public and private sectors of higher education which could prove most unhelpful. Their argument also assumes a stereotype of an unchanging, traditional university scene, which does not accord with what is actually happening in the universities. In particular, they give no recognition to the point that the former CATs, in becoming technological universities, have made an important contribution in trying to fuse the two traditions of the private and public sectors. To ignore the former CAT contribution in this respect would be unfair and would not help to increase public understanding of the issues involved.

That is not to say that some of the conforming restraints upon the former Advanced Colleges are not real and significant. It is, for instance, generally easier and cheaper to organise three year full-time courses than it is four year sandwich courses.¹ In particular, visiting students whilst they are on

¹. The author is grateful for discussion of this point to Sir Cyril English.
industrial training periods can be an onerous task for the staff. Again the unfamiliarity of the UGC with certain types of work carried out by the former CATs, for example at Loughborough, the question of support for its Manufacturing Technology Centre, created difficulties.\textsuperscript{1} However, the UGC has learned to live with the sandwich courses and industrial links, which continue to be vital to the work of the technological universities.

For those who deprecated the change of the CATs from the public to the private sector, and who now argue for the expansion of polytechnic-style rather than university-style higher education, one pertinent point is that in order to obtain international academic recognition, institutions need independence and the power of internal validation. The CATs certainly learnt this key lesson before they acquired their charters. It is evident that some of the Polytechnics are already restless in a situation where they lack autonomy and cannot award their own degrees. So the advocates of the doctrine of public control need to look carefully at the aspirations of some of the Polytechnics before they advance the public sector case too strongly.

Since changing from being an Advanced College, Loughborough University of Technology has retained its belief in its vocational purpose, that is 'the widest possible interpretation of technology as the application of knowledge to the needs of society.'\textsuperscript{2} The change in status inevitably involved problems of adjustment and development. But from the beginning, its Vice-Chancellors, first Dr Haslegrave and then Dr E. J. Richards, have publicly stated their determination that Loughborough should continue to preserve its distinctive features and orientations, including the

\textsuperscript{1} Ex. inf. Mr R. Leek.
\textsuperscript{2} See the statement on university academic policy in the paper, 'Proposals for amalgamation', submitted by the Vice-Chancellor to the Secretary of State, May 1972, para 3.1.
maintenance of intimate links with the industrial world and a strong adherence to courses based on the sandwich principle.\footnote{See 'Proposals for amalgamation', op. cit., para 3.2. It is important, however, to note the academic diversification which has taken place since 1966. Although in 1972 about three quarters of the undergraduate students at Loughborough University of Technology were enrolled in courses in engineering and science, there has been a substantial development in the post-1966 period in non-technological areas including economics, social sciences, management studies, European Studies and education. In 1972, there were 2,360 undergraduate and 600 postgraduate students. (See document cited, para 1.4.)}

However, the university, aware of the need for educational innovation and anxious to promote new cross-disciplinary initiatives, submitted formal proposals to the government in 1972 to create at Loughborough an extended university, embracing the existing university as well as the college of education and the college of art and design. Thus from Loughborough have come firm proposals to bridge the binary divide. This is a significant demonstration of that desire to fuse the two traditions in British higher education, which can be found in the outlook of the former CATs since their elevation to university status. As such it can be used as another indicator of the weaknesses in the case of those who have sought to depreciate the achievements of the Colleges of Advanced Technology and their successor institutions, the technological universities.
PART THREE

LOUGHBOROUGH COLLEGE OF EDUCATION
The origins of teacher education at Loughborough can be traced back, like so much else in higher education in the town, to the plans of Herbert Schofield. In the period after the end of the First World War, Schofield recognised that the workshop facilities of Loughborough College provided a suitable context within which a department for the training of handicraft teachers could be established.¹ His first attempt to develop such a department occurred in 1921, with the creation of an emergency training course for ex-service personnel, but the course did not outlive the emergency scheme. However, Schofield retained an interest in promoting a teacher-training department at a future date: not only was such a scheme attractive in terms of institutional expansion but, on educational grounds, there was in the inter-war period a need for specialist craft teachers of good quality.²

In 1930 Schofield's aspirations were realized when the Education Department of Nottingham University College agreed to sponsor, jointly with Loughborough College, a teacher-training establishment at Loughborough. The involvement of the University College was to prove of considerable value and provided an altogether sounder basis for development than the previous separate Loughborough initiative. As with many of Schofield's schemes, the arrangement involved certain unorthodox features. For whilst the Teacher-Training Department formed part of Loughborough College and its Head was subordinate to Principal Schofield, it

2. See 'Teachers and Youth Leaders', (The McNair Report), HMSO, 1944, Appendix 1, Arts and Crafts, paras 3-4.
had a certain separateness of identity. Thus it was also styled the East Midlands Training College in recognition of its relationship with Nottingham University College. The man appointed as head of this new department at Loughborough was Mr J. W. Bridgeman, a trained teacher with expertise in both craft and mathematics. This unusual combination of subjects gave him a broad view of the curriculum, which proved helpful in the development of specialist teacher training at Loughborough. The Department opened in 1930 with 39 students enrolled for a two year course in handicraft.

At the time that the Training Department came into being at Loughborough, there was a demand from the schools for craft teachers different from both the non-specialists coming from the general training colleges and the craftsmen coming directly from industrial craft shops. Thus there was a pressing requirement for a new kind of specialist teacher, who could combine the techniques of handicraft with the general education and professional skill which a college-trained teacher possessed. The training of such teachers was the main aim of the new department at Loughborough, but Mr Bridgeman intended that his students should be trained not only for craft work but also for classroom teaching. He was opposed to an isolated curriculum for craft teachers and stressed, in the education of teachers for practical subjects, the importance of intellectual development through academic study.

1. John Wilfred Bridgeman, C.B.E., M.A., B.Sc., A.K.C. Born in 1895, he was educated at King's College, London and the London Day Training College. After various teaching appointments, he became Senior Mathematics Master at Wolverhampton Secondary Grammar School in 1926. He was appointed as Head of the Teacher-Training Department at Loughborough in 1930 and was Principal of Loughborough Training College, 1950-63. In 1952, he was Chairman of the ATCDE and acted as leader of the Staff Panel, ATCDE, 1955-63.

2. Ex. inf. Mr J. W. Bridgeman.
In building up his Department, Mr Bridgeman was anxious to have on the staff an expert craftsman who could demonstrate high standards of craft practice to the students. Fortunately, the Department soon acquired the services of Mr Cecil Gough, a fine wood craftsman of 'the Cotswold School'. Indeed, woodwork came to be the chief craft practised in the college, although metal work was also developed to a high standard. The emphasis upon woodwork was partly related to the predominant need for teachers in this craft before the Second World War.

Fundamental to the development of craft education at Loughborough was Mr Bridgeman's belief that real mastery of a single craft was the best approach. From the beginning, therefore, the practical work of the Department concentrated on the pursuit of excellence in one craft. This deep penetration on a narrow front became characteristic of Loughborough methods. Another distinctive feature of the work of the Department was its attention to a high standard in design. This again reflected Bridgeman's philosophy of craft education. It might be argued that Mr Bridgeman identified himself too closely with the traditionalist craft outlook, and that this approach (with its implied rejection of modern technological methods) entailed difficulties in the long term. Nevertheless, the aesthetic and practical

1. The 'Cotswold School' derived its name from the group of architects and craftsmen who settled in the Cotswolds at the end of the nineteenth century. Deeply influenced by William Morris, they sought by a return to the countryside to rediscover and re-assert traditional English craft skills in an age of industrial production. The leading figures were Ernest Gimson and the two Barnsleys, Ernest and Sidney. They were later joined by the Dutch cabinet maker Peter Waals.


3. Peter Waals, a leading figure of the Cotswold School, was appointed in 1935 as specialist adviser in design at Loughborough. His successor in this post was another important exponent of the same tradition, Edward Barnsley (the son of Sidney Barnsley).
value of hand work with traditional materials proved to have a strong appeal to students. In 1934 a post-certificate course in Handicraft was begun.

Since Loughborough College possessed substantial physical recreational facilities, and physical education like handicraft was a practical subject, it was hoped that a two year course in physical education could be started. But the Board of Education would not permit an increase in the total number of students in initial training at Loughborough. Thus a two year course with Physical Education as a special subject could only have been started in the inter-war period at the expense of the craft courses already in existence. Therefore the Department decided to wait until the supply situation improved before introducing an initial physical education course. However, in 1936, the Board of Education did sanction a one year post-certificate course in Physical Education for men who had completed their initial training elsewhere. Although the pre-war emphasis at Loughborough was upon craft, the one year course in physical education quickly established its own reputation. Thus before the outbreak of the Second World War the teacher-training department at Loughborough had firmly established the two main specialisms, handicraft and physical education, upon which its whole development was based until the admission in the mid-1960s of women students, training for primary school work.

The rapid development of teacher-training at Loughborough before 1939 can be attributed to three main factors. Firstly, the national shortage of good men specialists in handicraft and physical education in the inter-war period created a 'growth market' for the new department, which could be exploited despite the financial difficulties of the time. Secondly, John Bridgeman's leadership was good enough to seize the opportunities
that did exist. Thirdly, the assistance of the University College at Nottingham was of considerable value, since it provided staff for important elements of the Loughborough courses and buttressed its academic stature.

In a number of important respects, the Teacher-Training Department at Loughborough did not conform to the pre-war norm of training colleges. Firstly, it was an all-male college, whilst the typical training college of the period was for women only. The move to co-education in the Colleges was very much a post-war development. Secondly, the Department at Loughborough was not subject to the social and academic isolation which characterised many of the pre-war training colleges. It was not a separate institution but part of the much larger structure of Loughborough College, which embraced many fields of educational activity. Thirdly, the ethos of Loughborough College, with its emphasis upon productivity and practicality, was far removed from what Professor Taylor has described as the tradition of 'social and literary romanticism' in teacher education.¹ Fourthly, as a local education authority establishment, the training department at Loughborough was not typical since approximately two-thirds of pre-war training colleges were provided by voluntary bodies.² This pattern was dramatically reversed after the Second World War, when the typical college became that of the LEA category. Finally, whilst the majority of training colleges produced teachers for the elementary schools, Loughborough was oriented towards preparing teachers for secondary schools because of its specialist bias.

1. See W. Taylor, 'Society and the Education of Teachers', London, 1969, p.12. Even if Taylor's training college archetype is historically valid for the generality of inter-war colleges, it certainly does not fit the Loughborough situation.
2. See McNair Report, op. cit., para 36.
The natural growth of the Department was inevitably halted by the Second World War. However, the great expansion of the education service implicit in the Education Act of 1944 indicated that a massive increase in the supply of trained teachers would be necessary in the post-war period. Thus Loughborough, like other Training Colleges, could look forward to a phase of expansionism when the war ended. Just two months before the Education Act was passed the government published the McNair Report on the supply, recruitment and training of teachers and youth leaders. This important report is a water-shed in the history of the training establishments, since its recommendations did much to shape the development of teacher education in the post-war period. On the question of the future organisation and control of teacher training institutions, the Committee offered two solutions. The first scheme was that each university should establish a 'School of Education', which would consist of an organic federation of approved training institutions, governed by a delegacy representing the university, the colleges and the LEAs. The second scheme proposed the continuance of the existing Joint Board system in a revised form.¹

In effect the universities were presented with a choice in the form of the re-organisation they adopted. Generally when the Area Training Organisations (ATOs) were established in the post-war period, a diluted version of the School of Education scheme tended to prevail over the proposals for an amended Joint Board system. But the real intentions of the School of Education group were, neither in spirit nor in letter, implemented on a

¹ Joint Boards representing both the training colleges and universities had been set up in the inter-war period to take over from the Board of Education responsibility for the examination of students for the Teacher's Certificate.
general basis by the universities. Most of them established not Schools but Institutes of Education, which were bodies created within the universities themselves to carry out specialist duties of the ATOs. Despite certain limitations, chiefly related to the continuing lack of effective organic links between universities and colleges, the ATO-Institute of Education system proved to be a great improvement on the pre-war Joint Board arrangement. The new structure provided training colleges with the opportunity both to establish more effective links with the universities and to reduce their academic isolation.

The first University Institutes of Education came into being in the late 1940s and between 1947 and 1951 seventeen ATOs were created. At Nottingham an ATO was established in 1947, with an Institute of Education serving as its headquarters, and the Training Department at Loughborough together with the other training colleges in the area came under its aegis.

However, whilst the universities moved somewhat slowly to achieve a co-ordinated training system in the post-war period, the training colleges were expanding rapidly. In 1945 and 1946, the Ministry of Education announced financial arrangements which cleared the way for growth. The shortage of teachers was such that not only were the permanent colleges rapidly developed but a massive Emergency Training Scheme, which lasted until 1951, was also mounted. This expansionism created a situation in which the Training Department at Loughborough was able, within two years from the end of the war, to more than double its 1938 enrolment to 368 students. At the national level, the post-war

1. See Taylor, op. cit., p 68.
expansion enabled the number of students in permanent training colleges to rise dramatically from 8,734 in 1938-39 to 19,289 in 1951.

In contrast to the pre-war situation at Loughborough where craft was in the ascendant, the post-1945 period witnessed a marked expansion in physical education. In 1946 a two year course in physical education was started, which proved very successful in terms of student recruitment and in the quality of the specialist teachers it produced. The changed status of physical education nationally, which was reflected by events at Loughborough, was essentially a post-war development. From a pre-war emphasis which was largely upon formal and set exercises of physical training, the subject was transformed into a much broader and more educative field of study. The scope of physical education was widened to include scientific subjects such as anatomy and physiology. At Loughborough the College moved to develop work in these two areas by the appointment of a man well-qualified in the medical field, Dr H. E. Robson. The intention was limited at first to ensuring that students had enough knowledge so as not to injure themselves. But Dr Robson initiated work at more advanced levels and became widely known for his contributions in the field of sports medicine. Mr Bridgeman played a key role in obtaining Robson's services and saw the need for physical education students to have a basic understanding of anatomy and physiology. He was, however, somewhat sceptical about developing the scientific side of physical education on a more advanced basis. In view of the way that the scientific aspects of physical education have been developed in the United States, for example, this may have been a miscalculation. However, English physical education has been less concerned with the scientific possibilities of the subject than is the case in
North America and thus Bridgeman could be regarded as following the general English approach.

Following the rapid growth of its physical education courses in the post-war period, Loughborough Training Department established a unique position for itself amongst the Training Colleges of the country. It was able to offer two subjects, not normally provided in universities, at a high level of specialization. It was thus able to attract high calibre students. Although Carnegie Training College could stand comparison with Loughborough in the field of physical education and Shoreditch in craft, Loughborough stood out as offering both of these subjects as main specialisms. In 1949, the national position of Loughborough was reinforced when one year courses for post-graduates leading to the award of the Certificate of the Institute of Education of Nottingham University were introduced for both Physical Education and Handicraft. At about the same time the Department took responsibility for all academic work associated with its courses and was able to discontinue its reliance upon help from Nottingham University.¹

Mr Bridgeman was a powerful advocate of the need to link the study of practical subjects to academic disciplines. Thus both the craft and physical education students at Loughborough followed a second main subject course, chosen from a wide variety of subjects, ranging from Geography to Divinity. The basic intention was to develop the intellectual capacities of students who spent considerable amounts of time on practical work. In Bridgeman's view, the linking of practical subjects with academic study would encourage wider intellectual horizons and more generally educated attitudes on the part of the students. He

¹. The University College at Nottingham became fully autonomous as Nottingham University in 1948.
thought that this was important because of the possible narrowing effects of the study of practical subjects. The second main subject was considered to be of particular importance in this respect for physical education. Furthermore, a second subject could provide a useful alternative teaching career if, for any reason, the specialist teacher wished to change his subject. Again this was especially significant for the physical education specialists where injury might interfere with the normal career pattern.

In the post-war period physical education proved to have more recruiting power than craft. Mr Bridgeman tried to keep the balance between the two subjects in the Training Department but he was defeated to some extent by the relatively low status accorded to craft in the grammar schools. The advice of grammar school Headmasters was likely to go against a career in handiwork. On the other hand, the recruitment of students from grammar schools for physical education in the post-war period was relatively easy. The Loughborough image of sports excellence, built up through its superb facilities and highly qualified coaches, proved a strong magnet for schoolboys who had ambitions in the sporting field. The recruiting strength of physical education at Loughborough was presumably also assisted by another of the anomalous arrangements of the Schofield era: in 1929 Loughborough College had been able to join the Universities Athletic Union – the only non-university institution permitted membership of that body. Thus college students at Loughborough were able to compete, with what proved to be a marked degree of success, in the sporting affairs of the universities. A schoolboy who was good at games and who was aware of the possibilities afforded by Loughborough might try to gain admission to the

1. Ex. inf. Mr Bridgeman.
College, perhaps against his headmaster's advice. At any rate, there could be no doubting the recruiting strength of physical education in the Loughborough setting.

When in 1947 Sir William Brockington retired as Leicestershire Director of Education, the Training Department found that although it had lost a valuable friend, it gained perhaps an even better one in Mr S. C. Mason. The new Director quickly recognised the problems created by Principal Schofield's autocratic methods, which permitted little autonomy even for a strong department. Mr Mason was in favour of more freedom for the Training Department at Loughborough. At the end of 1950 Dr Schofield finally retired, allowing Mr Bridgeman to become Principal in his own right. The opportunity was also taken to re-name the Training Department as Loughborough Training College. The complex events of the period 1951-52, in which an unsuccessful attempt was made to preserve Loughborough College through a federal arrangement have already been discussed. With the collapse of federalism and the setting-up of the College of Technology in 1952, it was necessary to divide up the residential accommodation of the old College. In the process of sharing out, the Training College obtained the Ashby Road group of Halls and also the Country Halls, located in or outside nearby villages. This distribution of halls involved a loss of social mix with engineering students in a residential setting which Mr Bridgeman regretted. Nevertheless, the ending of the Schofield regime brought with it the advantages of being able to make institutional decisions without interference.

1. The author is grateful for discussion of this point to Mr Bridgeman.
2. Ex. inf. Mr Bridgeman.
3. Ex. inf. Mr S. C. Mason.
It might also be said that Loughborough Training College was very fortunate in the degree of autonomy permitted to it by a progressive Director and LEA. Some other Training Colleges, operating under different policies, were subject to much more restrictive LEA control. Furthermore it could be argued that Mr Bridgeman's influence in teacher education at the national level in the 1950s acted as a re-inforcing agent for the relative freedom of his College. It was indicative of his national standing in teacher education that he was made Chairman of the ATCDE in 1952.

Some local institutional problems faced Mr Bridgeman in the immediate post-Schofield period. He was anxious to end as soon as practicable the existing matriarchal system in the residential halls, whereby responsibility lay with Matrons. Bridgeman wished to introduce the more modern and progressive arrangement of having Tutors in Residence. Gradually the change-over to this new system was made - with the support of Mr Mason. It was also necessary to improve the standard of residential accommodation, especially by reducing over-crowding in the halls.

In 1951, the College received an important set-back when the Ministry of Education revoked its decision to introduce physical education courses for women at Loughborough. This development had been projected during Schofield's Principalship and plans were well-advanced when a woman Chief HMI suddenly took a great dislike to the scheme. Her influence was sufficiently powerful to get the Ministry to drop the scheme, despite the fact that the two halls of residence to house the women students were already in the course of building. The reversal of policy came

2. See Governors' Minutes, Loughborough College, 13 November, 1951.
3. Ex. inf. Mr Mason.
too late to prevent the College acquiring two badly-needed halls.
But this was very inadequate compensation for the inability to
make the College a co-educational institution, a development which
both Mr Mason and Mr Bridgeman were keen to implement. The op-
portunity to introduce courses for women at the College did not
arise again during Mr Bridgeman's Principalship, but eventually
became possible in 1965. The episode is, nevertheless, an in-
teresting demonstration of the power of senior HMIs in the early
1950s, though it is perhaps doubtful (with the changed role of
the Inspectorate) if a similar situation could now arise.

The national background in teacher education after the ini-
tial post-war expansion was one which Professor Dent has des-
cribed as a period of slow-down and hesitation, lasting from 1952
until 1957. In particular the decision to introduce a three
year course to replace the existing two year training period was
delayed, firstly because of shortage in the supply of teachers
and later because of anxiety about a possible over-supply. The
question of the supply of teachers has generally been the dom-
inant influence upon the development of teacher education.

In 1949 the government created the National Advisory Council
on the Training and Supply of Teachers (NACTST). Although a
somewhat poor substitute for the Central Training Council pro-
posed by the McNair Committee, the NACTST produced a series of
valuable reports on a wide range of questions related to teacher
education. Its Fifth Report in 1956 made a firm recommendation
that the basic teacher training course should be extended to 3
years. In the mid-1950s, official projections indicated, as it

1. See H. C. Dent, '1870-1970: century of growth in English
3. See NACTST Report, 'Three Year Training for Teachers',
   HMSO, 1956, para 44.
turned out incorrectly, that the school population would begin to fall after 1961. Therefore the NACTST felt that the three year course could be introduced without adversely affecting the teacher/pupil ratio either in 1959 or 1960. The Minister later set the date for the introduction of the three year course as 1960, although almost immediately it became clear that the projected school population figures were inaccurate. But the government, having committed itself to the introduction of the three year course, stood by its decision. Thus in 1960 the lengthened course was introduced, almost half a century after it had first been advocated by the Committee of Principals in Training Colleges. Although the NACTST argued that the educational case for introducing the three year course was overwhelming, it is probable that the main reason for its implementation by the government was because of faulty forecasts of school population and teacher wastage. It can be argued that the long delay in introducing the three year course resulted largely from the government's willingness to obtain teachers on the cheap for as long as it could.

