Above: HRH The Prince of Wales arrives to conduct the formal opening of Battersea Polytechnic on 24 February 1894.

Right: The Order of Proceedings issued to guests at the laying of the Polytechnic’s foundation stone on 20 July 1891.

Far right: Royal signatures commemorating the opening ceremony.
The origins of the University of Surrey go back to the foundation of Battersea Polytechnic in south-west London during the era of late Victorian educational expansion and reform. The Polytechnic opened on Monday 8 January 1894 in an imposing, self-confident new building on Battersea Park Road just south of the Thames and Battersea Park. The Polytechnic, one of nine established across London during the 1890s with some 30,000 students altogether, would, in the words of an appeal to local residents for donations, ‘provide a complete Technical and Recreative Institute for the people of Battersea, Clapham, and Wandsworth’. It would be a ‘noble Institution, where the Priceless Treasures of Art, Science, and Literature shall be within reach of all, and where all classes of the people may assemble to enjoy the pleasures of healthy recreation and pure and rational amusement’.

From the first it was clear that the Polytechnic was triumphantly fulfilling its ambitious purpose. A total of 115 classes were offered in sixty-four subjects, from natural sciences, mechanical engineering and building to art, commerce and languages. Of the 2,406 students who enrolled that January, more than half were aged sixteen to twenty-five and most came from ‘the poorer and artisan classes’.

A few weeks later, on Saturday 24 February, came the grand occasion of the formal opening. His Royal Highness The Prince of Wales (later King Edward VII) was greeted by cheering crowds as he arrived to perform the ceremony, accompanied by the Princess of Wales and two of their children, the Princesses Victoria and Maud. (This was the Prince’s second visit to the Polytechnic: two and a half years earlier he had laid the foundation stone of the new building.) The formalities completed, the royal visitors inspected the building and signed their names before departing. In the evening, recalls the history written to commemorate the Polytechnic’s tenth anniversary, ‘a Conversazione was held, and the whole building was thrown open to the public and inspected by some thousands of interested and delighted people.’ ‘And so,’ the history continues, ‘thus honoured and observed, began the public work of the Polytechnic.’
The origins of the polytechnics

The foundation of Battersea Polytechnic, and of its sister colleges in the capital, was the result of a characteristic Victorian blend of moral and utilitarian concern and of an equally characteristic combination of public and private activity.

The 1870 Education Act had established a system of elementary education to the age of thirteen. However, opportunities for children from poorer families to progress to secondary education remained almost non-existent. Radicals were already arguing against restricting the benefits of higher education to a narrow elite, while more conservative thinkers were beginning to realise the role of education in creating social stability. During the 1870s, Quintin Hogg, a London businessman and philanthropist, established the Young Men’s Christian Institute. This evening institute was designed to provide for, in his own words, ‘a young man’s development on all sides, educational, social, sporting and religious’. The new Institute proved so successful that in 1882 it moved to larger premises in Regent Street, at the same time adopting the title ‘Polytechnic’.

Britain was also undergoing one of its periodic bouts of gloom about its lack of scientific and technical expertise and the consequences for national prosperity. In 1867 Lyon Playfair (later Lord Playfair), a chemist turned educationalist, visited the Paris Exhibition and was appalled at the poor quality of the British exhibits: ‘France, Prussia, Austria, Belgium and Switzerland possess good systems of industrial education for the masters and managers of factories and workshops and... England possesses none.’ The case for technical education, hitherto an unknown concept, began to be made. In 1876 the City of London Livery Companies, which had traditionally been responsible for training apprentices, took initiatives to promote technical education, especially for ‘young artisans’. In 1880 the City and Guilds of London Institute was formed to set up an examination system in both traditional trade subjects and the newer industrial processes such as mechanical engineering and telegraphy. During the 1870s and 1880s several government committees advocated more systematic scientific and technical education. The most influential of these was the Royal Commission on Technical Instruction of 1882–85, which contrasted weaknesses in British technical education with increasing investment by Britain’s trading rivals, especially Germany.

Demand for a more knowledgeable and skilled workforce was especially great in London. By the 1880s the capital was expanding rapidly in both size and population; it was the biggest manufacturing centre in the entire country; its industrial base was increasingly diversified and highly specialised and skilled. Constantly drawing in migrants from the provinces, Ireland and overseas, London also had a ready supply of ambitious young men and women, eager to take advantage of technical training to advance themselves at work and so enhance their economic and social prospects. The late 1880s brought the start of a decade of determined expansion in technical education. Quintin Hogg’s Regent Street Polytechnic, and to a lesser extent the newly opened People’s Palace in the East End (later Queen Mary College), provided the models for new institutions that would blend what Margaret Bryant, historian of London education, described as ‘technical and recreative, vocational and ameliorative elements’.
Principals of Battersea Polytechnic

Top row from left: Sidney Wells, 1893–1907, and Sidney Rawson, 1907–15. Bottom row from left: Dr (later Sir) Robert Pickard, FRS, 1920–27; George O’Riordan, 1927–47; Dr Ralph West, 1947–57, Principal of Battersea College of Technology 1957–60. No photograph of Dr Frank Newman, Principal 1915–19, has been found.
Most of the money needed to set up the new Polytechnics came from two contrasting sources: the Church and, less directly, the drinks trade. The numerous tiny parishes of the City of London were flush with money originally intended for local poor relief. The City’s population had dwindled throughout the 19th century, displaced by new offices and institutional buildings; London’s poor no longer lived in the City. Many of the parishes themselves had vanished – three-quarters of one parish disappeared under the new buildings of the General Post Office, most of another under Cannon Street station. There was now no obvious use for the stockpiling parish funds. Progressive elements in the City and the Church argued hard that this money should be used to benefit all Londoners; conservative factions, especially among local church officials, resorted to every possible tactic to obstruct and delay the reforms, even after the necessary legislation had been passed. During the 1880s the Charity Commissioners, who had taken
over responsibility for the parish funds, committed most of them to polytechnic education, establishing the City Parochial Foundation in 1891 to manage the money. (The Foundation remained a major funder of the polytechnics; between 1891 and 1939 it made grants of some £2 million, more than 75 per cent of its funds, to polytechnics and similar institutes.)

Although the Technical Instruction Act 1889 had empowered county councils to levy a penny rate specifically to fund technical education, most were reluctant to do so. But now technical education received a boost from an unexpected source: new duties levied on the sale of beer and spirits, known popularly as ‘whisky money’. Uncertain what to do with this revenue, the Government hit upon technical education as a worthy and uncontroversial recipient, although councils were also permitted to use their allocation for rate relief. Initially the London County Council (LCC) favoured the rate relief option, but eventually, following two detailed reports, it allocated the revenue to technical education. The first report was emphatic about the importance of technical education:

_Wise and patriotic statesmanship should endeavour to encourage... the technical education of our workmen so as to enable England to maintain that manufacturing supremacy which has been in the past her main source of wealth and power. London, as the greatest commercial, and probably the greatest manufacturing centre in the world, is perhaps more interested in this matter than any other city of the Empire._

The second report, published in December 1892, led directly to the establishment of the LCC’s Technical Education Board, which was responsible for developing technical education (defined as ‘the whole field of general education minus literature and ancient languages’) across the capital’s secondary schools, technical institutes and polytechnics. The Board was never funded from the rates, but gradually absorbed more and more of the LCC’s allocation of whisky money.

By now the polytechnic movement was already well under way in London. Progress was much faster south of the river than north. The South London Polytechnics Committee was formed in 1887 to set up polytechnics at New Cross (now Goldsmiths’ College), at Elephant and Castle (Borough Polytechnic, now South Bank University) and at Battersea. The driving force behind the Committee was its Chairman, Evan Spicer, a Congregationalist philanthropist whose family owned the paper-making and stationery business of that name. Spicer persuaded many influential figures – the Archbishop of Canterbury, Lord Salisbury (the Conservative Prime Minister) and W E Gladstone and Lord Rosebery (successive Leaders of the Opposition) – to lend their support; subsequently the Prince of Wales agreed to become President. In January 1888 the Charity Commissioners accepted the Committee’s case for the three polytechnics and agreed to fund half their estimated cost. Six months later the Committee launched a public appeal for the outstanding £150,000 at a dinner at Mansion House. The Lord Mayor presided, and both Lord Salisbury and Lord Rosebery made speeches. The target sum was raised in just one year, with donations coming from City Livery Companies, banks and businesses.
A polytechnic in Battersea