The Training College at Loughborough largely escaped the effects of the national trend of a slow-down in the period between the end of the Emergency Training Scheme and the lead-up to the three year course. This was mainly because of the continued national demand for an increased supply of specialist teachers. So the years from 1951 to 1957 were for Loughborough not a period of retrenchment but rather of substantial expansion. Student enrolment at Loughborough increased from 479 students in the session 1951-52 to 617 in 1957-58. The 1950s were years of challenge and change for the College

2. This is Mr. S. C. Mason's interpretation.
not only because its student numbers were steadily growing but also because it was involved in the protracted process of centralizing its work on the playing field site. At the time of the break-up of the old College, the Training College operated from two separate bases: the playing fields where the physical education facilities were situated and the town site where its teaching accommodation, including workshops, was located. This division was unsatisfactory and between 1950 and 1958 the Training College was able to centralize its teaching activities on the playing field site, through a major new building programme. The main building was named the Martin Hall as a tribute to Sir Robert Martin. With the completion of a new workshop block in 1958, next to the Martin Hall, the College possessed extensive modern facilities for both of its main specialisms. Parallel developments in the provision of further residential accommodation took place during the 1950s along the Ashby Road: new halls were built, together with a Refectory. Thus by the autumn term of 1958 the College was able to provide residential accommodation for the great majority of its students.

When H.M. Inspectors carried out an inspection of the College in 1959 they commented that, 'the last nine years have seen a period at once of rapid expansion and of settling down.' Thus the Inspectors highlighted the two main developments of the 1950s. Firstly, the College had experienced a substantial increase in its student numbers and a related extension of its physical facilities. Secondly, with the break-up of the old College, the Training Department had been able to achieve full autonomy as an institution in its own right, able to work out its own internal policies. Its identity had been further

strengthened by the move to a single College site.

The Inspectors' Report provides a unique synoptic view, from an official standpoint, of the development of the College in the 1950s. It is, therefore, worth considering in some detail. The HMIs were struck by the quality of Mr Bridgeman's leadership. They wrote, 'to his wisdom and vigour, which are displayed in the calmest and most unruffled manner, no tribute is too high. His influence extends into counsels far beyond the confines of Loughborough.' The Inspectors' Report indicated that the reputation of the College was such that only one candidate out of four was accepted for admission. The academic standards were high: nearly half of the entrants in 1958 possessed two or more 'A' levels.

At the time of the Inspection, Mr Bridgeman had been responsible for the College since its foundation 29 years earlier and it is appropriate to quote the concluding comments of the Inspectors' Report: 'This is a most distinguished College. The value of its contribution over the years to two very important and specialised branches of teaching is impressive not only in numerical terms, but in the standards which it has set alike in the refinement and quality of its Craft and in the spirit and balance of its Physical Education. When these exacting aims are supplemented by a carefully directed course in Education and the disciplined study of a second main subject and when all are pursued in an atmosphere of vigorous community life, it is little wonder that the reputation of Loughborough's students stands so high in the country today.'

Thus no matter what challenges and difficulties lay ahead, the Principal could feel pleased with the considerable

2. Ibid., pp 37-8.
achievements of the College in the 1950s. The main issue which faced the College as it entered the 1960s was whether or not the 'Bridgeman approach' would continue to provide an effective basis for development.

At the national level, teacher education in the late 1950s was dominated by the debate about how the three year course should be structured. In 1957, the NACTST turned to this question in its Sixth Report, 'The Scope and Content of the Three Year Course of Teacher Training.'\(^1\) The Council urged that the training colleges should develop more of the qualities which had become associated with university education, providing more time for discussion, reflection and cultural activity. The Inspectorate's advice, embodied in the Ministry of Education Pamphlet No. 34, followed similar lines.\(^2\) The HMIs stressed the need for more mature and better educated teachers and suggested that academic work should be given more emphasis in the three year course. In its memoranda on the new training course, the ATCDE proved to be in general agreement with the NACTST and the Inspectorate. Thus the debate about the content of the three year course was consensual rather than divisive.

At Loughborough, Mr Bridgeman was strongly in favour of the extension of the two year course, regarding three years of training as of particular importance in the education of specialist teachers. His view of the two year course was that it entailed trying to do in two years what could be achieved more effectively in three years or even better in four.\(^3\) But although the introduction of the three year course in 1960 was greeted with relief

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3. Ex. inf. Mr Bridgeman.
at Loughborough, the College had for some time circumvented many of the difficulties associated with the initial two year course. The College was able to do this by linking the two year course, either on a consecutive or a deferred basis, with a supplementary year. The 1959 Inspectorate Report on the College noted that in physical education the number of students staying on for a continuous supplementary course had risen by then to 70%, whilst 58% of the handicraft students also followed this pattern. So Loughborough, as a college offering specialist subjects and able to mount supplementary courses, was able to operate a two plus one structure. This alleviated the shortness of the basic two year course for a majority of Loughborough students by the late 1950s. The College was helped by the fact that the Ministry was relatively generous in its financial provision for supplementary courses for specialist teachers.

It is interesting to note that the NACTST Report in 1956 had commented upon the great educational value of linking initial and supplementary courses in specialist training, though the Report favoured a fully integrated three year course. It might be said that the two plus one structure was a step towards the three year course.

There were two principal advantages for Loughborough in the new three year course, besides removing the general feeling of haste. Firstly, although the pre-1960 two plus one structure had permitted many students to study their specialist subject continuously for three years, and also give some time to Education, there was no provision for the study of an academic subject in their third year. Under the three year system, study of an academic subject could be extended throughout the entire course.

Since Mr Bridgeman was an advocate of linking academic and practical studies, he regarded the three year course as a considerable advance on the two plus one system in this respect. Secondly, an integrated three year course made possible a more extensive study of Education. In general terms, therefore, the three year course offered Loughborough, like other training colleges, the opportunity to develop a properly integrated course, of the same length as the normal undergraduate course in universities. The result in national terms of lengthening the course for students entering the colleges in 1960 was to expand the training colleges by a third in the autumn of 1962. Students in the colleges in England and Wales in 1962-63 numbered 48,400.¹

No sooner was the issue of implementing the three year course out of the way than a bigger debate about teacher education gained momentum. The impetus was the setting up of the Robbins Committee in 1961 to review the whole structure of higher education. The advent of the Robbins Committee brought to the fore issues which had remained unresolved since the McNair Report. The two most important questions concerned the nature of the relationships between the universities and the training colleges and the related problem of the academic status of college courses and awards.

Essentially the colleges wanted more academic status and more effective links with the universities. Some Principals were critical of the slowness with which universities had responded to the claims of the colleges for academic recognition. It could be said that the advent of the three year college course made the Training College leadership more ambitious over the award question. In particular, the colleges wanted the door to be

opened for the granting of degrees to their more able students.¹

The growing confidence of the Training Colleges was amply illustrated in 1962 when they created a Central Register and Clearing House to co-ordinate admissions to the colleges on a national basis. A simple admissions procedure had been in existence for many years but early in the 1960s the colleges moved to establish a formalized system. It is interesting to note that the Universities Central Council on Admissions (UCCA) came into operation shortly after the Training Colleges established their Clearing House. Professor Armytage has remarked that this was, 'but another indication of the increasing measure of common ground between them.'²

At Loughborough, Mr Bridgeman was a firm supporter of closer university links and also of degrees for able college students. Indeed, he had used his influential position within the ATCDE to advocate an advance to university standards in the mid-1950s. He had written then: 'This approach to university standards on the part of the Training Colleges is a very good yardstick for measuring the progress made in the whole field of the training of teachers.'³ However, he added an important qualification: 'This does not mean that we should copy university syllabuses or expect the high degree of specialisation that the university scholar can achieve. Equally we should not neglect, as many universities do, such important activities as Music, Art, Crafts or Physical Education.'⁴ But on the general principle of links with the universities, Mr Bridgeman was strongly in favour of strengthening them. This was his position in the discussions.

² See Armytage, '400 years of English Education', op. cit., p 247.
⁴ Ibid.
about teacher education which formed part of the wider debate concerning higher education stimulated by the setting up of the Robbins Committee.

Bridgeman's personal thinking about university and college relationships was influenced, firstly, by a desire to bring the training colleges as close to the 'university ideal' as possible on general educational grounds and, secondly, by a strong motivation to reduce what he regarded as the divisiveness created within the teaching profession by the existence of allowances for university graduates.¹ In the debate of the early 1960s, Mr Bridgeman was thus in general agreement with ATCDE policy which emphasised the need for as close links as possible between the universities and training colleges, the possibility of the more able college students being permitted to obtain degrees, and that such degrees should have equality of status with other degrees. The idea of degrees for training college students, which gained momentum nationally in the early 1960s, was not new. For example, Cyril Bibby had drawn attention publicly to the possibility of such a degree in 1954.² What is fascinating in this respect, is that Mr Bridgeman in conversation with the author has indicated that Loughborough informally approached Nottingham University in the late 1940s with proposals for establishing four year concurrent courses leading to the award of degrees in physical education and craft for suitable students. The climate for such an initiative was not auspicious and the university did not respond positively. When later reviewing his own career, Mr Bridgeman criticised himself for not pressing his proposals more strongly.³ It is unlikely, however, that a

1. Ex. inf. Mr Bridgeman.
3. Ex. inf. Mr Bridgeman.
bolder approach would have been successful at that time. Even in the mid-1950s, university personalities closely involved with the training colleges were warning them not to set their academic sights too high. Nevertheless, it can be said that Mr Bridgeman devised a scheme in the late 1940s which closely resembled the later Bachelor of Education degree proposals made by the Robbins Report in 1963.

By 1960 Mr Bridgeman was 65 years of age and was thus due for retirement. However, his period of service was extended so that he finally retired in 1963, by which time he had served continuously at Loughborough for 33 years. Arguably, the extension of Mr Bridgeman's tenure of office beyond the normal retirement age was mistaken since the climate of the 1960s suited neither his style of administration nor his view of craft education.

Nevertheless, the achievements of Mr Bridgeman's career, both at the local and also national level, are considerable. During his time at Loughborough, the small Training Department, which began its existence with 39 students in 1930, had become by 1963 one of the largest training colleges in the country, with over 700 students. The College had been developed within the framework of Bridgeman's own carefully-conceived educational philosophy: as such it had made a national impact upon the education of teachers in its two specialist subjects. It is fitting in this context to record the important contribution of the two men who were the Principal's chief lieutenants for so long in their specialist areas: Mr G. V. Sibley in Physical Education and Mr F. W. Ockenden in Handicraft. Nor was the reputation of Loughborough Training College confined to Britain: its achievements had acquired a certain international recognition.

to this achievement was Bridgeman's emphasis upon the pursuit of excellence and the giving of depth to teacher education in practical subjects by linking them strongly to academic studies.

There can be no doubt that the 'Bridgeman approach' to teacher education in practical subjects was eminently successful for most of the long period of his stewardship of the College. But by the time of his retirement in 1963, he was nearly 70 years of age. Even given his unusual vitality and vigour, it was not surprising that the final years of his long Principalship should have been less successful than the prior period of achievement. His educational philosophy, so carefully devised in the 1930s and valid for so long, was beginning to be overtaken by the radically changed climate of the 1960s. In particular, the Bridgeman view of craft, which still concentrated upon traditional craft methods and materials became increasingly unsuited to the needs of the schools in a technological society. By the 1960s the craft tradition at Loughborough had become too narrow and it was necessary for the College to adjust itself to the new developments in design education, which utilized the materials and techniques of a technological age.

The quality of physical education in the College on Mr Bridgeman's retirement was generally good and continued to demonstrate amply its strength in terms of student recruitment. The high level of sports performance of College students was nationally recognised. However, it could be argued that the aesthetic aspects of physical education at Loughborough needed strengthening and also that the work needed broadening to include more emphasis upon general recreative activities and less upon sports. Mr Bridgeman recognised the difficulties of having a narrow base for physical education, but he also accepted the
very powerful effect upon student motivation of success in organised sports. The Bridgeman solution, which was possibly dated by the 1960s, still stressed the value of studying a second main subject to offset the possible limiting effects of following a physical education course. An alternative solution might have been to develop still further the scientific aspects of physical education, thus giving more depth to the subject itself. But the great difficulty in adopting this approach was, as it continues to be, that the typical English physical education student is 'arts-based' and not 'science-based'.

With the changed attitudes to authority in the 1960s there was also a need to administer the College along less paternalistic lines. Mr Bridgeman's methods involved a concentration of authority in his own hands. However, his rule was both fair and efficient. Moreover, for the greater part of his Principalship such a view of a Principal's role was commonplace. Nevertheless, the absence of a formalized Academic Board in the early 1960s indicated that more delegation of authority within the College was necessary. Indeed, the democratization of the internal workings of the College was a matter of some urgency for his successor. Thus, it could be said that Mr Bridgeman in the final phase of his Principalship did not adjust to the new role which by then was being required of College Principals. ¹

But the overall record of Mr Bridgeman's career is impressive. Not only did he evolve a distinctive educational philosophy, but his administrative abilities were notable. When these qualities were allied to his undoubted powers of leadership, a Principal of unusual calibre was evident. He was a good judge of the kind of staff required for his particular institution and

1. The author is grateful to Mr S. C. Mason for discussion of points contained in this paragraph.
by judicious selection he built up an able team to carry out the aims of the college.

At the national level, he reached the highest councils of the ATCDE of which he was almost a founder member. Recognised for his sagacity and common sense he became an elder statesman of the Association. His skills as a negotiator at the national level were amply demonstrated by his leadership of the ATCDE panel on the Pelham Committee from 1955 to 1963.

Taking an over-view of Mr Bridgeman's marathon career at Loughborough, it is clear that he has a claim to be considered as one of the leading teacher educators in the field of practical subjects during the last half century. Under his leadership, a completely new Training Department became within three decades one of the largest and most important Training Colleges in the country. Although the idea of starting a specialist teacher training department at Loughborough belonged to Herbert Schofield, the man who developed the Department was John Bridgeman. That he was able successfully to direct its affairs as a Principal in his own right, and to guide it to greater growth, was amply demonstrated in the period of the Training College's full autonomy after 1952. The Inspectorate Report of 1959 makes this point quite clear.

It can also be argued that Bridgeman was helped by the fortunate co-incidence of a 'growth situation' for craft in the pre-war period, when his Department was being developed, and also by similar circumstances for physical education in the post-war period. Nevertheless, it was Bridgeman who provided the

2. The Pelham Committee (so called from the name of the first Chairman) is the statutory committee which negotiates salaries for academic staff in the training colleges, or colleges of education as they are now known.
leadership and organisational ability to capitalize on these growth situations. Nor was his approach to education marked by the opportunism which often characterised Schofield's methods. Bridgeman brought to teacher education deep convictions about the educational significance of practical subjects, particularly craft. He developed methods of giving depth to these subjects, which came to be widely valued for their individuality and importance. John Bridgeman's contribution to the development of English teacher education in practical subjects in the recent period was of major significance.
CHAPTER VII


When the Robbins Committee was set up in 1961 to review the structure of British higher education, there was concern within the Training Colleges because no person directly representative of the Colleges themselves was appointed to the Committee.¹ However, when the Robbins Report appeared in October 1963 it was clear that there had been no neglect of Training College interests. The ATCDE had presented the Training College case with considerable effectiveness during the Committee's deliberations. The Association had summarised its position in a memorandum in 1961. It called for the provision of degree courses in the colleges and a strengthening of the links with the universities; it stressed the value of retaining the vocational or professional character of the colleges, with the possibility of including among their students those preparing for allied professions such as social work; it supported the continuance of concurrent courses; and it proposed radical changes in the system of administering the colleges which would take them out of LEA financial control.²

In general terms, the Robbins Committee proposals for the Training Colleges showed a wide measure of agreement with ATCDE thinking. The Committee made the following major recommendations: a new type of degree, called the Bachelor of Education (B.Ed), should be introduced for suitable college candidates; the colleges should become federally linked to universities

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¹ The only member of the Robbins Committee directly involved with teacher education was a university representative, Mr H. L. Elvin, Director of the University of London Institute of Education.

through Schools of Education and should be financed through the UGC and not the LEAs; the Colleges should be renamed Colleges of Education; the three year concurrent course should continue; and the average size of the Colleges should be increased to about 750 students.¹

The most significant of these proposals were those concerned with the creation of Schools of Education and the introduction of the B.Ed. degree. The Robbins recommendation for Schools of Education was very much in line with the scheme proposed by the 'School of Education group' of the McNair Report in 1944. Mr H. L. Elvin, himself a member of the Robbins Committee, wrote shortly after publication of the Report: 'The Committee has in fact simply taken one of the two schemes of the McNair Report that has proved most acceptable and useful in practice and has applied its concepts in terms appropriate to 20 years of further experience.'²

Thus the first question to which the Robbins Committee addressed itself in considering the Training Colleges was whether the general line of development following the McNair Report was appropriate, or whether this should be abandoned and a new line started. Proposals had been canvassed for a self-contained system of training institutions, independent of the Universities and linked with a national degree awarding body.³ The Committee rejected this alternative arrangement and proposed carrying on the McNair approach, by developing the existing Institute of Education system to the logical next step of Schools of

¹ See the Robbins Report, op. cit., paras 319-60.
Education. By proposing that the colleges should be organically linked to the universities, the Committee made the radical recommendation that the Training colleges should be removed from the administrative and financial control of the LEAs and brought into the orbit of the UGC. This was the most controversial of the Robbins proposals concerning the colleges and one which in the event proved, because of its major political implications, to be incapable of implementation. Professor Jeffreys argued that these administrative recommendations were much more important than the proposals for a B.Ed. degree.\(^1\) Mr Elvin when explaining the thinking of the Robbins Committee also stressed this point by indicating that, 'the Committee was convinced that the malaise that has been perceptible in the training college world is not simply a matter of their wanting the prestige of degrees. It goes far deeper than that. They need to be taken out of tutelage.'\(^2\) The Robbins Report had itself defined the problem of the position of the training colleges in the educational system thus: '[they] feel themselves to be only doubtfully recognised as part of the system of higher education and yet to have attained standards of work and a characteristic ethos that justify their claim to an appropriate place in it.'\(^3\)

The Robbins Report clearly wished to place the Training Colleges, or Colleges of Education as they were to be renamed, firmly within the orbit of the universities, both administratively as well as academically. But the Robbins proposals to transfer the colleges from the LEA to the UGC financial system led to what may be described as a fight for power in which most

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2. See Elvin, op. cit., p 11.
LEAs demonstrated their determination to retain control. Given the hostility of the majority of the LEAs to the transfer of colleges to the UGC system, the concern of the permanent staff of the Department of Education and Science (DES) with the quantitative rather than qualitative aspects of teacher supply,¹ and the government's own reluctance to see responsibility for all teacher training transferred to autonomous university bodies, it was unlikely that the colleges would be permitted to become part of the private sector. In December 1964, the government announced that although it approved of the academic proposals made for colleges of education, it could not accept the administrative and financial recommendations. Thus the major constitutional changes proposed by Robbins were rejected and the ambiguous position of the colleges was perpetuated: they continued to remain in effect subject to three masters - the universities, the LEAs and the DES.

The ATCDE was in no doubt about the serious implications of divorcing the Robbins administrative and academic recommendations and insisted that it was essential to link the two.² This view was given full support by the Institute of Education Directors and Heads of University Departments of Education. The Chairman of the Committee of Vice-Chancellors and Principals also expressed regret at any attempt to divide the academic and constitutional aspects of the problem.³ The Government made the position of the colleges of education more clearly part of the public sector with its definition in 1965 of the binary system for higher education. That Government policy was increasingly concerned with reaffirming the place of teacher training in the

¹. See Jeffreys, op. cit., p 70.
public sector was demonstrated by the announcement in March 1966 that teacher training departments would be established in five major technical colleges.¹ There was obviously a strong hope by the public sector lobby that these training departments would work within the CNAA structure, for awards of that body. But in the event the five departments joined local Institutes of Education and have generally shown a lack of interest in CNAA degrees. Indeed, the typical college of education response to this alternative system, which had been considered and rejected by the Robbins Committee, has been (with very few exceptions) markedly cool, with the colleges showing their reluctance to break their links with the universities.²

Not all LEAs were hostile to the Robbins proposals for the transfer of control. In the local situation at Loughborough, it seems likely that the local authority, which warmly supported proposals in 1972 to amalgamate the college of education with the university, would have agreed to the kind of administrative and financial changes proposed by Robbins. But the position of LEAs generally, together with a hardening of the Government's own approach, prevented the adoption of what was perhaps the most creative of all the Robbins recommendations for teacher education.