In Battersea a local committee was formed to acquire a site and to raise funds. Initially the plan was for the Polytechnic to occupy the Albert Exhibition Palace. The Palace, a huge iron and glass structure originally built for the Dublin Exhibition of 1872, had been re-erected in 1885 in Battersea Park as a venue for exhibitions and concerts, but had rapidly proved a white elephant. This idea was soon rejected, and the committee decided instead to buy part of the Palace grounds and construct a new building fronting Battersea Park Road. In March 1891 E W Mountford’s design for the building (one of fifteen submitted) was accepted; three months later the Prince of Wales laid the foundation stone; builders were asked to quote for constructing the college buildings, and before the year was out the tender submitted by Messrs Holloway Brothers of Battersea had been accepted.

Two other milestones were reached in 1891. In June the Charity Commissioners’ Scheme of Management for the Polytechnic received official approval. This paved the way for a Governing Body to be appointed, and the first meeting was held on 22 October under the chairmanship of Edwin Tate. In June 1892 the Governors appointed Joseph Harwood, a schoolteacher, as Secretary, and in May 1893 they chose Sidney H Wells, who had previously lectured in engineering at Yorkshire College, Leeds, to be the Polytechnic’s first Principal. Many years later Harwood recalled the circumstances of Wells’s appointment:

He appeared to be very young when compared with the other candidates – he was only twenty-seven – and he was the only one without any University qualification, but he so impressed the Governors by his energy, earnestness and self-confidence that he was appointed... I remember that one of his testimonials stated, ‘He is an Engineer, and has all an engineer’s genius for overcoming difficulties.’

In the meantime, the funding required to build and run the Polytechnic was slowly being assembled. In March 1889 the Charity Commissioners offered an annual grant of £1,500, to increase to £2,500 once £60,000 had been raised from local sources. Two major benefactions made up half this amount: £20,000 from a Mr Andrew Guesdon, who had formerly lived on Clapham Common, and £10,000 from Henry Tate, the sugar magnate and patron of the arts and education; his son Edwin chaired the Governing Body until 1909. The local fund-raising campaign, which stressed that instruction would be ‘suitable to the industries of the locality’, brought in £6,164 16s. 1d. The tenth anniversary booklet called the efforts made by ‘the people of Battersea and the neighbourhood… an example of unique local enthusiasm and generous self-sacrifice’ that has ‘rarely been exceeded’. Among the many fund-raising events was a colourful ‘Polytechnic Bazaar and Fancy Fair’ on Wandsworth Common in October 1889, which raised £500. The fair was organised by the Bolingbroke Tradesmen and Rate Payers Club and was attended by thousands of people from across the capital.

The Governors had high aspirations for the new Polytechnic and were proud of the new building they had commissioned. According to the first prospectus, the aim of the architect was to:
produce something which might form a kind of oasis in the desolate waste of bricks and mortar, speculating builders’ houses of the worst kind, laundries, hideous factories and dreary railway arches, of which this part of Battersea principally consists... So far as the limited means at his disposal would permit, he has endeavoured to bring some beauty of form and colour under the daily observation of those who use or pass by the building.

The style was described as ‘distinctly modern – nineteenth century renaissance’. Ten statues adorned the front façade, representing Architecture, Sculpture, Painting and Engraving (in the west gable); Music and Poetry (the central gables); and Chemistry, Electricity, Mathematics and Engineering (the east gable).

The principal entrance hall was grand and spacious, rising to two storeys, with a ‘good enriched plaster ceiling’ and a glass mosaic floor made in Battersea. This was the entrance used by male staff and students. Beyond the hall, however, a functional style replaced ornamentation – ‘internally everything is necessarily plain, but strong and good... with an abundance of light and air everywhere, as much in the corridors and staircases as in the various rooms.’ Administrative and social rooms occupied the ground floor, lecture rooms, workshops and laboratories the rest of the building. The women’s entrance on the west side of the building led to separate women’s ‘Cloak, Social and other rooms’, including a gymnasium; the lecture rooms for the Women’s Department, which taught cookery, needlework and dressmaking, art needlework, laundrywork, millinery, and hygiene and first aid, were directly above on the first floor.