The other major proposal of the Robbins Committee for the Training Colleges, the introduction of the B.Ed. degree, has been implemented, though not without considerable initial difficulties and continuing debate about its effect upon the work of the colleges. The Robbins Committee tried to give a clear idea of its thinking about the new degree: 'We think it should be

¹. See Taylor, op. cit., pp 84-5.
distinctive and recommend that it should be called a B.Ed. The provisions we have envisaged should make certain that it is regarded as a degree equivalent in standard to the B.A. But it would be a degree gained in a distinctive way, and characteristically based on the study of Education.\textsuperscript{1} Unfortunately, the Committee did not make clear whether the degree should be of the honours category or not; rather the Report appeared to assume that the degree would be of the general (or pass) type. The absence of an explicit recommendation by the Robbins Committee as to whether the B.Ed. should be awarded at the honours or pass level helped to contribute to an unfortunate lack of uniformity of approach by the universities in the way that the degree was introduced.

The Committee did, however, give a firm indication of its thinking about the character of the new degree: 'the nature of the course and the approach to the various subjects should be such as to suit the needs of future teachers. No one would wish to see present university syllabuses arbitrarily imposed on the Training Colleges as a condition of making degrees available to their students.'\textsuperscript{2} The Committee, and the ATCDE, were agreed that four years were necessary for the award of both a degree and a professional qualification. The Report also indicated that the Committee saw the degree as having three components: the study of Education and two 'academic' subjects, thus making a three subject degree. This re-inforced the tendency to view the course as of the general degree type.\textsuperscript{3}

The Robbins proposals for a B.Ed. degree specifically designed for college of education students posed major problems

\begin{enumerate}
\item See Robbins Report, op. cit., para 341.
\item Ibid.
\item See Elvin, Education for Teaching, op. cit., p 10.
\end{enumerate}
for the Universities. The assessment of Helen Simpson, a senior figure in the ATCDE, was that, "a B.Ed. degree of a quasi-academic nature, including professional training for teaching and based on the 'concurrent' three year course was unprecedented."  

Furthermore, the universities were faced with colleges in whose work practical subjects, such as handicraft and physical education, were of considerable importance, and these subjects were generally not regarded as 'university subjects'. When controversy broke out about the Robbins recommendations in the universities, it became evident that there was a marked difference in the way universities viewed the award of certificates as compared with degrees. University Senates had been prepared for years to allow Institutes of Education to award certificates in the name of the university. Professor Jeffreys observed of Senates when reminded of this: 'for the most part their response to this information was that of the incorruptible when told that they are unwittingly living in sin.'

However, despite initial objections and problems, more and more universities showed sympathy with the proposed B.Ed. degree, partly because external examiners from universities had become favourably impressed by the standards of Training College work.

By 1965 it was evident that a considerable number of students entering Training Colleges would have an opportunity to take the B.Ed. By 1969 twenty-one universities had awarded the degree. This was a remarkable achievement, since never before had British universities accepted a new academic qualification on so widespread a scale, within such a relatively short space of time. It was also unprecedented that so many universities were prepared to

award their degrees for courses, for the most part taught predominantly in other institutions.¹ But although the 1960s were for the colleges a decade of B.Ed. achievement, they also witnessed considerable controversy over the content, standard and purpose of the degree. In particular, the B.Ed. has been instituted by the universities without any real uniformity of approach. In 1969 seven universities awarded the degree with classified honours, three awarded the degree 'with honours' and eleven awarded B.Ed. without honours.² Nottingham University, to whose ATO the College at Loughborough was linked until 1971, instituted the B.Ed. as a pass degree in 1965 and then in 1969 with classified honours. In 1971, Loughborough College of Education joined the sub-ATO of Loughborough University of Technology, which university awards the B.Ed. with classified honours.

Matriculation requirements have also varied between universities, with some insisting on the normal university entrance qualifications at 'A' level, whilst others have not made such a requirement. Nottingham University when instituting the B.Ed. required the university's normal matriculation standards, with selection at the end of the first year, and a Part I examination at the end of the second and Part II at the end of the fourth. With the change to Honours in 1969, normal university matriculation was replaced by a Credit and Division One pass in the Teacher's Certificate at the end of the third year. Furthermore, whilst for the pass degree, candidates were required to offer Education and two other courses, with the introduction of honours, the university (by now regarding the degree as of the joint honours variety) required Education and one other subject

². Ibid., p 71.
in the fourth B.Ed. year.

Thus the course structure for B.Ed. has proved to be a complex problem, with considerable divergence between various universities in the methods which have been used. Some universities operate a three years plus one arrangement, the decision for entry to the B.Ed. resting in some cases (like Nottingham in its post-1969 structure) upon the standard achieved in the three year Certificate course. Others have a two plus two arrangement (of the type initially used by Nottingham) and some a one plus three system. From a national point of view some standardization of course structure would seem desirable.

Standardization is even more important over the honours or pass question. Because obtaining a 'good honours' award qualifies for additional remuneration, the present arrangements for B.Ed. are unjust and it is the policy of the Universities Council for the Education of Teachers (UCET) to encourage all universities to award the B.Ed. with classified honours. However as Professor Tibble has remarked, 'if we had waited to get uniformity on this before proceeding to institute B.Eds., probably no B.Eds. would be in existence today.'

Despite the failure to implement the School of Education proposal and the various difficulties surrounding the introduction of the B.Ed. degree, the Robbins Report represented a great watershed in the development of Training Colleges. If they had been on the periphery of higher education before 1963, the effect of the Robbins Report was to bring the colleges much more clearly into the higher educational system, and in particular to permit them to undertake degree work.

2. Ibid., p 63.
The high measure of concern about the position and development of the colleges, displayed by the Robbins Committee was partly related to the grave national shortage of teachers. Whilst the Committee was sitting, to meet this problem the government had announced a new target of 80,000 places for the Training Colleges in England and Wales by 1970-71, compared with 49,000 actual places in 1962-63. The Robbins Committee accepted the Ministry's target up to 1969 but recommended a further steep increase to 110,000 places by 1973-74.

But it soon became clear that both the '80,000 place programme' and the Robbins recommendations were inadequate. In 1965 the Ninth Report of the NACTST revealed even more clearly than the Robbins forecasts the gravity of the teacher supply situation. 1 The Council recommended as a minimum an acceleration by three years of the Robbins Committee's proposed pace of expansion of the colleges. 2 On receiving the Council's Report, the Secretary of State asked the colleges to prepare plans for taking 20% more students than originally envisaged. As a result the number of College places rose to 95,000 in 1967-68 compared with 75,000 in the 80,000 place plan. 3

Thus the national background when Mr Bridgeman retired as Principal at Loughborough in the summer of 1963, and his successor Mr J. W. S. Hardie took up his appointment, was one dominated by the impending report of the Robbins Committee and the

2. Ibid., para 72.
crisis over the question of teacher supply. The new Principal was confronted, therefore, with a challenging situation. He was faced in the national context with the problem of guiding the College through whatever changes occurred as a result of the Robbins Report - and such changes were likely to be of a major kind. Furthermore, there was the need, at the local level, to give the College a new direction and to develop the institution in accordance with the changing climate of the times. In particular, the new Principal was faced with two major internal problems. Firstly, there was a need to introduce a more democratic structure for the internal government of the College. It had possessed for some time an informal academic board, but Mr Hardie wished to establish a more formalized structure with the Deputy Registrar acting as Secretary and also having members of the academic staff elected by the Senior Common Room. The composition of the re-constituted Board was: the Principal (Chairman), the Deputy Principal, the Vice-Principal, the Heads of the Departments of Handicraft, Physical Education, Education and English; the Principal and Senior Lecturers in charge of Geography, Science, Divinity, History, Mathematics and Music; and four members of staff elected by the Senior Common Room. This new board held its first meeting in September 1964.

The administrative structure of the College was also reorganised, following proposals made by the Director to the Governors in 1964. Mr Mason stressed that it was necessary in the post-

1. John William Somerville Hardie, M.A. (Cantab). Born in 1912, he was educated at St Lawrence's College, Ramsgate and Trinity College, Cambridge. After teaching at St Lawrence's and Uppingham, he was Headmaster successively of Cornwall College, Jamaica (1940-2), Jamaica College (1943-6), and Canford School (1947-60). Between 1960 and 1963 he was consultant, V.S.O.; Managing Director, Broadcasting Company of Northern Nigeria; and Head of Information and Research, The Centre for Educational Television Overseas. He has played hockey for Cambridge University and Wales.
Robbins period to have integrated administrative machinery, with a Registrar having over-all responsibility and assisted by a Deputy Registrar and a Bursar.¹ In November 1964, further steps were taken to regularize the organisation of the College when it was agreed that in future all lecturers in charge of subjects should be known as Heads of Department, except for the Chaplain, and the Directors of Music and Drama. Later, Departments of both Divinity and Music were created. Thus the College became fully organised along departmental lines corresponding to subjects: this was to prove helpful when detailed B.Ed. negotiations were necessary at departmental level.

The second major internal question which faced Mr Hardie was the re-definition of the craft work of the College. This was a much more difficult problem than the re-organisation of the internal workings of the institution. The craft approach at Loughborough when Mr Hardie arrived was still deeply influenced by the traditionalist methods of the Cotswold School, upon which the Craft Department had been developed during the Bridgeman era. Furthermore, Mr F. W. Ockenden was still on the staff as Head of the Craft Department and Mr Edward Barnsley was still Adviser in Design. Both these men were associated with the Cotswold School, indeed Barnsley was one of its most celebrated exponents. The problem was therefore a delicate one. The Craft Department, which had a magnificent record of achievement in the traditional field of craft techniques and materials, particularly wood, now needed to develop rapidly in the direction of the new design education which utilized the techniques and materials of a technological society. The need was pressing not only because schools required a new type of craft teacher but also because, with B.Ed. negotiations looming, it was essential to build new

¹. See Memo. dated March 1964, Governors' Minutes, Loughborough Training College (hereafter LTC).
elements into the craft course at Loughborough to ensure its acceptance for degree purposes. Indeed, it was Mr Hardie's view that the old craft course at Loughborough would not have been accepted by the University of Nottingham and that the introduction of a Creative Design course was essential for B.Ed. recognition. 1

The problem of re-organising the craft courses at Loughborough was eased with Mr Ockenden's retirement (after a long and meritorious career) in August 1965. His successor was Mr G. B. Harrison, who had been involved in pioneering activities with project work in technology at Dauntsey's School. It was with Mr Harrison that the formidable task of re-defining the handi-craft work at Loughborough, and of introducing technological aspects into it, was largely to rest.

These internal problems at Loughborough were to an extent overshadowed by the national need for the massive expansion of the Training Colleges which became evident in the early 1960s. The college at Loughborough was therefore caught up in this general expansionist climate. The vital institutional questions at Loughborough concerned what lines of expansion, at what pace, could best be undertaken, having regard both to national and local factors.

The expansion of the Training Colleges in the 1960s afforded the college at Loughborough another opportunity to become co-educational, a development which Mr Mason and Mr Bridgeman had tried unsuccessfully to implement in the early 1950s. In July 1961, the Ministry of Education had agreed to a 'long-term' capacity for Loughborough Training College, allowing for 600 men and 300 women students. Subsequently in March 1963, Mr Mason

1. Ex. inf. Mr Hardie.
wrote to the Ministry suggesting that the College student total could be expanded by 50% to 1,170, with a later target of 1,350 students. The Ministry in its reply suggested a target of 1,200 students, with 900 men and 300 women. Finally, a meeting at the Ministry in August 1963 produced an agreed target of 1,200 students for 1967, with 810 men and 390 women.1

In order to provide the necessary additional accommodation for this substantial increase in the College student population, it was agreed that a major residential building programme should be undertaken on a site alongside the Martin Hall. The Ministry proposed that the residences should be built in the form of Tower blocks.

Thus by the time that Mr Hardie became Principal it had already been agreed that the College should substantially expand its student numbers and that women students should be enrolled. But further negotiations were necessary to define the direction and extent of College expansion. Thus in March 1964, the County Director and the new Principal went to London to discuss these vital matters with the Ministry. For its part the Ministry was anxious, given the high wastage of women teachers and the resulting supply crisis in primary schools, to get the agreement of the Loughborough representatives to keep down the number of College physical education specialists and to increase the number of women primary teachers. Whilst Mr Mason and Mr Hardie were in favour of the admission of a substantial number of women primary students they were concerned about preserving the existing strengths and orientations of the college. They both stressed the national importance of the College as a centre for physical education. Mr Mason argued that Loughborough was moving to

1. See Memorandum on Expansion, dated 20 March 1965, File No. STU/10 vol 1, Registry, LTC.
becoming a national college of physical education yet was without the facilities to play that role. Mr Hardie made the point that if the total of women students were increased to 450, the biggest single element in the college would be women primary students and he thought this would be undesirable.\(^1\) His view was that expansion should be closely related to the existing strengths of the College - the field of practical subjects for men - and that therefore the new courses for women primary students should not become the largest single commitment of the institution. In the event, the previously agreed balance between men and women students in the college was accepted.

Soon after this meeting, officials in the Department of Education and Science (which replaced the Ministry of Education in April 1964) agreed that the provision of additional practical space for physical education should be given high priority.\(^2\) Later in 1965, the DES gave approval for the building of a magnificent new Physical Education Centre at the College. This decision, following the previous agreement to build a residential tower block, enabled the college to proceed with a major building programme which was substantially to improve its residential, teaching and recreative facilities. The Tower block became available for use in 1965 and the Physical Education Centre in 1968.

The talks with the Ministry over College expansion and the role of women students in such a development were not the only major negotiations which faced the Principal and his colleagues in 1964. For the College was confronted with the even more complex and protracted problem of negotiating for the introduction of the B.Ed. degree. It seemed in 1964 that Leicester University

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1. See the account of this meeting, dated 23 March 1964, in the Memo. on Expansion, op. cit.
2. See the letter dated 10 July 1964 in the file cited above.
PLATE 6. A recent view of Loughborough College of Education, showing the central complex of buildings and the residential Tower block.
was likely to show more flexibility both over the course structure of the B.Ed. and the question of practical subjects than Nottingham University. In particular, the Principal was impressed by the attitude to the whole question of the B.Ed. adopted by Professor J. W. Tibble, the Professor of Education at Leicester, who even in 1964 proposed a three plus one structure for the degree.

The vexed issue which arose was whether or not Loughborough Training College should change its allegiance from Nottingham to Leicester University. Such a fundamental constitutional issue could clearly only be settled by the Governing Body itself. A Special Sub-Committee of Governors met professorial representatives of the two universities on 29 October 1964. At this crucial meeting Professor Tibble indicated that the Leicester B.Ed. structure would be flexible and very suitable for primary students and the university had already accepted Domestic Science for the B.Ed. On the other hand, the two Education Professors from Nottingham, Professor Davies and Professor Haycocks, indicated that while the Senate at Nottingham was a little slower in moving to implement the Robbins Report, it was nevertheless likely to be sympathetic to practical subjects such as physical education and handicraft. The Loughborough Governors, faced by this unusual situation of competition between two universities for links with a training college, felt that there was not a sufficiently strong case for them to decide that the College should change its allegiance. Thus the College decided to negotiate for B.Ed. recognition through Nottingham.

However, negotiations with Nottingham did not prove easy.

1. See Memorandum dated 22 February 1965 attached to Academic Board Minutes, 1 March 1965, LTC.
2. Ibid.
In February 1965, following a meeting of the University Board of Degree Studies, the Principal reported that the university was not prepared to allow flexibility of degree structures between different colleges, it wanted a two plus two structure, and that if degree courses were to start in September 1965 then the syllabuses must be ready for approval by Senate in May. These arrangements, although they showed a certain measure of inflexibility, were accepted by the College Academic Board. Thus the College was committed to operating the B.Ed. in the first instance, with a Part I examination at the end of the second year and a Part II at the end of the fourth. It was to be a pass degree awarded in two divisions. Final assessment of professional qualification, including proficiency in teaching, was to take place at the end of the third year.

The College was concerned about how the Nottingham B.Ed. structure would accommodate practical subjects like physical education and handicraft, and also primary education. The Handicraft Department was experiencing difficulty in submitting its syllabus to the university to meet the deadline which had been set. The main problem was introducing scientific and technological elements into the craft work at Loughborough.

In March 1965 the Principal presented a policy paper to the Academic Board, giving his views on the future development of the College. ¹ This important document stated that the DES had been informed that the College was unable to undertake, for the time being, any further expansion over and above what was already planned for September 1965. The College would, therefore, have a breathing space and an opportunity to think about future developments. The Principal made the obvious point that in

¹. See 'Some thoughts on the future development of the College', dated 26 March 1965, attached to Academic Board Minutes.
September 1965 the College would be faced with two major new developments: the admission of women students training for primary school work, and the introduction of the B.Ed. degree. The Principal suggested that the College had three main questions to consider. Firstly, should the College be expanded? On this issue, Mr Hardie pointed out that when the new P.E. Centre was available the College would have facilities for 1,155 students. Secondly, he raised the question of the most desirable proportion of men and women students in the College, having explained that the target of 1,155 assumed a breakdown of 765 men and 390 women. In regard to any further expansion, he was quite clear that this could only be undertaken if matched by an increase in residential facilities - because of the shortage of lodgings in the town.

His third question concerned the direction of future expansion by the College. On this point, he declared, 'despite the DES's preoccupation with the problem of staffing primary schools, the best policy could be for the expansion of individual colleges to be based on their proved strengths.' His order of priority for Loughborough in this respect was: education, craft, physical education and primary training. Thus the Principal's thinking was that, despite the admission of women primary students, the College should retain a greater orientation towards secondary rather than primary school work.

At this same Academic Board meeting, the Principal was able to report some encouraging developments in the B.Ed. negotiations. Nottingham University was proving to be a little more flexible in its approach and Professor Davies had been able to give assurances over the setting up of degree courses for Craft,

1. See 'Some thoughts on the future development of the College', op. cit.
2. See Memo. by Mr Hardie, dated 2 March 1965, attached to Academic Board Minutes.
and he also accepted a flexible structure for women primary students, though the B.Ed. course for women would be started in September 1966 and not in 1965 as was the case for men students. This was presumably because the first women students would only start their courses at Loughborough in September 1965. A Vice-Principal, Miss T. Burnley Jones had already been appointed to take special responsibility for the development of the women's courses.

The summer of 1965 was an eventful time for Loughborough Training College. In July, Nottingham University Senate, in the light of comments made by University Heads of Departments about the resources and staffing of the College, accepted proposals from Loughborough to start B.Ed. courses in September, 1965. The University accepted proposals for degree courses in Physical Education, Drama, Geography, and History. In Education, English, and Mathematics the University was unhappy about library provision, and it recommended additional staff for Divinity and Music, but otherwise gave acceptance to courses in those subjects. Three courses had yet to be accepted: Handicraft because the syllabus was still to be presented, Biology where the syllabus was under review and Physical Science where the Working Party had yet to meet.\(^1\) The continuing difficulties over the Handicraft course represented a major problem for the College. It was not until after a complete re-definition of the aims and methods of the Department had been carried out, following Mr Harrison's appointment as Head, that an acceptable syllabus eventually emerged.\(^2\)

As Mr Mason informed the College Governors, Nottingham

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1. See paper dated 5 July 1965 in File No. AR/G/10c vol 1, Registry, LTC.
2. For a discussion of this point, see pp 221-2.
University laid down five conditions for the award of the B.Ed. for Training College students. ⁠¹ Firstly, that the University Department concerned should satisfy itself, with regard to any proposed subject syllabus, that the syllabus itself, the College Department and the facilities available were appropriate. Secondly, that the university would expect increased representation on the Governing Body. Thirdly, that the university should be effectively represented when academic appointments were made. Fourthly, that the university should play an effective part when proposals for the development of the College, which involved academic considerations, were under discussion. Fifthly, the university wanted the Governing Body to be empowered to spend within the limits of the approved annual estimates without further reference to the Education Committee.

Given the liberal attitudes of the Leicestershire Education Authority, the Director was sanguine about meeting all these conditions, including the fifth. To deal with this proviso, Mr Mason proposed that the Education Committee be asked to agree to the removal of the £1,000 limit on the delegated powers of the Governors to authorise revenue expenditure on single items. ² Thus like most universities, Nottingham, when faced with the changed emphasis in its responsibilities for Training Colleges, took great care to ensure that the quality of staffing, libraries and other facilities were adequate for degree work. There was a marked difference in this respect between the previous view that had been taken of the award of certificates. Professor Taylor has remarked that, 'the planning and implementation of the B.Ed. degree has in some respects brought the colleges and the

1. See Memo. by Mr Mason, dated 21 September 1965, Governors' Minutes, LTC.
2. Ibid.
universities closer together, but in others it has left scars that may take some time to heal.¹ The introduction of the B.Ed. involved an extension of 'university overlordship' in academic matters which the colleges had not experienced before: this sometimes caused difficulties in negotiations, which happened at Loughborough as at other colleges.

Although Nottingham University was in the first group of universities to offer the B.Ed. it did so as a pass and not an honours degree. The ATCDE reported in the summer of 1965 that the universities of Bristol, Leeds, Reading and Sussex were offering the B.Ed. at the honours level. The discrepancy in the level of award between various universities caused anxiety at those colleges unable to offer honours. At Loughborough it was noted for example that one of the leading rival colleges for physical education, Carnegie, was able to offer the B.Ed. as a classified honours degree from 1965. As the Academic Registrar pointed out in 1966, 'We may wish to consider at a later date requesting the Institute to up-grade the degree to an honours one.'² One Principal within the Nottingham ATO raised the question of honours in 1965, though at this stage the university was not willing to award the B.Ed. at this level. Such a development did occur four years later, when Nottingham joined the growing group of universities offering B.Ed., with classified honours.

In the summer of 1965 the College was faced with a major dilemma when the DES requested that Training Colleges prepare plans for a 20% expansion. The College at Loughborough (already faced with the admission of 390 women students between 1965 and 1967, and also the considerable difficulties associated with negotiating practical subjects for B.Ed. recognition) was not

2. See the Memo. dated 4 June 1966, File AR/G/10c, Registry, LTC.
well placed to respond positively to the Government's initiative.

The DES outlined three methods by which Training College output could be increased. The first and most controversial was a four-term year. At the national level this proposal met with sustained opposition by the colleges. The second method, a two semester year, was also in the event not very favourably greeted by colleges. At Loughborough, both the four term and two semester year were regarded as quite impracticable. The Academic Board thought that the operation of College courses would become excessively complicated, it would be impossible to relate College work to the incidence of school terms, and anyway the University was unwilling to examine twice a year. It would also make the operation of the important Loughborough Summer School impossible. This left the third method called 'Box and Cox'. The essential idea with this system was to use accommodation made vacant when students were on teaching practice to increase the total numbers of students admitted.

There were two suggested variants of the Box and Cox scheme: Method I, which involved having at any one time one whole year-group out of College on teaching practice, and Method II, which involved having one half of a year-group out of College for a part of each year. The discussions at Loughborough were therefore narrowed to a consideration of the two Box and Cox schemes. The Academic Board rejected Method I on the grounds that students would be out of College for periods which were individually too long and represented too great a proportion of the course. The Board was thus left with the implications of operating Box and

2. See Paper No. 4 of the Academic Board, 1965-6.
3. The Summer School, which was started in 1931, was another product of the Schofield/Bridgeman era and had established a national reputation for itself. It ran short vacation courses for between 900 and 1,000 students annually.
Cox Method II, and even this was regarded with misgiving. It decided that if the College were required to operate one of the Minister's suggestions it would wish to choose Box and Cox II as the least unacceptable. The Board took the general view that the net increase in output achieved through the various methods proposed by the DES would not justify what it saw as the gross disruption of the life and work of the College and the great increase in administrative work.¹

The College also had to decide how to respond to DES pressure for a substantial start to be made on the required expansion in the subsequent academic session, 1966-67. In the event the College found that it could not introduce the Box and Cox scheme this rapidly. The Director wrote to the DES on behalf of the College in December 1965 indicating that the greatest obstacle was that of finding additional accommodation in a town where lodgings were in very short supply.² Mr Mason informed the DES that consideration had been given to the possibility of establishing teaching practice 'centres' in four or five distant areas, like East Anglia or Cornwall, where lodgings would be easier to find. But the administrative difficulties of such a scheme made it impractical. Finally, the Director stated that the College was interested in the idea of home-based teaching practice, though clearly this could only be operated as a national scheme. The Director's letter concluded, 'We much regret that we can find no local solution and hope that the idea of home-based teaching practice may commend itself to you and that it might become the national pattern. Until it does become a national pattern we see little hope of our being able to adopt the idea unilaterally.'³

1. See Paper No. 4, 1965-6, Academic Board Minutes.
2. See copy of the Director's letter to the DES, dated 13 December 1965, attached to Academic Board Minutes, LTC.
3. Ibid.
The home-based teaching practice scheme did not prove to be a viable proposition, partly because some Institutes of Education ruled out the possibility of students from other Institutes undertaking teaching practice in their area.

Since the DES made it clear that those colleges increasing their intake of students would get more money, the College at Loughborough decided to reconsider its policy on Box and Cox. The Principal thought that an alternative to the home-based method might lie in a scheme in which accommodation for students on teaching practice would be found for them by their teaching practice schools. After a feasibility study had demonstrated that it was practicable and following a discussion with both the Director of Education and H.M. Divisional Inspector, the Academic Board supported this alternative Box and Cox scheme, for introduction in September 1968. Thus the College took some time to respond to the DES initiative of 1965 calling for an increased output beyond existing plans. It is interesting to note in this context that at Loughborough no serious debate took place about the establishment of Outposts or Annexes as a method of obtaining an increased student enrolment, although certain colleges used this device. The particular difficulty for Loughborough in connection with such schemes was the elaborate physical facilities and equipment necessary for its two specialist subjects. These could not be easily replicated in another town and thus the Outpost solution could not be considered as a serious possibility for the College - at any rate not in respect of its specialist subjects.

The admission of women students, previously planned, had the effect of substantially increasing the total College enrolments. In the session 1965-66 the total was 856 students (727 men and 129 women) and in 1966-67 it rose to 952 (704 men and 248 women).
with a further increase to 1,131 (737 men and 394 women) in 1967-68. The College student total passed the 7,200 figure in the session 1969-70 with an enrolment of 1,205 (809 men and 396 women). The admission of women students to a previously all-male institution was a desirable development from a general educational and social point of view. It also gave the College a wider base since it now became fully involved with the education and training of students for primary work and was no longer only oriented towards secondary school work.

In September 1965, the Academic Board debated the continued granting of the College Diploma (DLC). The Principal had been informed by Professor Davies that a conference of Institute Directors had come out strongly in favour of Loughborough discontinuing the award of its Diploma, since if Loughborough gave up its Diploma the small number of other colleges offering such awards would do the same. The Institute Directors were moving to a position where they regarded the Diploma as an award for work of a range and standard beyond that undertaken in initial training. At a meeting of the Principals' Panel of the ATCDE in 1965 a motion was also carried that colleges awarding Diplomas in Handicraft or Physical Education should discontinue this practice. Faced with this university and ATCDE pressure, and not yet certain of the outcome of its negotiations for recognition of its craft courses for B.Ed., the College was in a difficult position for the DLC had a certain international reputation. At this stage, the Academic Board decided to defer any decision on

1. See Academic Board Minutes, 20 September 1965. (The DLC was an award instituted by the old College. Initially, it began as an engineering qualification, gained after following a full-time course of five years. Later it was awarded to students of the Teacher Training Department, who were able to obtain the Diploma after three years of full-time study.)
dropping the Diploma. However, following continued pressure from the Institute of Education at Nottingham and with the introduction of B.Ed. courses at Loughborough, the Board later agreed that the award of the DLC should be terminated. In a sense therefore the DLC was superceded once the B.Ed. was successfully implemented.

The problem of re-organising craft work at Loughborough began to look less difficult towards the end of 1965, when informal discussions with Nottingham University led to clear signs of progress. In January 1966, Mr Harrison, Head of the Handicraft Department, put forward for discussion to the College Academic Board the draft new Handicraft syllabus for degree and certificate courses. In Mr Harrison's view, this new course, because of its breadth and academic content, would preclude handicraft students from following a second main academic subject. This represented a major departure from the existing system, which had derived from the Bridgeman era. But it was accepted by the Academic Board following a discussion of the important paper which explained the thinking behind the new approach. This paper presaged the ending of the older craft approach at Loughborough and the introduction of new ideas associated with creative design.

The memorandum since it summarises the 'creative design case' is worth examining in some detail. It defined the basic aim of handicraft teaching as the development of all the practical creative interests of children and stressed that craftsmanship could no longer be considered valid only in the context of the traditional crafts. It supported the advocacy by the Newsom Report

2. See Academic Board Minutes, 11 January 1966.
of the need to extend handicraft to include not only the traditional work in wood and metal but also building and engineering crafts and work with plastics. The paper also supported the view taken by the Schools Council in their draft memorandum on Technology in the Schools, which stressed the need for conveying a sense of the importance of technology in modern society. The document made it clear that the intention of the proposed new courses was to maintain the high standards of craft work at the College whilst taking account of new developments which required changes in handicraft training. In general terms, the proposed new course covered three main areas of work: Craft Theory and Practice, Environmental and Aesthetic Design, and Design Technology. This entailed a major re-orientation of the work of the Handicraft Department since it clearly marked a break with the older Cotswold tradition and emphasised the skills and techniques appropriate to a technological society.

Following further negotiations with Nottingham University, in which some minor modifications were made, the B.Ed. syllabus for Handicraft was accepted by the Board of Degree Studies. Thus the most difficult of the B.Ed. obstacles facing the College at Loughborough was successfully surmounted. In recognition of the changed direction of its work, the Handicraft Department was renamed the Department of Creative Design in 1966.

In view of Mr Harrison's national reputation in the field of creative design, he became the Organiser (on a part-time basis) of the Schools Council Pilot Project in Applied Science and Technology in Schools. This important scheme, which grew out of meetings between the Schools Council and the Institute of

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Mechanical Engineers,\(^1\) were concerned with promoting the study of technology in secondary schools. The project team was based at Loughborough and did important work, in association with the College, to foster developments in what became known as Project Technology.

The transformation from the traditionalist handicraft approach to that of creative design at Loughborough necessitated a major adjustment for the staff involved. The essential requirement was to achieve change without disruption. Broadly-speaking, the new creative design approach at Loughborough developed effectively from the mid-1960s onwards.\(^2\) But the transition from a craft to a creative design course presented serious problems of curriculum re-organisation; and generally the changeover from the older craft outlook to that of creative design did not prove easy. Moreover, the new courses developed by the Creative Design Department, whilst clearly in line with modern trends, have still to demonstrate convincing success in terms of student recruitment. However, from the point of view of B.Ed. recognition, it seems clear that it was the devising of a creative design rather than a traditional craft syllabus, which enabled the College to satisfy the requirements of Nottingham University.

In contrast to the difficulties which faced the craft work of the College and the major change of direction undertaken in this field in the mid-1960s, physical education continued to develop strongly within the context of its existing patterns of work. Recognition of its courses for B.Ed. purposes presented the Physical Education Department with no major problems; and, in broad terms, its work evolved without any marked change of emphasis during the 1960s. Furthermore, the Department continued

\(^1\) See Governors' Minutes, LTC, 8 February 1966.
\(^2\) This is the general assessment of Mr S. C. Mason.
generally throughout the decade to demonstrate its strength in terms of student recruitment.

It is clear that the need to obtain B.Ed. recognition was the major academic policy pre-occupation of the College in the mid-1960s, at any rate until the negotiations had been successfully completed. It is difficult to assess how far the introduction of the B.Ed. has affected the general work of the colleges, and particularly the Three Year course. When reporting on teacher education and training in 1972, the James Committee found evidence of widespread disappointment with the B.Ed. and its effects upon the colleges. Indeed, despite finding support for the existence of the B.Ed. as a route to graduate status, the Committee reported that 'it has been strongly affirmed that the B.Ed. in its present form is not well suited to its purpose.'

It could be argued that the introduction of the B.Ed. had two general effects, both of which were discernible at Loughborough. Firstly, there was the 'peaking' effect caused in the work of the colleges by the major effort required to negotiate and implement B.Ed. courses. Depending upon whether the degree was first instituted as a pass or honours degree, there was a twin peaking effect, with one peak for the initial introduction of the degree and a second if honours had to be subsequently negotiated. Loughborough experienced the twin peaking pattern, in which negotiations over the introduction of honours in 1969 caused considerable difficulties. Secondly, the B.Ed. has had a certain 'distorting' effect upon the work of the colleges, by stressing academic requirements and thus causing a relative reduction in the emphasis placed upon professional education and training.

2. Ibid.
3. The author is grateful to Dame Beryl Paston Brown for discussion of this point.
At Loughborough, the Principal took the view that although the B.Ed. had a powerful effect upon student motivation, it tended to weaken the concentration upon professional training by drawing the colleges more towards degree work.

Those who are most critical of the B.Ed., like Willey and Maddison, use arguments that are reminiscent of those deployed by Bürgess and Pratt about the 'conforming influences' brought to bear upon the CATs when they joined the university system. Willey and Maddison have written, 'the universities by and large have accepted the B.Ed. degree in the context of university degrees generally: the emphasis is on the academic pattern.'

Certainly at Loughborough the College found when negotiating for a B.Ed., with classified honours, that Nottingham University tended to require that the new degree should fit the university's existing framework for those joint honours degrees with which it was familiar.

Nevertheless, it is important to remember that the B.Ed. has made significant contributions of a positive kind. Firstly, it has provided the means by which degree courses in subjects such as physical education, creative design and the creative arts have been accepted by the universities in a way which was not previously possible. Secondly, universities have not generally imposed a straight-jacket upon the development of the B.Ed. degree, and some have shown themselves to be increasingly willing to permit flexibility in its structure to take account of the need to relate academic and professional content. Finally, the B.Ed. is one of the very few bridges across the 'binary divide'.

It is an internally-awarded degree offered by the universities

1. See 'An Enquiry into Teacher Training', op. cit., p 70.
to students enrolled in public sector institutions. As such it has led in many cases to close co-operation at an academic and professional level, which has transcended the administrative and financial boundaries of the binary system. Nowhere has this co-operation been more markedly demonstrated than at Loughborough. Following the transfer of responsibility for the academic work of Loughborough College of Education from Nottingham to the University at Loughborough in September 1971, the two institutions established a high measure of collaboration.¹

The Colleges of Education occupy a position of unique difficulty in the higher educational system in the sense that they straddle the binary line. They are administratively and financially part of the public sector, yet ultimate supervision of their academic work rests with the institutions of the private sector. This can hardly be justified as a permanent solution.² For not only is the system of divided responsibility for the colleges unsatisfactory administratively, but also their position of tutelage tends to reduce their confidence in developing their own work. This is perhaps the most significant factor concerning the present status of the colleges: their dependent role has an inhibiting effect upon their development.

For the colleges the issue of administrative control is of crucial importance. The ATCDE welcomed the Robbins Report recommendation that colleges should have independent governing bodies and should be financed through the UGC. The rejection of these proposals by the Government in 1964 was therefore a bitter

1. Loughborough Training College was renamed Loughborough College of Education in September, 1966; and Loughborough University of Technology was permitted to set up a sub-ATO in 1970. With a sub-ATO arrangement, the parent ATO (in this case Nottingham) maintains a residual connection with the new organisation.

blow. The ATCDE regarded the setback on the government of the colleges as greater than the gain obtained from the introduction of the B.Ed.¹ The central Government did, however, recognise that the existing arrangements for the internal government of colleges needed to be reviewed and proposed in 1965 the setting up of a Study Group under the Chairmanship of Mr T. R. Weaver, Deputy Under Secretary at the DES. That this was first intended as a public sector exercise was evident from the initial omission of university representation. However, mainly because of strong objections by the ATCDE to the exclusion of the universities, provision was eventually made for university representatives to join the Study Group.

In March 1966, its report on the government of colleges of education (the Weaver Report) was published.² It made several important recommendations: firstly, that the Governing Body should not be a sub-committee of the LEA Education Committee and that membership on the Governing Body should include representation of the Principal and the academic staff. Secondly, the colleges should be given greater financial freedom in drawing up estimates. Thirdly, the senior administrative officer of a College and not the Chief Education Officer should act as Clerk to the Governing Body. Fourthly, each college should have a properly constituted academic board, responsible for academic matters. The publication of the Report was followed by a protracted tug-of-war between the DES and some LEAs, but by the end of 1969 the instruments of government of nearly all the maintained colleges had received the approval of the Secretary of State.

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The Weaver Report had already been anticipated to a considerable extent by the college at Loughborough. The eminently enlightened attitude of the Leicestershire Education Authority had permitted for some time a wide measure of internal college autonomy. The College already possessed an Academic Board and the freedom of staff appointment. The major constitutional innovations at Loughborough in the post-Weaver period were that the Registrar became Clerk to the Governors and provision was made for student representation on the Governing Body.

In the light of the Weaver recommendations, however, it was decided that membership of the Academic Board should be enlarged to ensure representation of each separately examinable course. Two representatives, in addition to the Heads of Department, were also admitted to membership from the three large College Departments: Education, Creative Design and Physical Education.¹ In the Loughborough context, the greatest benefit stemming from the Weaver Report has probably been the extent to which the enlarged Academic Board and its supporting Committee system has involved academic staff in College business. More than half of the academic staff participates either through the Board or its Committees in the academic decision-making process.²

In areas where LEAs were less forward-looking than the Leicestershire authority, the Weaver Report was clearly of major importance in bringing about a significant increase in self-governance. But for a College like Loughborough which already possessed excellent relationships with a progressive authority, the Weaver recommendations were of less obvious importance. Indeed, it is Mr Hardie's view that the Weaver Report was not

1. See Paper No. 34, 1965-6, Academic Board Minutes.
2. The author is grateful to Mr Hardie for discussion of this point.
particularly beneficial for Loughborough, except in widening the base of the Academic Board. For in the post-Weaver period the LEA, having less responsibility, does not feel quite so involved with the College; at the same time the College still has to use the LEA machinery.\(^1\)

The decade of the 1960s was a momentous one for Loughborough as for other colleges of education. With the publication of the Robbins Report and the change of Principalship in 1963, the College entered upon a new era. From being an all-male college, oriented towards training students for specialist practical subjects in secondary schools, it became a co-educational institution involved in the education and training of both secondary and primary oriented students. Furthermore, the transformation of the old craft tradition into creative design represented a major shift in the development of the College. Despite the many problems of adjustment which faced it, the College maintained that commitment to high achievement which had characterised the earlier Bridgeman era; and it retained a continuity with its previous traditions whilst modernising its outlook in relevant directions. The College entered the 1970s with over 1,200 students, including 70 graduates, and thus remained one of the largest teacher training establishments in the country.\(^2\) The successful establishment of B.Ed. courses in physical education and creative design had at last brought full academic recognition to those two subjects for which the College was so widely known. Given the relative narrowness of its subject-base, the College had expanded rapidly throughout the decade, without rushing into schemes for growth.

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1. Ex. inf. Mr Hardie.
2. In the late 1960s, the College introduced additional one year Postgraduate Certificate in Education courses for university graduates.
But the expansionist climate which had existed for the Colleges of Education during the 1960s changed with the onset of the 1970s. The annual intake to the Colleges levelled off at 39,000 students and there were indications that the binary policy would favour the Polytechnics as against the Colleges of Education in the allocation of resources for the public sector of higher education. The Colleges of Education found themselves therefore at the beginning of the 1970s in an unenviable position. They were monotechnic institutions concerned solely with the education of teachers, mainly at sub-degree level. The responsibility for the only degree, the B.Ed., for which their students could read lay ultimately outside the control of the colleges, and no higher degrees could be offered. Furthermore, the colleges were still operating under a minimum entrance requirement of five 'O' levels. Faced with the forecast that by 1980-81 approximately one-quarter of the relevant age group would possess two or more 'A' level passes, the colleges wished progressively to raise their minimum entrance requirements to comparability with those adopted for university and CNAA degree course entrance.

Also the nature of college courses implied both that the decision to teach had been taken before actually entering the college and that a change of course for vocational reasons was not possible. Finally, the colleges were open to the criticism that as single-purpose institutions their students were isolated from the wide range of other students and activities. In comparison with the Polytechnics, which were able to offer CNAA degrees at first and higher degree levels and in a very wide range of possible disciplines and vocations, the colleges of education appeared

increasingly to be operating from too narrow and restricted a base.

It was against this background that in 1970 the ATCDE produced its statement, 'A Policy for Colleges of Education' pointing towards a diversification of the role of the colleges beyond the single function of educating teachers so that they became multi-purpose institutions. The memorandum proposed that students should be given the opportunity to delay their commitment to teaching if they so wished, and it suggested flexible course structures. The ATCDE advocated developing and extending the existing links between the colleges and the universities, and the ending of the financial control exercised by the LEAs over the colleges. ¹

At Loughborough the whole structure of higher educational provision in the town came under review. With regard to the position adopted by the College of Education, much of its thinking was in accordance with the policy proposals of the ATCDE, although eventually the College (given the unique circumstances at Loughborough) decided that the best future course was one even more radical than the federal links envisaged in the ATCDE paper. Following negotiations between representatives of the University, the College of Education and the College of Art and Design, it was agreed (in the Loughborough context at least) that the best way to achieve the development and rationalization of higher education provision was to adopt a policy of complete amalgamation of the three institutions. This solution was later agreed by the relevant governing bodies and also by Leicestershire County Council. From the College of Education point of view, amalgamation (if permitted by the Government) would provide the

¹. ATCDE Memorandum, op. cit., para 11.6.
opportunity to develop a much more flexible basis for teacher education. By becoming part of a multi-purpose institution there would be no necessity for students to commit themselves to teaching. Equally, concurrent courses for committed student teachers would be available. Also within the context of an extended university, academic developments (for example in the field of inter-disciplinary co-operation) would be possible on a scale which could not readily be contemplated in a college of education. Furthermore, the desire to improve entry standards to the teaching profession would be met by applying normal university entrance requirements for admission to the extended university.