The early years

Battersea Polytechnic was founded, in the words of its Scheme of Management, to promote ‘the industrial skill, general knowledge, health and well-being of young men and women belonging to the poorer classes’. The course list for the first full academic year shows this aim being put into practice. Most of the courses were highly practical, and all were at a relatively elementary level: only a few of the Polytechnic’s students would have progressed beyond elementary education. So, for example, students attending the Principal’s Wednesday evening lectures on the ‘Strength and Properties of Materials of Construction’ studied the nature and properties of different woods, the strength of woods as ties, struts and beams, and methods of seasoning and preserving timber, before tackling similar topics in relation to bricks and stones, and iron, steel and other metals. Similarly, the ‘general scheme of Art instruction’ consisted of ‘a practical knowledge of Designing, Drawing, Painting, and Modelling especially in its various applications to Trades and Industries’. These ranged from building, decorating and painting through cabinet-making to pattern-designing for wallpaper, prints and woollen fabrics; special classes on ‘technical art’ – modelling, metal chasing, repoussé work – were also offered.

There were six Departments: Mechanical Engineering and Building Trades (headed by the Principal), Electrical Engineering and Physics, Chemistry, Women’s Subjects, Art and Music. Of the fifty-three teaching staff, only eight, including the Principal, were
employed full-time. Many taught elsewhere or were actively engaged in their trade; for instance, Mr A Searle, who taught a course in plasterers’ work, was manager of the Plaster Department of Veronese Ltd, and the two (male) lecturers in shorthand worked in the civil service. Most classes were given in the evenings, so that students could attend after a day’s work, and the building remained open until 10.30 pm six nights a week. Special day classes in geometrical and mechanical drawing and carpentry and joinery were held for ‘Apprentices and other young Artisans’; these led to national examinations set by the Science and Art Department and the City and Guilds Institute. Most classes lasted one hour, some two and a half. Charges varied between 2 shillings and 5 shillings per class per quarter. ‘In order to encourage students to follow a regular course of study’, a 20 per cent reduction was offered to students joining more than three classes – a major commitment involving several nights’ study each week.

The Polytechnic made genuine efforts to help students develop their ‘general knowledge, health and well-being’. In September 1894, just eight months after the Polytechnic opened, there were already clubs and societies for cricket, cycling, football, harriers, lawn tennis, rambling, chess, sketching, swimming and debating. The Debating Society was split into four sections: social, engineering and scientific, literary, and political. The reading room contained papers and periodicals, and in the common rooms (separate for men and women) ‘provision [was] made for bagatelle, chess, draughts and other games.’ Classes in drill and gymnastics were offered, and the two gymnasiums were open each evening. After the Great Hall was built in 1899, a committee of Governors and staff arranged regular and highly successful Saturday evening entertainments open to both students and the general public; the average attendance in 1902/03 was no less than 560. From 1900 onwards, there were regular Wednesday evening recitals, admission charge 1d, on the magnificent concert organ presented to the Polytechnic by Sir Henry Tate. According to the tenth anniversary history, although the audience seldom exceeded 100, the Governors considered the recitals ‘sufficiently valuable as a humanising and educative factor to justify their continuance’. Finally, there was a large refreshment room, ‘where students and staff can obtain almost anything, from a good square meal to a bath bun, and at reasonable prices’.