Thus in the early 1970s, faced with the various problems confronting teacher education and the vexed question of the place which Colleges of Education might occupy within the future structure of higher education, Loughborough College of Education sought a solution by amalgamation within the framework of an extended university. The James Report, whilst proposing a general structure for teacher education and training which would keep the colleges of education as a separate entity within the public sector, nevertheless accepted that a few Colleges might appropriately amalgamate with universities or polytechnics. Clearly any proposals for amalgamation of universities and colleges would have very important implications for the Government's binary policy. In the event, the first major proposals for such a merger in the post-James period came from Loughborough. The amalgamation question at Loughborough has helped to underline the power which the central Government exercises over all major policy issues involving higher educational institutions, whether

of the private or public sectors. Whilst all local parties at Loughborough (the university which is part of the autonomous sector and the two colleges which are part of the public sector, as well as the local authority) reached agreement upon the desirability of amalgamation, the final decision clearly rested with the Government.¹

¹ See the covering letter from the Vice-Chancellor to the Secretary of State for Education and Science, dated 29 May 1972, with the paper, 'Proposals for the amalgamation of Loughborough College of Education, Loughborough College of Art and Design and Loughborough University of Technology.' The last sentence begins, 'We are anxious to have an early decision on our proposals.'
PART FOUR

LOUGHBOROUGH COLLEGE OF ART
CHAPTER VIII
The College of Art: the path to national recognition (1951-1966)

When Loughborough Technical Institute was established in 1909 to co-ordinate technical, science and art classes in the town, it absorbed a School of Art, which had been set up in 1905 by Leicestershire County Council in temporary premises in another part of the town. This incorporation into what became the much larger entity of Loughborough College was to prove a somewhat mixed blessing for the School of Art. For whilst the ethos of Loughborough College aided the development of its craft work (and thus pointed the way to its eventual evolution as a major centre for applied art) the School tended to receive a low priority in Principal Schofield's projects. In particular, the physical conditions under which it operated were difficult. In 1918, the School was transferred from the original College block and re-housed in adjacent buildings, which were considered unsatisfactory for the purpose by H.M. Inspectorate.¹

During the inter-war period the main work of the School centred on the provision of a variety of part-time vocational courses. In the early 1920s some of its industrial courses were approved by the City and Guilds of London Institute and four subjects - cabinet work, painting and decorating, embroidery, and goldsmithing and silversmithing - were recognised for the grant of the Full Technological Certificate. (Another development of the 1920s was the establishment of a Junior Art School for children of compulsory school age.)²

The Senior Art School

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¹ See H.M. Inspectors' Report on Loughborough Art School, 1937, which refers to a previous Report of 1919 that criticised the physical accommodation of the School.
also organised courses for those who aspired to teach art in schools: in this connection it offered courses for the Art Masters' School Drawing Certificate for teachers in elementary schools.¹

However, the School was handicapped in its development during the inter-war period by its poor physical accommodation. It thus remained a centre largely for part-time day and evening work, with very few full-time students: of this latter category there were eight in 1931 and only one in 1937. It is possible to gain an official view of the School and its work from the Report by the Inspectorate in 1937. The Inspectors noted with concern the decrease in total numbers in the Senior School from 291 in 1931 to 169 in 1937. They took the view that 'there is little doubt that this deterioration is due to the scattered nature and unsuitable character of the premises.'² The Inspectors were also critical of the quality of work in some of the courses. However, the cabinet work of the School drew considerable praise from them, and in the rather special area of basketry, they were notably impressed.

But the Inspection Report left no doubt that in 1937 Loughborough Art School was in serious need of attention and development.³ Subsequently some improvements appear to have been made: at any rate, a few years later, the School was able to offer courses for the Board of Education Examination in Drawing, and also the Board's Examinations in Industrial Design and Pictorial Design. But the major development of Loughborough Art School occurred after the end of the Second World War, in the context of important changes at both the national and local levels.

¹. See 'Loughborough College Calendar, Session 1930-31', pp 182-3.
³. Ibid., pp 16-17.
Nationally, there was a marked increase in popular demand for art education in the post-war period so that a new 'growth climate' existed. From an historical point of view, evolution in art education has been closely related to re-organisations in the system of professional art examinations. In 1946 the whole structure of art education was changed with a major re-definition of the examination system. The new pattern did not discard altogether the arrangements which had previously existed. Indeed, the revisions were based upon retaining the previous three-tiered approach. Until 1946, students took a first examination in drawing, followed by a second in one of four subjects – painting, sculpture, pictorial design and industrial design – and there was a further one year course for those intending to become art teachers. However, in 1946 major changes were introduced in the courses and examinations within the first two levels. The first tier was re-organised so that the previous examination based entirely upon drawing was replaced by a broader two year course in a range of subjects, leading to a new award called the Intermediate Certificate in Art and Crafts. The second tier was also re-structured with the introduction of a new two year course leading to the award of the National Diploma in Design (NDD). The main aim of the NDD was to allow specialist study in a wide variety of subjects, following the broad foundations established by the Intermediate Course. The third tier was not revised and the Art Teachers' Diploma (ATD) was retained as a one year course for prospective teachers of art.

Despite the major changes introduced in 1946, the historic pattern of Ministry control in art examinations was perpetuated since all the examinations were centrally conducted by the Ministry of Education. Moreover, the examinations could be taken without having previously completed a recognised course.
Nevertheless, the 1946 re-organisation was a step in the right direction and created a new national climate in which the School of Art at Loughborough could hope to develop.

In the same year that these national changes took place, the Art School of Loughborough College acquired a new Head, Mr J. A. F. Divine, a potter of considerable technical ability and a good administrator. His appointment, and the introduction of the new National Diploma in the work of the School, constituted an important step forward and laid the foundations for steady growth in both the quality and quantity of work undertaken. In particular, the NDD system enabled the School to develop its provision of courses for full-time students. Another factor helped the growth of the Art School at Loughborough - the appointment in 1947 of Mr S. C. Mason as Director of Education for Leicestershire. Mr Mason was to prove an important and valuable friend of the School of Art in the years ahead and his enlightened views on art education (which were later to achieve national recognition when he was appointed Chairman of the National Council for Diplomas in Art and Design in 1970) produced a local authority climate favourable to the development of art work within Loughborough College. The art school at Loughborough was perhaps fortunate in that it was the only full-time art establishment for which the Leicestershire LEA was responsible, so that the Director's interests in this field were probably canalized in the first instance in the Loughborough direction. It is significant that within two years of Mr Mason's appointment as Director, a re-definition of policy had taken place at Loughborough College, which recognised both the recent achievements of the School of Art and the need to ensure sufficient autonomy for it to develop
its work.\textsuperscript{1} Compared with the pre-war situation, especially in terms of full-time students enrolled, the School had shown a remarkable growth in the post-war period - in the session 1948-49 it had 46 full-time and 362 part-time students. By the end of the 1940s, the School of Art was already on the way to establishing a substantial reputation in the art world, especially for the quality of its work in pottery and other crafts.\textsuperscript{2} By the session 1950-51, it was able to offer NDD courses in the following subjects: Pottery, Fabric, Printing, Painting, Weaving, Book Illustration, Furniture and Dress.

In 1950, an important step in rationalising the activities of the School of Art occurred with the transfer of the Junior Art School to Loughborough College School. The senior School could therefore concentrate on developing its full and part-time courses in the post-school field. With the retirement of Dr Schofield at the end of 1950, Mr Divine became a Principal in his own right; and a fully autonomous College of Art came into being in 1952, following the break-up of Loughborough College into four separate institutions.

Nationally, although the changes introduced in 1946 represented a positive contribution to improving art education, various problems still existed. Firstly, the new system was still too closely related to the training of art teachers to give proper recognition to the needs of industry and commerce for good industrial artists and designers. Secondly, the central control exercised by the Ministry did not allow sufficient autonomy to individual colleges to develop their own work. In order to consider the need for further change, a Committee on Art Examinations

\textsuperscript{1} See 'Paper on Loughborough College - The Status and Responsibility of the Head of Department of Art', Loughborough College Governors' Minutes, 9 July 1949.
\textsuperscript{2} Ibid.
had been set up in 1947, under the chairmanship of Mr F. Bray. The Committee recommended that there should be some decentralisation in the system of art examining, so that art establishments could take a part in the assessment of their own students. It also recommended that in future all candidates should be required to complete a recognised course of training before moving on to the next phase, and thirdly - in a very important proposal - it recommended that a National Advisory Committee on Art Examinations should be created.

The Bray Committee recommendations indicated that substantial changes in the climate of opinion within the world of art education were taking place. It was beginning to be accepted that centralised Ministry control of art examinations had the effect of producing a dull uniformity of approach by the various art establishments. Moreover, it was difficult within the constraints of such a system for individual art colleges to develop their own special strengths and thus achieve high standards of work in particular fields.¹

The national body recommended by the Bray Committee came into being in 1949 with the establishment of the National Advisory Committee on Art Examinations, under the chairmanship of Mr F. L. Freeman. The Committee included amongst its members six principals of art schools. The National Committee followed the Bray Report in encouraging a greater measure of involvement in the examination system by the colleges. Thus in 1951, a dual system of assessment was introduced, in which the work of students was examined firstly by the staffs of art establishments and secondly by the Ministry's assessors, the latter making the final decisions. The dual system formed the basis for examining

in the art establishments during the 1950s though towards the end of the decade it was called into question and was replaced in the 1960s by a quite different arrangement. The evolution of Loughborough College of Art (like other art establishments) during the decade of the 1950s took place against the background of the NDD-Intermediate structure and the dual system of assessment.

The NDD was considered by the National Advisory Committee in its first Report of 1952. It stressed the significance of regional consultation to ensure the most economical provision of courses. The Committee also expressed concern about the low pass rate in the Textile group of subjects, and had already advised that courses in this field should only be approved in those establishments which were adequately equipped and staffed. It was thought better to have a small number of well-trained designers than a large number of an inadequate standard.

This policy of concentration, particularly in relation to the textile subjects, was of special significance for Loughborough College of Art. In the post-war period, the College had developed its textile work to a high level and it possessed in Mr Edward Sharp (who became Head of the Design Department and later Principal) a specialist in this field, particularly that of fabric printing. The College, as Mr Mason reported to the Governors in 1953, was one of the very few art establishments in the country recognised by the Ministry as capable of giving training in textiles to a Special Level for NDD. It might be argued that the policy of concentration adopted in the light of the National Advisory Committee proposals tended to favour

2. See Memo. by Mr Mason, 6 March 1953, Governors' Minutes, Loughborough LEA Colleges. (The NDD system made provision for the study of subjects at three levels: Special, Main and Subsidiary.)
Loughborough since it possessed a particularly good textiles section and the number of colleges able to develop strongly in this field remained small during the 1950s. This had an important bearing upon later developments in the early 1960s when recognition for a new high-level award in art and design became of vital significance. The policy of concentration had the effect of keeping down the number of potential rivals.

During the 1950s Loughborough College of Art was broadly organised into two Departments, one for Design and one for Painting and Drawing. The most significant developments took place in the Department of Design, which comprised three main sections - Textiles, Dress and Pottery. Given its historical background of evolution from within the framework of Loughborough College, an institution which stressed practicality and productivity, it is not surprising that Loughborough College of Art was craft-based rather than fine art-based. There can be little doubt that it was its strength in the design and craft field which gave the College its motive force in the 1950s and carried it forward to high levels of achievement. Again the contribution of Herbert Schofield is of significance, for he placed a special emphasis upon the development of the craft aspect in the work of the art department of the old College. ¹

Although within the art world itself, fine art was perhaps a more prestigious field than design and craft-based art, there could be no doubting the demand from industry for first class designers. So Loughborough College of Art developed in the 1950s in areas where an obvious growth market existed. That is not to say that the College at Loughborough did not pay attention to the area of fine art. The Department of Painting and Drawing, though

very traditional in outlook, provided the College with good standards in fundamental artistic techniques. But this Department, whose work was largely uninfluenced by the new movements in art of the post-war period, was inevitably overshadowed by the Department of Design, which in both the aesthetic and technical senses was very modern in approach and was developing work of high quality. In a survey, conducted by the Inspectorate in the session 1953-54, of NDD courses in Textile Design at the Special Level, the College received a commendation for the thought and energy given to the development of this work at Loughborough.

However, on a national level the period of the early 1950s was not an easy one for art establishments. The National Advisory Committee's policy of concentrating advanced courses in relatively few establishments had the effect both of raising standards in art education and also of reducing the number of full-time art students. From a post-war peak of 15,000 in 1950 (a number artificially swollen by ex-servicemen) the total had dropped to 11,000 in 1955. The College at Loughborough experienced a similar dip in numbers from 75 full-time students in 1950-51 to 57 in 1955-56. The period from 1951 to 1955 was a difficult one for art establishments as they strove to raise standards whilst operating within restricted budgets.

The colleges of art have tended to be Cinderellas in the post-school education system, frequently lacking adequate facilities and receiving a low order of priority. Only with the introduction of degree-equivalent courses in art and design in the 1960s was there a significant change, with the allocation of substantial resources to selected art colleges. In the 1950s the art establishments were not, by and large, generously financed.

1. See Loughborough LEA/Governors' Minutes.
At the local level, although Leicestershire LEA proved a sympathetic authority in comparison with some other authorities, nevertheless the College of Art at Loughborough experienced very considerable difficulties over its physical accommodation during the 1950s. The site problem for the Colleges at Loughborough led to a general review in the middle of the decade. In 1956 it was decided that the Training College, like the direct-grant College of Technology, should be centralised on the playing fields, thus freeing accommodation for both the College of Art and the College of Further Education on the town site.¹

At this time the three LEA Colleges operated under a common Governing Body, which was a sub-committee of the local authority Education Committee. This arrangement continued until 1963, when a separate governing body was established for the Training College. However, the Colleges of Art and Further Education continued to be governed by a single governing body. Arguably the establishment at the same time of separate governing bodies for these two colleges would have been of value, especially since after 1963 the College of Art became deeply involved in the running of degree-equivalent courses. Even at the time of writing, the College of Art was still linked with the Technical College (as the College of Further Education had been renamed) under a single Governing Body.

In the 1956 scheme, the LEA proposed that the College of Art (like the College of Further Education) should stay in the centre of the town, occupying three buildings. Therefore, throughout the 1950s the College lacked a unified site and, since its student numbers were relatively small, tended to be perhaps lowest in order of priority of the Loughborough Colleges - in

¹. See Memo. by Mr S. C. Mason, dated 20 January 1956, Governors' Minutes, Loughborough LEA Colleges.
terms of LEA expenditure.

However, the second half of the 1950s, with its renewed national drive to improve educational provision was to provide major opportunities for the re-structuring of art education. The NDD system was seen to be inadequate and especially to have contributed to the development of a large number of specialist courses which paid little attention to the requirements of a more general education, or to involvement with other areas outside the particular specialist field. Thus the NDD was having a narrowing effect upon art and design students and was too fragmented in approach.¹ Furthermore, it was no longer producing industrial and commercial designers of the type which modern industry and commerce required. This demand could only be met, it seemed, by the introduction of a new award of a higher level than NDD.²

There is an interesting parallel between the dissatisfaction felt about NDD and that voiced about the two year Teacher's Certificate course in the later 1950s. Both had become too narrow and had run into a kind of educational cul de sac.³ Thus towards the end of the 1950s it was clear, in regard to art education, that the NDD system needed to be replaced by a very different structure.

It so happened that H.M. Inspectorate carried out an inspection of the College of Art at Loughborough during March 1957, that is in the month before the National Advisory Committee on Art Examinations issued its Report recommending the abolition of the NDD-Intermediate system. Therefore it is possible to obtain an official synoptic view of the College as it operated under the NDD-Intermediate arrangements before they were abolished and a new structure devised.

1. Ex. inf. Mr L. R. Rogers, Head of the Three Dimensional Design Faculty, Loughborough College of Art and Design.
3. The author is grateful to Mr S. C. Mason for discussion of this point.
Generally, the Report presented a picture of considerable development by the College both in the scope and volume of its work since the end of the Second World War.\(^1\) The Inspectors noted the Principal's continued attempts to extend and improve the accommodation in what were very difficult circumstances. On the actual conditions pertaining, the Inspectors reported that 'accommodation is scattered and the work of the College takes place in three somewhat ill-defined and isolated units, which are not only separated by the classrooms and workshops of other schools and colleges but also by public highways.'\(^2\) It was not until after the restructuring of art education and the introduction of the Diploma in Art and Design in 1963 that the financial sluice-gates were opened and the College could move into a spacious and unified site on the playing fields. Given the old and generally ill-suited buildings which the College had to use throughout the 1950s, its achievements in developing advanced art education seem the more remarkable.

At the time of the Inspection the staff consisted of the Principal, two Heads of Department and 11 full-time and 33 part-time members of academic staff, plus two technical assistants. The student population for the session 1956-57 consisted of 74 full-time, 568 part-time day and 1,045 evening students. Of the full-time students, 18 were taking NDD courses, 36 the Intermediate course and 19 the College Trade Dress Course. (There was also one student taking a City and Guilds of London Institute course.)

Concerning the Principal's leadership, the Inspectors observed that since his appointment the College had steadily developed and they were particularly impressed by his vigorous

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2. Ibid.
exhibition policy in the local area and in London, which had brought the work of the College to public notice. They noted, however, that Mr Divine did no teaching and suggested that he should establish more contact with the full-time students.

By the general tenor of the Report, the Inspectors seem to have felt that the chief creative force in the College was provided by Mr E. Sharp, the Vice-Principal and Head of the Design Department. In addition to these functions, he was the principal teacher of fabric printing and, in the Inspectors' view, was an inspired leader. Moreover, in terms of administration, they noted that the fabric printing premises were efficiently organised and exceptionally well maintained.

It is clear from the Report that the Design Department represented the main strength of the College and that within this Department Mr Sharp had been able to develop its work to a high level, especially in the field of fabric printing. NDD courses were provided in this subject at both the Special and Main levels. The Inspectors noted that 'in all the courses in fabric printing the work is characterised by enterprise and initiative in the drawing and painting of natural forms and in the building of an understanding of pattern' and that 'practical experiments direct on cloth are notably good, as are the finished fabrics in which the standard of design is always high.' Furthermore, the Inspectors were impressed by the continuity and development obtained through the linkage of the Intermediate course to NDD in this subject. Their only reservations about this field of work concerned the problem of contact with industry and the textile collections of London and Manchester, but they noted that the Head of Department had done much to improve the situation. In

any case it was a problem which arose out of the unavoidable difficulties of the geographical distance between the College and the main textile centres. The Inspectors generally looked very favourably upon the quality of work achieved in the textile field.

The pottery and silversmithing sections of the Design Department were regarded by the Inspectors as doing work of commendable standard. Indeed, they regretted that the talents of the lecturer in silversmithing (Mr R. L. Evers), who was a designer-craftsman of considerable distinction, could not be more widely utilized – at the time of the inspection there were 4 full time students studying silversmithing. The state of Weaving and Dress was regarded by the Inspectorate as satisfactory, but Embroidery was considered to be definitely weak both in design and technique.

Nevertheless, the general view of the work of the Design Department taken by the Inspectors of those areas which later became known as Textiles/Fashion and Three-Dimensional Design was clearly very favourable. As such this augured well for future recognition when a new award was instituted to replace NDD.

The Department of Painting and Drawing received less official approbation for its work. The Inspectors thought that its Intermediate course needed broadening; and in regard to the NDD course in painting, although they recognised that the students worked hard and made good progress, it was on a narrow front. There was no life-painting, which led the Inspectors to observe that the students were being taught in much the same way as those in Spain in the seventeenth century when the nude was not encouraged. Clearly fine art at Loughborough even in the late 1950s was still severely traditionalist in approach.

On broad aspects of College policy, the Inspectors thought that the emphasis laid upon design and craft work was sound,
though they underlined the need for constant collaboration between the two departments of design and fine art.

As the Inspectors noted, approximately half of the part-time day students at the College of Art in 1957 were handicraft students from the Training College attending for instruction in the art and crafts field. This collaborative arrangement stemmed chiefly from the historical background whereby the Art and Training Colleges both began as departments of the old College and undertook mutual 'service' arrangements. The service provision in art and crafts for the Training College was continued until the middle 1960s. Although it was desirable in some ways to maintain links between the Art and Training Colleges, the complexities of time-tableing across institutional boundaries created considerable difficulties. It is the judgement of Mr Mason that the eventual ending of the servicing arrangements between the two Colleges and their following of more separate paths was a desirable step.¹ Both institutions could then develop more strongly within the context of their own necessarily different approaches. Nevertheless, the proximity and historical involvement of the Training and Art Colleges at Loughborough made the Art College consider that it might at some stage aspire to be a recognised centre for the training of art teachers. Such a development, if amalgamation should take place, is still regarded as an appropriate objective.²

In the light of the 1957 Inspection findings, it was clear that Loughborough College of Art was well-placed to play its part in any nationally revised structure of art education, since in its applied art it had achieved high standards and few colleges in the country were as developed in the two craft areas as

¹ Ex. inf. Mr Mason.
Loughborough. Mr Mason, in commenting upon the Inspection Report for the benefit of the College Governors, remarked that in so far as standards of work were concerned the report could be taken as very satisfactory.¹ However, the Inspectors clearly viewed the physical accommodation of the College as generally unsatisfactory. This particular problem was later dealt with in a paper by Mr Mason, submitted to the Governors in 1959, proposing the relocation of both the art and further education colleges on the playing fields.² This plan was approved and formed the basis for the re-development of both institutions on a new site from the mid-1960s.

Nationally, in 1957 great changes were proposed for art education. In response to the limitations of the NDD-Intermediate system and the need to loosen up the whole structure of art education, the National Advisory Committee on Art Examinations proposed in its Second Report the introduction of entirely new arrangements.³ The Report recommended that the NDD should be transformed into a three year course equivalent in standard to a university first degree; that the Intermediate Certificate should be abolished; and that the Minister should give up his direct responsibility for the art examination system. In a further very important proposal, the Committee recommended that a new and independent council should be set up to review the whole field of art education including the award of the new diploma. The underlying intention in making these proposals was to improve the standards and broaden the work of the art colleges, and also to give them greater freedom to develop their own work. In 1958, these proposals were accepted by the Minister and in January 1959,

1. See Governors' Minutes, Loughborough LEA Colleges, 10 September 1957.
2. See paper by Mr S. C. Mason, dated 4 November 1959, attached to Governors' Minutes.
the new National Advisory Council on Art Education (NACAE) was created under the chairmanship of Sir William Coldstream, Professor of Fine Art at the Slade School.

The NACAE rightly took the view that its first major task was to devise a high-level award to replace the NDD. In its First Report in 1960, the Council recommended that the new award should be known as the Diploma in Art and Design (Dip AD), a qualification to be obtained after a three year full-time course and equivalent in status to a university first degree. Entrants to Dip AD courses would normally have completed a one year pre-diploma course, and as a general rule would be expected to possess at least five 'O' levels and to have reached eighteen years of age.

The NACAE thought that in the light of NDD experience, the new award should not be based on specialisation in single subjects but that 'the aim should be to produce courses conceived as a liberal education in art in which specialisation should be related to one of a small number of broad areas.' According, the Council recommended four such areas of specialisation: Fine Art, Graphic Design, Three Dimensional Design, and Textiles and Fashion. The Council further recommended that about 15% of the total course should be devoted to the history of art and complementary studies and that all Dip AD students should receive some fine art training.

The NACAE's intention was to liberate advanced art education from the straight-jacket of the old NDD system. The Council also believed that the needs of industry and commerce for designers would best be met by students who possessed a good general education. Moreover the NACAE sought to promote greater direction by

the Colleges of their own affairs. In what was a recommendation of major significance, the Council further proposed that a body, independent of both itself and the Minister, should be established to administer the new award. The NACAE recommended this step because it believed that its own broad duties and status as a national advisory body were not compatible with the function of administering Dip AD. Following the Minister's acceptance of these proposals, a National Council for Diplomas in Art and Design (NCDAD) was set up in March 1961 as an independent self-governing body, under the chairmanship of Sir John Summerson.

Thus in the early 1960s a dual system emerged in art education with two national bodies, one (the NACAE) having an advisory responsibility and the other (the NCDAD) having an awarding function. There is an interesting parallel between these arrangements and those made previously for technological and commercial education, with the National Advisory Council on Education for Industry and Commerce (NACEIC) corresponding to the NACAE, and the National Council for Technological Awards (NOTA) performing a function for technological education similar to that provided by the NCDAD for art education.

To begin with, the main task of the NCDAD was to decide which colleges should be recognised for offering Dip AD courses. In its first memorandum, published in July 1961, the Council gave only a generalised list of the criteria by which it would judge the suitability, or otherwise, of the colleges which applied for Dip AD recognition. In this respect, there is a similarity with the procedures initially adopted by the NOTA with regard to Dip Tech. In both cases the resulting situation involved a relatively high rejection rate and widespread disappointment.

The first reactions within the art world to the NACAE/NCDAD proposals for restructuring art education and introducing the Dip AD were generally very favourable. The Art Colleges thought that at last they were to receive both a higher status and better financial provision for the development of their work. There was a feeling that a genuinely creative period in art education was about to begin and that artists would be able to persuade local authorities to spend money on art education. It became clear that the government was prepared to authorise substantial financial grants to enable Dip AD to be operated in centres which were suitable for development. In that sense the Dip AD experiment ushered in a decade of unprecedented expansion for those art establishments which became recognised.

It seems likely that government thinking about the Dip AD system was that it would provide an opportunity to rationalise the provision of advanced art courses so that it could be concentrated in about 40 centres. From a government point of view this would create an acceptable structure into which it would be worthwhile to devote resources. From an individual college of art point of view, the acid test came in the form of the NCDAD visitation, which would decide whether or not Dip AD recognition would be given. If approved for Dip AD then the college could expect substantially enlarged financial provision, increased prestige from running degree-equivalent courses and a general uplift in status and morale. Non-recognition implied a much less propitious future. Hence the ferment in the art colleges during

1. See the contribution by Frederick Brill, Principal of Chelsea College of Art, to the symposium, 'Art in Polytechnics', National Society for Art Education Bulletin, January 1972, p 7.
2. The author is grateful for discussion of this point to Mr S. C. Mason.
3. This is Mr Mason's interpretation.
the period of the initial NCDAD visitations in the early 1960s.

At Loughborough the College of Art had anticipated to some extent the requirements of the NACAE/NCDAD approach. For example, Mr Divine had started to develop courses in the history of art, which were an essential feature of the Dip AD scheme. Furthermore, Mr Divine was optimistic that Loughborough was well placed for recognition in the two areas of Three Dimensional Design and Textiles/Fashion, since few art establishments were as well equipped or staffed in these fields as was his own college. Such was his confidence, that the Principal advised the local authority in the autumn of 1959 to estimate for a building programme for a student body of not less than 250 or 260 full-time students by 1966-67.

Thus Mr Divine, shortly before his untimely death at the beginning of 1960, had established the ground-lines of a policy for Dip AD recognition. The Head of the Design Department, Mr E. Sharp, took over as acting Principal in January 1960 and was formally appointed as Principal in May of the same year. Therefore, it was upon the shoulders of Mr Sharp that the main burden fell in guiding the College through the crucial phase from 1961 to 1963 when the first NCDAD visitations for Dip AD recognition took place. However, he was able to build his policy upon the sound foundations already established by his predecessor.

Mr Sharp's view of the four broad groupings of subjects proposed by the NACAE and later adopted by NCDAD was that they were well considered. He favoured a policy of aiming for Dip AD recognition in the first instance in two areas only: Three Dimensional Design and Textiles/Fashion. He estimated, correctly as

1. Ex. inf. Mr L. R. Rogers.
2. See the letters by Mr Divine, dated 5 and 9 October, 1959, in the Statistics File, Principal's Office, Loughborough College of Art and Design.
it turned out, that only a few carefully selected centres would be recognised for such work. He thought that these two groupings of subjects would fit very well into the existing craft and subject structure of the Art College at Loughborough and was confident of obtaining recognition.¹ This view was partly based upon Mr Sharp's assessment that whilst a substantial number of art establishments might be equipped to mount Fine Art and Graphic Design Courses, very few would qualify in the other two areas of specialisation. With regard to any policy of rationalisation in regional areas, in which event Loughborough would 'compete' with the art colleges at Leicester and Nottingham, Mr Sharp was firmly of the opinion that neither could match his college in the Textiles field - from the point of view of staffing, equipment or academic standards. In the Three Dimensional Design area, he was confident that the work in ceramics and silversmithing at Loughborough was superior to that carried out at Leicester and Nottingham. (His assessment was confirmed by the first NCDAD visitations in regard to Nottingham, which failed to obtain recognition; however, Leicester was approved for all four areas.) Thus Mr Sharp was convinced that even under a regional scheme, which might take rationalisation into account, Loughborough stood a good chance of recognition in the Three Dimensional Design and Textiles/Fashion areas. In the event, the NCDAD approach to recognition for Dip AD was in the first instance not governed by any apparent regional plan, a policy which caused considerable controversy.

In an important memorandum in January 1961, Mr Sharp gave his views on the state of the College in regard to NCDAD

¹ See Observations on NACAE paper 5/60 by Mr E. Sharp, File on approval of Dip AD courses, Loughborough College of Art, (hereafter LC of A).
requirements. The paper began by suggesting that the likely national total of Dip AD colleges would be about 50. In practice, the eventual number was 40. The document then stated that, 'the policy at Loughborough has been to develop the design and craft side of the work for which it has received reasonable approbation. This has not been developed without due regard being paid to Fine Art, which has been encouraged as a necessary study for design students and even under the present examination system is regarded as an important and effective stimulant to all craft students.'

The memorandum then proposed offering Three-Dimensional Design and Textiles/Fashion for Dip AD recognition, with these two areas supported by that work in fine art, the history of art and complementary studies required by the NCDAD.

The Principals and staffs of Art Colleges had to devise their proposed courses for Dip AD in some haste since the NCDAD Memorandum Number One was issued in July 1961 and the Council required courses to be proposed to it not later than 31 December of the same year. Arguably this was too short a timetable for some colleges. Fortunately for Loughborough, it had been evolving its Dip AD strategy along lines which proved appropriate from at least the beginning of 1960. That Mr Mason, the County Director of Education, was a member of both the NACAE and NCDAD may also have helped the College to keep close to the mood of official policy at this time.

Like other colleges seeking Dip AD approval, Loughborough was subject to an NCDAD inspection by a panel of specialists whose task was to provide the Council with a report about the applicant institution and its suitability, or otherwise, for recognition.

2. Ibid.
The College, which apparently prepared the scene for the visitation very carefully, made a suitably favourable impression upon the NCDAD panel.

Thus, in April 1963, Loughborough College of Art was formally recognised for Dip AD purposes in the two areas for which it had applied — the courses to begin in September of that year. In Three Dimensional Design, it was recognised for chief studies in Furniture, Ceramics and Silversmithing, and in Textiles/Fashion for Printed and Woven Textiles. This approval was subject to various conditions, the most important of which being that recognition was given in the first instance for a five year period.

The NCDAD also made a number of recommendations in connection with the grant of approval for Dip AD work. Firstly, it recommended that a specialist art historian should be appointed at a senior level to teach the History of Art; secondly, that a full-time member of staff be appointed for Complementary Studies; and thirdly, that Three Dimensional Design should be given more space in the proposed new College buildings.

This recognition as a Dip AD college represented a considerable achievement for the Art College at Loughborough, for it was now an institution with a nationally-recognised reputation. From being a small, provincial School of Art of moderate repute in 1945, it had become by the early 1960s one of the leading centres for art and design education in the country. It was one of the original 29 colleges which were recognised for Dip AD, out of a total of over 70 which applied. (Later approvals brought the number of Dip AD centres up to 40.) Furthermore, it was one of only four colleges initially approved for Silversmithing and Ceramics, and one of six approved for Furniture and one of seven
approved for Woven and Printed Textiles.¹

Looking back, Mr Mason (who became Chairman of the NCDAD in 1970) has indicated that he would have been very surprised if the College had not received Dip AD recognition.² It was doing very good work in the two areas for which it applied; and in Mr Sharp it possessed a Principal who stressed the need for proper attention to the fundamentals of art technique in the education of craft-based art students. A considerable amount of time was spent by the students in mastering the skills of drawing and consequently there was accuracy and precision in the work carried out. This was one of the great strengths of the College, which helped it to obtain Dip AD recognition.³ Another advantage which the College possessed was the broad view taken by the Principal of the whole field of art education and the fact that he wished to avoid any sense of there being a gap between applied and fine art. Therefore, it could be argued that Loughborough College of Art worked out a viable synthesis between fine and applied art and thus avoided that cleavage between these two areas which has so bedevilled recent art education.⁴

The benefits stemming from Dip AD recognition were soon evident. In May 1964, the Governors were informed that the DES had approved a major new building programme for 1965-66, which would lead to the re-housing of the College on a unified site on the playing fields, in modern, custom-built accommodation. Thus the College could anticipate soon vacating the old and scattered buildings of the town site.

¹. See Paper attached to Governors' Minutes, Loughborough LEA Colleges, 1963.
². Ex. inf. Mr Mason.
³. Ibid.
⁴. See the article by Professor Misha Black, 'That Polytechnic scare', The Designer, February 1972, pp 7-8.
PLATE 7. A recent photograph showing Loughborough College of Art re-housed on the campus site. The buildings used by the Art College are to the right of the picture; those to the left accommodate the Technical College.
Nevertheless, Dip AD had initially to be mounted using the existing premises, and the first Loughborough Dip AD students had to use the old buildings throughout their three year course. However, the first examination in 1966 showed that the problems of physical accommodation constituted no insurmountable barrier to an enthusiastic staff and an intake of good students. All 19 students entered for Dip AD Finals in the Textiles/Fashion group passed, whilst 16 out of 17 passed in Three Dimensional Design. The College gained four 'firsts' and three 'upper seconds' in the class list.

But the College did receive a temporary setback in June 1964 when its applications for Dip AD recognition in Fine Art, and for the addition of Embroidery in Textiles/Fashion, were turned down by the NCADAD. However, a year later the Council took a different view and recognised Fine Art, with Painting and Sculpture as chief studies (and also Embroidery in the Textiles/Fashion group). These new courses were approved to start in September 1965, and a third department - that of Fine Art - was constituted to provide for fine art study at Diploma level.

In the session 1963-64, when Dip AD courses began, the College possessed a full-time academic staff of 37. There were in this session 230 full-time students of whom 42 were on Dip AD courses, 76 were taking the pre-diploma course, 62 the NDD and 11 the Intermediate Certificate. (There was a phasing-out period for NDD and the Intermediate course before their final super-session by Dip AD.) By the beginning of the session 1965-66 the number of full-time staff had increased to 47 - a substantial increase on the 1963-64 total. This represents a good illustration of the growth effect which Dip AD had upon those Colleges fortunate enough to obtain recognition. The introduction of Dip AD may also have reinforced the need for academic decision-making
within colleges to take place on a broader basis. At Loughbor­ough, a formal Academic Board consisting of the Principal and his senior colleagues (the Vice-Principal and Heads of Department, with the Registrar as Secretary) was set up in October 1965 to formulate academic policy for the College.

In a letter to the Secretary of the NCDAD on staffing in November 1965, the Principal reported that the College had been fortunate in being able to recruit staff of the requisite standard for Dip AD work, except that it had experienced difficulty in the field of Fashion and to some extent in Ceramics. In a general comment upon recruiting staff for Dip AD courses; Mr Sharp made this revealing observation, "it is terribly difficult to find persons who believe in drawing in its main forms as an essential ingredient to the artist/designer/craftsman. It would appear that drawing is 'increasingly difficult' for students. This at­titude of mind appalls me very much indeed."¹ It could be said that Mr Sharp believed deeply in the fundamental skills of draw­ing; and that he was not always very sympathetic to avant garde views of art.² Thus Loughborough was not much involved with the avant garde movement and tended to follow its established role as a centre of design and craft-based art. But Loughborough's com­mitment to fundamental art techniques enabled it to adjust readily to the initial NCDAD requirement that all Dip AD courses included 'some Fine Art in the sense of fundamental skills and disciplines which underlie all forms of art and design.'³

At the national level, the concept of the Dip AD, and

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¹ See the letter dated 15 November 1965, Dip AD File, LC of A.
² The author is grateful for discussion of this point to Mr S. C. Mason.
³ See NCDAD Memorandum No. 1, op. cit., para 4.1. Following the turbulence in the art colleges in the late 1960s, the NACAE and NCDAD modified their position on this point, recognising that fine art was not necessarily central to all studies in the design field.
certainly the related intention of raising the status of art education, at first aroused great hopes in art and design circles. Unfortunately, the high rejection rate of proposed Dip AD courses following the first NCDAD visitations caused widespread feelings of disappointment and disapproval, particularly from those colleges which failed to obtain recognition. Stuart Macdonald has described the situation following the Council's findings as one of 'traumatic neurosis'. Certain areas of the country, like East Anglia, were left without any provision of Dip AD courses. But the main source of unrest arose from the fact that very many more students had been encouraged to embark upon pre-diploma courses than there were actual Dip AD places available. It would seem that the Colleges and also the NCDAD must share the blame for this unfortunate state of affairs. However, by September 1967 the number of centres recognised for Dip AD had risen to 40, with places for over 2,000 students.

But although the provision of Dip AD places was increased so that by about 1965 it generally matched the number of qualified students, other difficulties began to assail Dip AD. The initial enthusiasm over the increased standing of the award gave way to doubts and uncertainties. The Robbins Report had paid little attention to the art colleges (except for the Royal College of Art) and did not recommend that the Dip AD should be given the status of a degree as such. It was not long before people in the art world recognised the discrepancy in the view taken by the Robbins Committee of Dip Tech in comparison with Dip AD.

of these awards were of degree-equivalence, but whilst the Robbins Committee appeared to think that it was necessary to transform the Dip Tech into a degree as such, it adopted a different policy in regard to Dip AD. The Committee took the view that, in general, diplomas rather than degrees should be the awards open to advanced students in art.¹ As Corin Hughes-Stanton, a well-known writer about the art and design world, rather bitterly observed, 'While a degree is necessary for a technical qualification, it is not necessary for an industrial design qualification. Therefore it is not so important; therefore it is at the bottom of the priorities list.'² This feeling that the Dip AD has not really achieved proper recognition has been reinforced by the fact that a 'good' Dip AD does not qualify the holder for the 'good honours' allowance of the Burnham scale.

But an even more serious matter concerning the evolution of Dip AD has been the intense, and at times damaging, debate over its content and objectives. The NCDAD was criticised in the first place for putting too much emphasis upon fine as against applied art. In particular the Council's insistence upon the inclusion of the history of art as an examinable subject, and complementary studies met fierce opposition from certain quarters.³ Dick Field has argued that the introduction of these two areas of study in the form prescribed by the NCDAD, though benevolent in intention, was very mistaken in that it caused such deep division

2. See the article, 'Art Schools - Too Little, Too Late', Society of Industrial Artists Journal, No. 144, February 1965, p 1.
3. The antagonism to Dip AD in the format prescribed by NCDAD erupted in its most vitriolic fashion at Hornsey College of Art. For an account of this 'cause célèbre', written from the stance of those who passionately wished to change the system, see 'The Hornsey Affair', a Penguin Special by contributors from Hornsey College of Art, Harmondsworth, Middlesex, 1969, especially pp 86-8 and pp 95-8. See also D. Field, 'Change in Art Education', London, 1970, pp 92-4.
within the art world.¹ Much of the criticism directed at Dip AD, both from within and outside art circles, has concentrated on its being too 'academic'. Within the art world some staff and students opposed the 'academicism' as they saw it in the Dip AD system, especially the academic examination of art history. As regards the world outside the art colleges, there is evidence to suggest that Dip AD courses do not provide enough specialist technical knowledge of the kind required by industry and commerce.² It can, however, be legitimately argued that the Dip AD concept was intended to provide a liberal education in art and was not geared to producing specialists likely to be immediately useful to industry.

This problem of technical expertise was foreseen in the first NACAE Report, which accepted that Dip AD courses could not give a complete training in specialised industrial or commercial techniques and recognised the need for further specialist training in the form of post-diploma courses. Although they recognised the problem, the NACAE and NCDAD could be criticised for their relatively slow reaction in setting up post-diploma courses on an effective basis. The NACAE Report on Post-Diploma Studies was not issued until 1964;³ and even by the beginning of the 1970s post-diploma work, organised simply in four centres for the whole country, was not very well developed, especially in the craftsman-designer areas.⁴

Early on in the Dip AD experiment, the problems associated with the pre-diploma course were recognised, especially the

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1. See Field, op. cit., p 94.
2. See Cantor and Roberts, op. cit., p 139.
4. Ex. inf. Mr L. R. Rogers.
question of reconciling the twin aims of providing both a con-
tinuation of general education as well as developing the abili-
ties of the students in art. In 1965, the NACAE recommended
that pre-diploma courses should be renamed 'foundation courses'
to emphasise that although they could have a diagnostic function
for the Dip AD, they should be regarded as courses of a general
nature providing a preliminary training in art, which could also
serve as a basis for vocational courses.¹

At Loughborough, Mr Sharp wrote in 1964 that the principles
underlying the initial NACAE recommendations about the pre-
diploma courses were sound but that clearly problems of inter-
pretation had arisen.² The policy adopted at Loughborough was
to regard the pre-diploma or foundation course as an intensive
and wide-ranging one which outlined fundamental principles. A
similar policy of breadth was adopted in conducting the Dip AD
courses at Loughborough. Generally speaking the College agreed
with, and tried to carry out, the spirit of the official reports
of the NACAE and NCDAD. It was perhaps more readily able to op-
erate such a policy since as an institution it was primarily
oriented towards the applied arts. The traumatic upheavals as-
associated especially with the fine art field left Loughborough
largely unaffected.

Thus the College at Loughborough adjusted relatively easily
to its Dip AD status and to mounting the Diploma courses. By
1966 there were 200 Dip AD students out of a total full-time
student enrolment of 320. Although primarily concerned with its
Dip AD and foundation course work, the College also developed

1. See Addendum, dated August 1965, paras 2, 6 and 7, to First
2. See letter dated 6 October 1964, Principal's Files, LC of A.
three year vocational courses in Fashion and Graphic Design.¹

Nationally, there has been a major debate about the status of vocational courses vis à vis Dip AD courses. Following the Ministry decision announced in May 1967 that there should be a pause in the development of further courses for Dip AD, there was again a situation in which the demand for Dip AD places exceeded the supply. Many of the unsuccessful Dip AD applicants turned to vocational courses as a second option. An anomalous situation resulted: products of the higher level vocational courses were often more sought after by employers than those students who had successfully completed their Dip AD courses.²

But the most acrimonious debate within art education during recent years has concerned the incorporation of 17 leading art establishments into Polytechnics, following the White Paper of 1966 which outlined the government's plan for creating new Polytechnics. The issue of the 'polytechnicisation' of the art schools received national attention, following a vitriolic attack upon this policy by the well-known painter, Patrick Heron.³ This was almost immediately followed by the resignation of virtually the whole of the Fine Arts Panel of the NCDAD in protest at polytechnicisation and its effects. The central argument of those opposed to such a policy is that it is impossible within the structure of Polytechnics for art departments to maintain that freedom and creativity which has marked the development of British art education in recent years. The Principal of one leading London art college saw polytechnicisation as a way in which the DES might re-assert control over the art schools, following the

¹. Vocational courses were the subject of the Second Report, 'Vocational Courses in Colleges and Schools of Art', issued by the NACAE, London, HMSO, 1962.
². See Cantor and Roberts, op. cit., p 139.
relaxation of central Ministry direction caused by the setting up of the NACAE/NCDAD structure. \footnote{See F. Brill, National Society for Art Education Bulletin, January 1972, op. cit., p 7.}

It is known that the policy of merging art colleges with polytechnics was only accepted with reluctance by the NACAE and NCDAD. \footnote{See the letter by Sir Robin Darwin, formerly Rector and Vice-Provost, the Royal College of Art, in 'The Times', 23 October 1971.} The position of fine arts in the Polytechnic environment is clearly an uneasy one in which many leading artists see no benefits and numerous handicaps. On the other hand, as Professor Misha Black has pointed out, the situation is different for applied artists and designers who see advantage in the technical and financial resources of the Polytechnics. \footnote{See the article 'That Polytechnic scare', The Designer, February 1972, op. cit., p 7.} This lack of unity within art and design circles has made a common front almost impossible to achieve so that until some agreement on fundamentals is reached, the art world is in a rather poor negotiating position.

This turbulence at the national level made little impact upon Loughborough College of Art since polytechnicisation was not an issue at the local level; and in any case the institution was oriented towards applied art, which has experienced less difficulties of adjustment than the fine art field. However, polytechnicisation has raised a crucial long-term issue for the art college at Loughborough. For the incorporation of 17 art centres into Polytechnics, with similar mergers likely to affect perhaps half a dozen more, has called into question the future of the 17 or so Dip AD colleges (and Loughborough is one) which will be left outside the Polytechnic orbit.

The position of Dip AD centres outside the Polytechnics
would become especially vulnerable if the Dip AD was replaced within the Polytechnics by degrees awarded by the CNAA. Indeed, Mr Mason (at the time of writing the Chairman of the NCDAD) holds the view that his Council will merge with the CNAA and that the Dip AD will be replaced by a CNAA degree. If this should happen the position of the non-Polytechnic art colleges developed to offer Dip AD would be seriously affected.

Thus in the early 1970s, Loughborough College of Art and Design (as it was renamed in 1967) was confronted with a problematical future. The College had not only to face the various question marks raised about Dip AD at a national level, but also to assess, in the local context, its own likely future as a Dip AD art college outside the Polytechnic orbit. In the event the College decided that the development of advanced art and design education at Loughborough would best be served if it could amalgamate with the University of Technology and the College of Education.

Within the context of an extended university at Loughborough, the College of Art and Design would be able to anticipate any demise of Dip AD and its supersession by a degree award for art and design. Also there would be important possibilities of cross-disciplinary development in, for example, the areas of product design and environmental design. Moreover, within an extended university situation, it was felt that Loughborough might be recognised as a centre for the training of teachers of art and design, particularly the post-graduate training of specialist teachers.

The proposed amalgamation at Loughborough, raising as it

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1. The author is grateful to Mr S. C. Mason for discussion about the future of the Dip AD.
2. See 'Proposals for amalgamation', op. cit., para 14.3.
3. Ibid., para 14.4.
did the question of a major trans-binary merger, constituted an important test case for the government's binary policy. For not only did these local proposals involve the merging of a university with a college of education - an arrangement regarded as permissible in exceptional circumstances in the James Report - but also the integration of a college of art. In so far as advanced art education was concerned, government policy after the mid-1960s favoured mergers of selected art colleges with the Polytechnics of the public sector. In this respect there were no precedents for amalgamation across the binary line of an art college with a university. Thus, in the context of British higher education in the early 1970s, the suggested tri-partite amalgamation at Loughborough of the University, the College of Education and the College of Art and Design was a unique and far-reaching proposal.
CONCLUSION
CONCLUSION

The most important decision affecting the development of higher education at Loughborough between 1951 and 1966 was that taken in 1952 by the Ministry of Education to establish the direct-grant College of Technology. This undertaking by the Ministry had two major effects. Firstly, it resulted in the break-up of Loughborough College by creating out of its advanced technological departments a separate institution divorced administratively and financially from the other parts of the College. Secondly, the foundation of Loughborough College of Technology established the conditions for a later sequence of events of far-reaching significance. The Ministry commitment in 1952 to preserve advanced technological education at Loughborough was intimately linked with the subsequent decision in 1956 to designate the College of Technology as a CAT. Then in 1966, following the Robbins Committee recommendation that CATs should be given university status, the College was transformed into the University of Technology. If the advanced technological education provided by the old College had been closed down, which was the LEA intention if no financial arrangement had been made by the Ministry, it is virtually certain that there would have been no Advanced College and thus no University at Loughborough.

However, the events of 1952 which led to the dissolution of the old College have been the subject of considerable debate, certainly at the local level. It has been suggested that the unity of Loughborough College could have been maintained by the federal system, if a more suitable President had been appointed. But this view does not pay sufficient regard to a number of factors. Firstly, the federal solution itself was a departure from the system of organic unity which had been operated by
Schofield. Federalism created centrifugal forces which increasingly pulled the old structure apart. Secondly, once the LEA took the eventful decision to discontinue its financial support for the advanced technological departments, the fate of the old College lay essentially not with the LEA but with the Ministry.

The federal system had been devised by the LEA: such an arrangement proved unacceptable to the Ministry which required the full separation of the advanced technological function from the rest of the College. Thus the unity of the old College, already modified by the federal system, was finally ended by the Ministry's terms for agreeing to finance its higher technological work. In this respect, no matter how successful at operating the delicate federal machinery a different President might have been, once the LEA gave up its financial responsibility for the technological arm and the Ministry created a separate direct-grant institution, the old College would inevitably have broken up.

Nevertheless, the dissolution of Loughborough College involved the loss of certain features of educational significance. Firstly, it entailed ending the social mix of full-time students of different areas of study living in the residential halls. The insistence by the Ministry upon full separation between the direct-grant College and the LEA Colleges demonstrated, in this regard, more concern with administrative tidiness than with educational criteria. In that sense the Ministry view was less enlightened than that of the LEA which, in its federal scheme for the old College, had placed considerable emphasis upon the value of continuing a common residential policy. However, for the Ministry, when faced with having to save the advanced technological departments, the direct-grant mechanism proved to be the only appropriate solution to a difficult situation. If the
Ministry had not acted, then higher technological education at Loughborough would have ceased.

Although Ministry intervention did lead to a loss of social mix, this was of secondary significance given that the primary result was to keep in being all four main functions of Loughborough College. Furthermore, since the local part-time work of the old College had tended to be sacrificed to its full-time activities during Schofield's regime, the Ministry's separation of advanced from non-advanced technical education enabled the local authority to make a much fuller provision for local technical education in the post-1952 period. In the event this full differentiation of the functions of the old College (only partially allowed for in the 1951 LEA scheme) paved the way for renewed growth and development in all four areas: advanced technology, teacher education, art, and local further education.

A second disadvantage arising out of the break-up of Loughborough College was that it involved the disbanding of what had been in various respects a comprehensive post-school institution. The work of the old College ranged from full-time degree level courses to part-time lower level evening classes. This diversity and range of provision was a feature of some value. It provided, for example, an unusually wide range of educational and social opportunity for people in the locality. At the same time, it is clear that preference was given in Schofield's College to full-time advanced courses at the expense of part-time lower level work. Thus a hierarchic structure pertained within the institution itself. Furthermore, amongst the full-time courses there was a rank order: the advanced technological work was regarded as the most important element in the activities of the College. The LEA federal scheme itself explicitly recognised this primacy by providing that the President should be an engineer. Although
the dissolution of the old College did result in a more obvious hierarchic arrangement for separated colleges at Loughborough, with the direct-grant institution possessing a special position vis-à-vis the others, a parallel internal hierarchy had previously operated within the structure of Loughborough College itself. Therefore, it could be argued that the split in 1952 resulted in the formalisation of an already existing internal hierarchy.

The Ministry arrangement for a direct-grant college at Loughborough was not intended to establish a precedent for other colleges of technology. In the event, however, the financial and administrative methods employed to support advanced technological education at Loughborough came to have wider national implications, particularly after CATs were established following the 1956 White Paper.

It could be argued that the Ministry scheme for the direct-grant College was the final step in rationalising the activities of Loughborough College, to take account of the new developments in educational provision in the post-war period. The old College was an unusual institution which had been developed along particular lines by a highly individual Principal and had largely acquired its shape before the Second World War. In the inter-war period there had been less control from the centre and advanced technological departments had cost less to operate. With the post-war transformation of the structure and the cost of educational provision, the place of Schofield's College within the system posed an increasingly difficult problem. Nor was it desirable that his autocratic methods of administration should be perpetuated in the post-war climate.

The LEA federal scheme of 1951 went some way towards rationalising the activities of Loughborough College, though it failed to differentiate between its functions in advanced and non-
advanced technical education. The Ministry intervention in 1952 cut through the LEA federal arrangement to achieve a much more radical re-organisation. This succeeded in its main purpose: ensuring the continuance of the advanced technological departments, through financial provision from central funds, whilst the local authority continued to maintain what became the three LEA colleges. Given the justifiable unwillingness of the local authority to continue supporting costly non-local advanced technological departments, the 'direct-grant College solution' was arguably the only way of resolving the problem posed by the different attitudes of the central and local authorities. Despite certain shortcomings, such a policy did keep in existence the main functions of the old College: this provides its historical justification.

After 1952 the College of Technology grew increasingly apart from the LEA Colleges, partly because of its direct-grant status and also as a result of its policy of complete independence. Herbert Haslegrave saw little value in maintaining residual links with the other colleges through the Committee of Principals of the four institutions. Therefore this last device for maintaining a degree of effective contact proved abortive.

The separatist policy of the College of Technology can be justified in terms of the pursuit of its own objectives as an institution. The Principal seems to have felt that involvement with the LEA Colleges might have acted as a brake upon its progress towards becoming a leading technological institution. However, it can be argued that this was a somewhat limited view of the situation. Even a small degree of contact with the other colleges might have provided worthwhile benefits for the College of Technology (as well as the other Loughborough Colleges) not only in maintaining the sense of a common heritage but more
important by involving the College with other sectors of post-
school education outside the particular area of advanced tech-
nology. It could be said that the separatist view adopted by
the College of Technology helped to contribute to that somewhat
narrow interpretation of its function which later led its Aca-
demic Advisory Committee to propose new developments on a broader
front, including academic collaboration with the LEA Colleges.

In the development of the College of Technology, Dr
Haslegrave's strategy emphasised the importance of producing
industry-oriented technologists of a type different from those
educated in the more academic system of the established univer-
sities. There can be little doubt that in this regard his policy
was in accord with industry's assessment of its needs. This was
a view, moreover, which was increasingly shared by the Ministry
of Education as it became dissatisfied with the cautious response
to technology, particularly over the question of close co-
operation with industry, shown by the universities in the 1950s.

Given the Principal's view that the university approach to
technology was too academic, it was perhaps inevitable that he
should regard with some disfavour the nature of the London ex-
ternal degree. It was his conviction that the pursuit of an ex-
ternal degree, awarded by a university, would have a warping
effect upon what he regarded as the key institutional objective:
the education of practically-minded technologists with an under-
standing of the industrial environment. This view of technolog-
ical education was shared by other leading educationalists in
the field. Indeed, the Diploma in Technology, validated by the
NOTA, represented a deliberate attempt by the government, in as-
association with the technical colleges, to develop degree-level
courses which involved more intimate links with industry than was
the case with the conventional university degree course in
technology. Thus much of Dr Haslegrave's thinking was in congruence with the more progressive trends in advanced technological education. Nevertheless, one important question which arises is whether, in the period before the introduction of Dip Tech courses, it was desirable for Loughborough to dissociate itself from the London external degree system.

The Principal developed his College in the pre-Dip Tech period on the assumption that the correct strategy was to promote the College Diploma (DLC) as the main institutional award. This certainly enabled the College to pursue its own type of advanced technological education and removed it from 'university overlordship'. But the policy of dropping the London external degree had important weaknesses. Firstly, the DLC (though favourably regarded in industrial circles) failed to become a credible award at the national level. Secondly, since the DLC did not qualify holders to read for higher degrees, the research activities of the College remained in a retarded state. Thus it could be argued that the College of Technology paid a high price for dissociating itself from the London external degree.

The designation of the College as a CAT in 1957 soon led to a complete transformation of the institution. From a situation in which it operated under difficulties both with regard to financial provision and the recognition of its work, the College became part of a larger group of similar Advanced Colleges, all generously financed and able collectively to make a nationally recognised contribution to advanced technological education. The CATs were able to emerge as offering an alternative system to the universities in the field of technological education, especially in the development of sandwich courses and links with industry. The special place of the CATs within the public sector, and their major role in the development of the Dip Tech, contributed to a
period of rapid growth at Loughborough - as at other Advanced Colleges. Not only did CAT status lead to a major programme of capital expenditure to modernise the physical facilities of Loughborough College of Technology, but it also created the conditions in which the Dip Tech became the main institutional award. There can be no doubt that the Dip Tech was a fundamentally better qualification than the DLC: as such, it made a major contribution to raising the standards of work and the prestige of the College.

During the period of the CAT experiment, Loughborough made a valuable contribution through its emphasis upon the practical aspects of technological education. The approach of the College, with its unique Manufacturing Technology Centre, served to underline the problems associated with manufacture and cost. This applied view of technology was important in the development of the 'CAT concept' because it helped to balance any tendency to over-emphasise the scientific and mathematical aspects of technological education. In its stress upon the practical applications of technology, the College demonstrated its affinity with the ethos of the old College and Schofield's own outlook. Equally, it must be said that Herbert Haslegrave himself contributed powerfully to modernising the production-oriented approach at Loughborough.

Generally speaking, the Advanced College at Loughborough paid greater attention to the residential principle than other CATs. In this aspect of its policy, it was again unquestionably influenced by the heritage of the old College. But Herbert Haslegrave's College carried forward this commitment to the residential idea so that by 1966 it had a 'student village' and other halls on such a scale that it was the most residential of all the CATs. Fortunately for the College, it possessed ample physical space for expansion (another legacy of the Schofield era) and was also largely able to complete its building programme before the
subsequent enormous escalation of building and land costs. This emphasis upon residence at Loughborough helped to promote the residential idea in the CAT experiment, and demonstrated that non-university institutions of higher technological education could be as committed to the residential principle as the universities.

But the most important contribution to the development of the CAT concept by Loughborough College of Technology probably stemmed from its experience as a direct-grant institution. Since its inception in the pre-CAT period, the College had possessed this special relationship with the Ministry. As such, it had demonstrated the practicability of financing an advanced college of a non-specialist type directly through the Ministry of Education rather than the University Grants Committee. The general success of the Loughborough prototype was such that in 1962 all the other CATs were brought into a direct-grant relationship with the Ministry. Thus Loughborough acted as a useful model for the emergence of the CAT concept in the field of financial and administrative procedures. The experience of the College had further demonstrated the value of having an independent governing body, responsible not to the LEA but to the Minister. This constitutional device was applied to the other CATs when they achieved direct-grant status. Therefore in the important field of administrative and financial machinery, the example of the direct-grant college at Loughborough had a significant bearing upon the development of the CATs.

Direct-grant status did not, however, satisfy the CATs: they wished to be fully autonomous institutions able to award their own degrees. But the evidence submitted to the Robbins Committee by the CAT Principals suggests that they did not wish to become universities as such. Instead they aspired to become independent
chartered Royal Colleges of Technology, mainly concerned with higher professional education for industry and commerce. For his part, Herbert Haslegrave was deeply interested in transforming the Advanced College at Loughborough into an Institute of Technology of university rank, but outside the orbit of the UGC, and closely linked with industry. The Principal's concern with the development of such an autonomous technological institute was shared by other educationalists in the technological field. Moreover, as the Robbins Report showed, institutions of this type were to be found in many developed countries, for example in the United States and Switzerland. Compared with other countries, Britain was unusual in not having special technological institutions of this category. It was in this context that the Robbins Committee proposed the establishment of Special Institutions for Scientific and Technological Education and Research (SISTERS).¹

In advocating the creation of university-level Institutes of Technology, which were not universities as such, Herbert Haslegrave was proposing a similar development to that envisaged both by the Robbins Report and also by various prominent technological educationalists in Britain. However, as the fate of the SISTER proposal of the Robbins Committee demonstrated, such a scheme proved to be politically unacceptable. In the end, therefore, Haslegrave's concept of an Institute of Technology at Loughborough could not be reconciled with the political realities of the time. Furthermore, such a line of development was overtaken by events when the CATs were transformed into technological universities.

Thus in 1966 the Advanced College at Loughborough received its charter to become a University of Technology. Practically

¹. See Robbins Report, op. cit., para 383.
no one had foreseen in 1956 that such a development could take place — certainly not in so short a time. The conversion of the CATs into technological universities was one of the most remarkable episodes in recent British educational history and it had important consequences. Firstly, it set the seal upon the academic respectability of sandwich courses; secondly, it recognised the acceptability of close collaboration between university-level institutions and industry; thirdly, the CATs (with the NOTA) helped to extend opportunity in higher education by accepting for entry to degree-level courses holders of good ONC qualifications; and fourthly, the CATs strengthened the commitment to the application of knowledge as a fit purpose for university institutions. In these various fields, most notably the last, Loughborough College of Technology made a valuable contribution during the CAT period.

When in 1966 it became a university, it was clear that the institution needed to widen its spectrum of studies and to broaden its base. This had been recognised by the Academic Advisory Committee, which recommended a diversification of subjects studied beyond the rather narrow technological band in which it had developed. Since 1966 the University of Technology has succeeded in widening its subject-field, whilst preserving as much of its original orientation as is compatible with these more recent developments.

During the period from 1952 to 1966, whilst the direct-grant College progressed along the path which culminated in university status, the LEA Colleges also experienced substantial development. During the 1950s, Loughborough Training College was subject to steady evolutionary growth, within the context of John Bridgeman's by then well-established approach to teacher education. However, the Training College was not affected by any
major change of direction during this period. The Two Year Certificate continued to be the main institutional award, and the student population of the College remained all-male.

Although classified as a general college, in effect Loughborough Training College remained a specialist College, offering physical education and handicraft for men. Thus despite its growth during the 1950s, it retained much of the outlook and modes of operation which had characterised its work in the pre-1939 period. It could be said that Bridgeman was a believer in evolutionary growth. Such an approach was certainly suited to maintaining an efficiently-administered College, with well-understood objectives.

Nevertheless, equilibrium and continuity of approach were not the only factors by which the College needed to assess its role in teacher education. By the end of the 1950s, it became increasingly clear that the craft education in the College required radical revision if its students were to meet the needs of schools in a technological society. This necessitated transforming the College view of handicraft by drastically reducing the emphasis upon traditional craft skills. A new approach was required, based on a broader view of design education, which utilised technological materials and techniques. By the early 1960s the need for a re-definition of approach had become pressing. But, despite mounting evidence to the contrary, John Bridgeman remained unconvinced of the desirability for change. Thus the introduction of creative design at the College was left to his successor.

The Leicestershire Director of Education, Mr Mason, was well aware of the problems concerning craft education which had arisen during the final phase of Bridgeman's Principalship. It is a reasonable supposition that the Director stressed the importance
of change in this area when John Hardie assumed office in 1963. At any rate, the new Principal quickly recognised the need to introduce a creative design approach. But reforming the handicraft activities of the College was to prove a complex and protracted affair.

However, by the mid-1960s creative design was established at Loughborough, thus superseding the previous traditionalist handicraft orientation. Such a significant break in continuity of approach, though very necessary, co-incided with the introduction of the B.Ed. and its associated problems. Thus the College experienced a measure of disequilibrium at a particularly inappropriate time. This was the price which the College paid for continuing for too long with the Bridgeman view of craft.

The correctness of the Mason/Hardie assessment about the need to introduce creative design at the College was vindicated, in the academic sense, by the recognition of its creative design courses for B.Ed. purposes. The validity of the new approach was also borne out by the advocacy of the Newsom Report at the national level for broadening the base of craft education. But although by 1966 the Creative Design Department at Loughborough was in the van of the design education movement, it experienced numerous difficulties. In particular, it found increasingly that recruitment of students both in number and in quality was not an easy matter.

As a subject, creative design has been squeezed at both ends of its field of study. It has had to compete for students with the technologies as well as with art and design. Understandably, this has proved a very demanding situation. Thus creative design at Loughborough, as at the other colleges where this subject area is offered, has encountered real difficulties of student recruitment.
Nevertheless, schools need teachers in the field of creative design and craft education to organise such work, which is regarded by many leading educationalists as occupying a valuable place in school activities. A national problem exists in this area since the schools experience severe shortages in the supply of such teachers; and at the same time the Colleges of Education find it difficult to recruit students to train for careers in this field.\(^1\) If the existing situation does not improve, there seems to be a case for an official enquiry at a national level to try to find a solution to these difficulties.

By comparison with the very serious problems experienced in creative design, Loughborough's Department of Physical Education developed organically in the 1950s and 1960s within the framework of its existing approach. There was no fundamental disagreement about the core of the subject, either in the Bridgeman period or during the subsequent Principalship of Mr Hardie. Moreover, physical education at Loughborough continued to improve in the quality of its work and to demonstrate its strength in terms of student recruitment.

Some debate did develop about the physical education curriculum, particularly over the extent to which scientific aspects should be emphasised and whether greater attention should be paid to the aesthetic possibilities of the subject. But these issues remained peripheral and there was no abrupt break in the department's work. The effectiveness of its approach was demonstrated by the comparative ease with which its B.Ed. courses, both pass and honours, achieved recognition. Furthermore, the schools

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\(^1\) ATCDE statistics revealed that between 1971 and 1972 there was a 12.8% decrease in the number of College entrants with qualifications to undertake training in the Handicraft/Woodwork field. See 'The Times Higher Education Supplement', 8 December 1972, No. 60, p 24.
proved keen to recruit Loughborough's physical education students.

The introduction of women students in 1965 was a desirable development, both in making the College a co-educational institution and in involving it in primary as well as secondary school activities. In fact this represented the first real widening of the base of the College since the pre-war period: a development which was long overdue.

For Loughborough College of Education (as it was renamed) the implementation of the Robbins proposals brought both difficulties and new opportunities. The requirement of obtaining B.Ed. recognition was an important factor in finally making the College accept the need to modernise its craft education. Furthermore, once B.Ed. recognition of its practical subjects had been achieved, together with similar acceptance for its 'academic' subjects, the College experienced an important boost to its self-esteem and morale. In particular, it had at last obtained recognition as 'university subjects' of those two areas, physical education and creative design, with which historically it had been so closely associated.

The quality of leadership provided by John Hardie during the vital years from 1963 to 1966 was certainly important to the development of the College. Given the extent and the rapidity of the changes in teacher education at both the national and local level after 1963, Mr Hardie was confronted with a much more testing situation than had faced his predecessor. The implementation of B.Ed. courses, the re-definition of its craft work and the introduction of women students all occurred in the three years following Mr Bridgeman's retirement.

With the national changes wrought by the Robbins Report, and the need to solve the local problems which were a legacy of the Bridgeman era, it is understandable that Mr Hardie and Mr Mason
should have felt that the College was sufficiently transformed for it to require a breathing space. But although the introduction in 1965 of women students training for the primary schools led to a widening of the activities of the College, it was still rather narrowly-based. The 'crash programme' of the DES in 1965 for expansion in teacher education offered a further potential opportunity for diversification by the College: it did not, however, attempt to follow such a path.

The contention can be made that the College thus missed what might have been a good opportunity for further widening its base. Such a development might have provided the College with additional options to offset the difficulties it was to experience in the recruitment of students for Creative Design. If stronger 'academic subject' departments had been built up, this would have helped the College considerably when it later mounted both postgraduate Certificate of Education and in-service B.Ed. courses in academic subjects. On the other hand, it can be argued that the College needed time in the mid-1960s to assimilate the recent changes brought about by the introduction of women students and of Creative Design, and also that any more changes might have caused the College to lose its distinctiveness. In the light of considerations such as these, a policy of further diversification was not attempted. In 1966, therefore, the College was still a rather specialist institution and continued to be a general college of a rather unusual type.

The history of Loughborough College of Art between 1951 and 1966 centres chiefly upon its important contribution to developments in the area of applied art. In the 1950s the major impetus for this advance was provided by the Design Department, under the leadership of Edward Sharp. By concentrating its energies mainly upon the applied as against the fine art areas, the College was
able to use the NDD system—despite its limitations—to good effect. Thus by the beginning of the 1960s, through making rapid progress on a restricted front, the College was well placed to obtain Dip AD recognition in the two applied areas of Three-Dimensional Design and Textiles/Fashion.

The College of Art was unquestionably fortunate in being able to take advantage of the insight of a Director of Education who possessed a well-informed and sensitive view of art. Furthermore he was (through his membership of national art bodies) very well aware of the changing perspectives of official policies for art and design education. It might be said that Mr Mason established a general framework of ideas, and appreciation of national trends, within which the art college at Loughborough could assess its own institutional policy.

The emphasis at Loughborough upon applied art, and its comparative disregard for modern developments in fine art, meant that the College was somewhat narrowly-based. But given the relatively small funds allocated to the College in the pre-1963 period, it was generally sound strategy to avoid spreading resources thinly over a broad front. With the need for concentration of effort, and the propitious environment for applied art which Loughborough provided, Mr Sharp's policy of emphasising the applied art functions of the College proved justified at the time. It enabled the College to become one of the first group of art institutions to obtain Dip AD recognition. In the context of its modest size in the pre-1951 period, this was a very considerable achievement.

However, the policy of advancing on a restricted front entailed certain disadvantages. The College was largely uninvolved with the new developments which were taking place in the field of fine art. Indeed, the Principal had little sympathy for the
avant garde movement so that there were various areas of art experience with which the College at Loughborough had little contact. Thus important aspects of recent art were not effectively represented, and this contributed to a perpetuation of the College's somewhat limited interpretation of the functions of art and design education.

The development of the new Dip AD courses caused a feeling of creative enthusiasm at the College which contributed to a marked increase in its self-confidence. Furthermore, as with other art colleges, Loughborough quickly recognised the advantages of the Dip AD system over the previous NDD structure. The three year Dip AD course, in which students chose to concentrate upon certain broad areas of specialisation, provided a much wider and more liberal education in art and design than the over-specialised and fragmented approach which had characterised the NDD system. By 1966, when its first group of Dip AD finalists received their awards, Loughborough College of Art was clearly making a substantial contribution to the national provision of advanced art education, chiefly in the applied areas.

Between 1951 and 1966 the national pattern of higher educational provision was completely transformed. Before 1951 a traditional university scene predominated. With the exception of the University College of North Staffordshire, no new university institution was founded in the immediate post-war period. The establishment of the new universities was essentially a development of the late 1950s and early 1960s, beginning formally with the foundation of Sussex University in 1961.1 Opposition to the idea of a technological university was too strong to permit any

such development in the early 1950s. But in 1966 the CATs generally were being transformed into technological universities. Broadly speaking, the period between 1951 and 1966 witnessed a move away from the traditional university pattern to the subsequent foundation of the new universities and the later conversion of the CATs into technological universities. It was then followed after 1966 by an unprecedented expansion of the non-university sector of higher education, principally through the establishment of the new polytechnics.

The fifteen years from 1951 to 1966 witnessed great changes in the extent to which the government became involved in planning the provision of higher education. At the beginning of the period, as events at Loughborough in 1951-52 demonstrated, hardly any long-term planning from the centre was evident. Planning decisions, such as they were, tended to be of an ad hoc nature and largely taken under duress of circumstance. The 1956 White Paper on Technical Education represented a major breakthrough since it committed the government to making long-term plans. However, this planning tended to be concerned, in the first instance, with the problems related to ensuring an adequate supply of scientific and technical manpower. By 1963, although the Robbins Committee was able to discern three separate areas of higher education - the universities, the teacher training colleges, and certain of the colleges of further education - it did not feel able to describe what it found as a system as such.

By 1966, however, this situation had greatly changed. The government had moved to a position where it had elaborated what it intended as a system for higher education - the binary policy, which sharply differentiated the university and non-university sectors. Despite its contentiousness, this policy indicated how deeply involved the government had become in planning the whole
field of higher educational provision.

The effect of government policy-making, and of the growth of the planning functions of the DES, was to create in the space of fifteen years a wholly new environment for decision-making in higher education. Furthermore, the massively enlarged student numbers and the enormous cost to the public purse, together with government involvement, made higher education by the mid-1960s the subject of national debate in a way which had simply not existed at the beginning of the 1950s. One result of the enunciation of long-term national policy in this field was to create a situation in which it was much more difficult to undertake local educational initiatives. For such local plans might cut across national policy and thus establish, from the government point of view, undesirable precedents.

Few situations offer a better illustration of the effects of this growth of central control than those at Loughborough in 1952 and 1972. The local situation of 1952, in which the Ministry of Education undertook to create the direct-grant college, was a classic example of ad hoc decision-making brought about by circumstances. In the absence of long-term planning objectives, the decision did not involve questions of national educational policy in any direct sense. Thus a decision could be made relatively quickly, mainly within the context of the local problem, and without any national debate.

By 1972, when the three institutions for higher education at Loughborough proposed that they should amalgamate, the situation was radically changed. The government now had both a defined policy for the structure of higher education as well as long-term planning objectives. Therefore, the environment for launching a local initiative was quite different to the conditions which had pertained two decades previously. The 1972 Loughborough
amalgamation plan represented, in effect, an important test case for the government's binary policy. It was widely discussed at a national level, and other institutions watched to see how the government would respond. The resulting situation brought about a slow-down in the process by which a government decision could be made. It also demonstrated that local change could only take place if it was acceptable to the requirements of national policy. In short, local initiatives had been made considerably more difficult - though not necessarily impossible.

In the national provision of higher education between 1951 and 1966 a marked diversification occurred. In the non-university sector the creation of the NCTA in 1955 and the related development of the CATs after 1956 represented the first major steps forward. Then followed, in the university sector, the movement towards founding new universities, which represented a significant departure from the traditional methods of developing university institutions in Britain. In 1960, the Training Colleges started the Three Year Certificate, equivalent in duration to the normal undergraduate course, and in 1963 degree-equivalent Dip AD courses began in selected Colleges of Art. Not only did these developments increase opportunity for entry to higher education: they also contributed to a significant alteration in the balance between university and non-university provision. This latter trend was accentuated in 1964 by the setting up of the CNAA (the successor body to the NCTA) able to validate degree awards for public sector colleges at first and higher degree levels. The advent of the CNAA was of major significance since it ended the university monopoly of the power to confer degrees.

The introduction, in the mid-1960s, of the B.Ed. degree in Colleges of Education was a logical development stemming from the previous implementation of the three year course, which further
strengthened the position of the Colleges in the higher educational system. In 1966 a new phase began in the organisation of higher education in Britain, with the government's announcement of its plan to create polytechnics as the apex of the non-university sector. Thus the period between 1951 and 1966 represented an intermediate stage in the diversification of the post-war provision of higher education. In 1951 the traditional university-centred pattern still predominated. But after 1966 the binary system came into being, intended to introduce a measure of balance between the university and non-university sectors.

The great landmark in higher education of the years between 1951 and 1966 is the Robbins Report of 1963. It is an interesting comment upon the British penchant for pragmatic growth that this was the first major comprehensive survey of the structure of British higher education. The calibre of its membership, its unprecedented use of modern statistical analysis and the international comparisons it employed to support its findings, enabled the Committee to produce a Report which carried great authority.

In its general approach, the Committee accepted the diversification of higher education which had occurred by the early 1960s and also the need for further major expansion. In effect, it legitimised both these developments. Since the Committee broadly took a unitary view of higher education, it adopted a philosophy of 'upward mobility' for those institutions which had made, in its judgement, particularly noteworthy progress. In this respect, the Committee was impressed by the achievement of the CATs and therefore recommended their elevation to university status. When dealing with the Training Colleges, the Report

1. It is interesting to note that, whilst the Robbins Committee adopted a unitary conception of higher education, it nevertheless recommended the creation of the CNAA able to validate degree awards for non-university institutions.
adopted a somewhat parallel view: it recommended that (re-styled as Colleges of Education) they should be organically linked to the universities and that the new degree of B.Ed. should be created specifically for them.

In the field of advanced art education (except for the special case of the Royal College of Art) the Robbins Report made few important recommendations. This was largely because the NACAE and the NCDAD were already devising a new structure for the art establishments. But the Committee recorded its view that diplomas, rather than degrees, were generally the appropriate awards for advanced art education; and it applied this evaluation to the degree-equivalent Dip AD.¹

For the College of Technology at Loughborough the Robbins Report was a great turning point. The recommendation of university status for the CATs was soon to lead to the biggest transformation in the institution's history. With university status went full autonomy and degree-awarding powers. Thus the problem of the status of the Dip Tech was solved since it was converted into a degree in its own right; and the unsatisfactory nature of higher awards under the CAT arrangement was similarly dealt with by the introduction of the full range of higher degrees. Therefore, of the Loughborough Colleges, the greatest beneficiary of the Robbins Report was the College of Technology.

The Training College also derived considerable advantages from the Robbins recommendations. The most radical proposal — the creation of Schools of Education, organically linked with the universities — proved, somewhat predictably, to be politically unacceptable. So the Robbins Committee raised hopes for the

¹. The Robbins Report view of Dip AD contrasted rather markedly with the attitude it adopted towards Dip Tech, since it recommended that the latter should become a degree as such.
Colleges which were soon to be dashed. But its other major proposal for teacher education, the introduction of the B.Ed. degree, was successfully implemented. It made an important contribution to raising the prestige and the quality of work of the colleges, a feature which was clearly evident at Loughborough. Thus, although deriving less advantage from Robbins than the College of Technology, the College of Education was also a substantial beneficiary.

By contrast, Loughborough College of Art was largely unaffected by the Robbins Report. This was in some ways inevitable since (with the Coldstream and Summerson Councils already in existence) the Committee generally treated art establishments as somewhat peripheral to its enquiry. Understandably, the Robbins Report was not regarded in art circles as making a very positive contribution to the work of advanced art centres. Therefore of the three higher education institutions at Loughborough, the College of Art derived the least benefit from its findings. The greatest local effect of the Robbins Report was undoubtedly the transformation in 1966 of the College of Technology into a university.

In the post-1966 period, despite a marked shift in government policy away from the Robbins conception of higher education, the three institutions at Loughborough began to look towards re-establishing links. Since they shared a common heritage as well as the same campus, it seemed to them (and also to the local authority) that integration in the form of an enlarged university was the best solution both in providing the framework for new educational initiatives as well as for rationalising the provision

1. For an indication of the disillusionment felt in art circles about the Robbins Report, see the article by Corin Hughes-Stanton, 'Art Schools: Too Little, Too Late', SIA Journal, No. 144, February 1965, p 1.
of higher education in the town. Thus in the fifteen years between 1951 and 1966 the local situation at Loughborough witnessed a significant reversal in the trend of events. At the beginning of the period there was an emphasis upon fission which led to a pattern of independent developments by separated institutions. However, by 1966 (following the recommendations of the Academic Advisory Committee for the University to collaborate with the LEA Colleges) the first indications were evident of a move in the opposite direction. This development for bringing together again the local institutions for higher education gathered increasing momentum in the post-1966 period, culminating in the amalgamation proposals of 1972.1

1. At the time of writing, the outcome of the amalgamation proposals is uncertain. The long-term government plans for the education service (outlined in the 1972 White Paper) though broadly preserving the binary system for higher education, raise no objections, in principle, to the possibility of integration between some universities and colleges of education. See 'Education: a Framework for Expansion', Cmnd 5174, London, HMSO, para 154. However, the White Paper gives no indication of the government view of any proposed mergers involving universities and colleges of art.
Figure 3. Sketch map showing the location of the University and Colleges on the Loughborough Campus (1973).
APPENDIX A: BIBLIOGRAPHY

PRIMARY SOURCES

ARCHIVAL AND OTHER DOCUMENTARY SOURCES

I Leicestershire Record Office Here are kept the Governors' Minutes of Loughborough College (1909-52), the Governors' Minutes of the Loughborough LEA Colleges (1952-66), and also a set of scrap-books (mainly filled with newspaper clippings relating to Loughborough College) which belonged to Herbert Schofield.

II Public Record Office It holds various important files containing correspondence between the Board of Education and Leicestershire Education Authority concerning Loughborough College. (See especially ED 90/113-115.)

III Loughborough University of Technology
   a. The University Archives contain various important papers and documents relating to Loughborough College and more especially to Loughborough College of Technology, including Minutes of Heads of Departments' Meetings of the latter institution. Vice-Chancellor's Reports to the University Court and Council are also kept.
   b. The Registrar's Office holds the Governors' Minutes, Loughborough College of Technology (1952-66). The First and Second Reports of the Academic Advisory Committee are attached to these Minutes.

IV Loughborough College of Education
   a. The Registrar's Office holds numerous important files and records concerning the history of the institution. (See especially STU/10 vol 1; AR/G/10c vol 1; and AR/BC/2c vol 1.)
b. The Principal's Office keeps the Minutes of the College Academic Board.

c. The Library contains some documentary material, including old College calendars and prospectuses.

V Loughborough College of Art and Design

The Principal's Office holds the Principal's files (see especially the files 'Dip AD: Approval of Courses' and 'Statistics') and also the Minutes of the College Academic Board.

ORAL HISTORICAL SOURCES

Interviews and discussions were conducted with many individuals able through personal recollection to supplement, and give perspective to, the written sources. All the heads of the local institutions concerned (except Mr J. A. F. Divine, the former Principal of the Art College, who is deceased) were interviewed at length, together with many other members of academic staff. In addition, to help in obtaining a clearer interpretation of the national background, a number of prominent educationalists were consulted. The LEA point of view was also discussed through personal interview with the former Director of Education.

The most important interviews were conducted with the following people:


Mr J. W. Bridgeman, C.B.E., M.A., B.Sc., A.K.C., Principal of Loughborough Training College (1950-63) and former Chairman, ATCDE.

Mr. E. Sharp, A.R.C.A., A.S.I.A., Principal, Loughborough College of Art and Design (1960-).


Sir Peter Venables, Ph.D., B.Sc., F.R.I.C., Pro-Chancellor and Chairman of Council, Open University; formerly Principal, Birmingham College of Advanced Technology; former Vice-Chancellor of the University of Aston in Birmingham; and former Chairman, CAT Principals' Committee.


Significant discussions were also held with the following:

Mr. F. L. Roberts, J.P., B.A., former Registrar of Loughborough College of Technology and now Registrar, Loughborough University of Technology.

Mr. R. H. Gower, O.B.E., M.A., former Registrar, Loughborough College of Education.

Mr. D. R. Arthur, M.A., Academic Registrar, Loughborough University of Technology.

Mr. G. C. Knight, B.A., former Academic Registrar, now Registrar, Loughborough College of Education.

Mr. C. Browne, B.A., B.Com.Sc., Head of the Education Department, Loughborough College of Education.

Mr. L. R. Rogers, A.T.D., Head of the Three-Dimensional Design Department, Loughborough College of Art and Design.
Other members of staff of the three local institutions provided valuable information and assessments, particularly Mr J. Delin, B.Sc., P.G.C.E., Information and Publications Officer, the University of Technology; Mr R. Leek, M.Sc.(Eng), A.C.G.I., Department of Electronic and Electrical Engineering, University of Technology; Dr J. Waller, M.A., Ph.D., Head of the History Department, College of Education; Mr H. L. Widdup, M.A., F.R.G.S., formerly Head of the Geography Department, College of Education; and Mr S. Baker, Registrar, College of Art and Design.

On certain aspects of teacher education at the non-local level, Dame Beryl Paston Brown, D.B.E., M.A., formerly Principal, Homerton College, Cambridge and former Chairman, ATCDE, made some very helpful comments.

The responsibility for the interpretation of views expressed by those persons interviewed rests, of course, with the author.

GOVERNMENT AND OTHER OFFICIAL PUBLICATIONS

The DES Library, the DES Departmental Record Office and the libraries of Loughborough University of Technology and Loughborough College of Education were used for reading official material. There follows a list, classified according to the year of issue, of the more important government and other official publications consulted in the preparation of the thesis.

1944 'Teachers and Youth Leaders' (McNair Report), Board of Education.

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'Three Year Training for Teachers', Fifth Report, NACTST.

1957 'The Scope and Content of the Three Year Course of Teacher Training', Sixth Report, NACTST.
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The Diploma in Art and Design (Memorandum No. 1), National Council for Diplomas in Art and Design (NCDAD).
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<tr>
<th>Year</th>
<th>Event</th>
<th>Source/Report</th>
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<td>1962</td>
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<tr>
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JOURNALS, BULLETINS AND PAPERS

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Chemistry and Industry
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APPENDIX B

THE COLLEGES OF ADVANCED TECHNOLOGY AND THEIR PRESENT STATUS

<table>
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<th>College of Advanced Technology</th>
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<tr>
<td>Battersea College of Advanced Technology</td>
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<td>University of Bradford</td>
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<tr>
<td>Bristol College of Science and Technology*</td>
<td>University of Bath</td>
</tr>
<tr>
<td>Brunel College, Acton, Middlesex**</td>
<td>Brunel University</td>
</tr>
<tr>
<td>Chelsea College of Science and Technology</td>
<td>now a School of the University of London</td>
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<tr>
<td>Loughborough College of Technology</td>
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<tr>
<td>Northampton College of Advanced Technology, London</td>
<td>City University</td>
</tr>
<tr>
<td>The Royal College of Advanced Technology, Salford</td>
<td>University of Salford</td>
</tr>
<tr>
<td>Welsh College of Advanced Technology, Cardiff</td>
<td>University of Wales, Institute of Science and Technology</td>
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* Designated as a CAT in September 1960
** Designated as a CAT in April 1962