Discipline was strict. Students found themselves reported to the Principal for such infringements as cutting lectures or talking in the library. Smoking and dancing were forbidden, although regular dances were being held by the time the ban was formally lifted in 1932. The ban on the consumption of alcohol remained even longer, although another blind eye seems to have been turned in later years. In 1957, after the Polytechnic had been designated a College of Advanced Technology, alcohol was permitted in the College, although its sale was not allowed until some years later. Most stringent of all, in the early years at least, were the prohibitions on contact between men and women. Merely talking to someone of the opposite sex was a major disciplinary offence – although things were different in most of the clubs and societies, where ‘the men and women students meet on equal terms, the purpose being to facilitate rather than discourage the meeting of the sexes under conditions tending to their mutual well-being.’ Political and religious societies were also prohibited (officially at least) until 1961, despite protests by many generations of students.
During the day the Polytechnic’s facilities were used as a Technical Day School for Boys, a School of Domestic Economy for Girls, and a Training School for Domestic Economy. The Boys’ School (a separate Girls’ School was opened in September 1895) taught ‘a thoroughly sound and useful knowledge of the Applied Sciences and Technology’ in preparation for ‘the workshop and manufactory, or general trades’, and quickly established a high reputation; several pupils won scholarships to Oxford or Cambridge, and many gained posts as draughtsmen, analytical chemists, teachers and so on. The aim of the School of Domestic Economy, which was attended by girls aged thirteen to fifteen, was to ‘make “little housewives”’. Subjects taught included ‘Cookery, Needlework... Laundry-work and Housewifery’, and girls found jobs in dressmaking, domestic service, offices and shops. The Training School pioneered a full-time teacher-training course in ‘all subjects of Domestic Economy’ and included ‘instruction in the Theory and Practice of Education, and in Science work with Laboratory instruction’. Many of its graduates went on to teach in schools and technical institutes.

These activities enabled the Principal to employ more full-time teachers, to the benefit of the institution as a whole. However, Sidney Wells’s ambitions for the Polytechnic lay in a different, more academic, direction. According to Joseph Harwood, ‘Mr Wells foresaw the possibilities of the Polytechnic as a centre for Higher Education, and, while in sympathy with the social work [the more recreational courses], he felt that this should be subordinate to education.’ The 1896/97 prospectus offered University of London BSc courses in physics, mathematics, chemistry, botany and biology, and two years later the Physics Department stated that ‘as far as is consistent with the ordinary work of the Polytechnic, students can be admitted to the laboratories for the purpose of...
carrying out research or other special work.’ By the early 1900s, the Principal and seven other teachers had been designated ‘recognised teachers’ of the University of London, enabling them to teach courses leading to internal London University degrees.

All this was, admittedly, only a beginning. The vast majority of the Polytechnic’s students remained young men and women receiving training in practical, work-related subjects. However, the door had been opened for ordinary people who had to work for their living to study for a degree – at that time an almost unheard-of achievement. And the Polytechnic itself, in company with Goldsmiths’ College but unlike the Regent Street and Borough Polytechnics, was starting to set its sights on providing high-level education and training for the scientists and technologists required in the new century.

The Polytechnic’s tenth anniversary, on 24 February 1904, provided an occasion to look back with pride. In those ten years, four additions to the original building had been completed. The number of students had risen to almost 5,600, including some 600 day students; the Governors remained satisfied that ‘students were chiefly of the poorer and artisan classes’. Annual income had more than doubled, from £8,000 to £17,000, including substantial grants from the Board of Education and the LCC’s Technical Education Board and an increased endowment from the City Parochial Foundation. Another Prince of Wales (the future King George V), accompanied by the Princess, came to present prizes to successful students, assuring his audience that ‘we fully share the sympathy and interest hitherto displayed towards the Battersea Polytechnic by the King and Queen and other members of our family.’ And the commemorative Record of Ten Years (much quoted here), proclaiming the Polytechnic’s work as ‘a great instructive and humanising factor’, concluded by hoping that ‘the progress and success of its first decade may stimulate and lead to yet wider ideals and greater achievements.’

**Progress and consolidation**

Sidney Wells resigned in 1907 to become Director of Technical Education for Egypt, and his departure marks the close of the pioneering years: the Polytechnic was now well established as the major education and training institution for the people of south-west London. The story, inevitably less eventful, of the next decades is one of gradual expansion and a gradual concentration on more academically oriented work.

Subject transfers between institutions assisted this process. Battersea lost building to Brixton College of Building, and botany, zoology and geology to Chelsea Polytechnic, but gained engineering and, much later, metallurgy from Chelsea – both subjects in which Battersea and then the University of Surrey came to excel. Art, never very successful at Battersea – perhaps the general ethos was too scientific and technological – was also transferred to Chelsea in 1936. The Girls’ School was taken over by the LCC in 1909, the Boys’ School in 1918, and the School of Domestic Economy was closed in 1918.

New Departments established at Battersea included Music and Chemical Engineering. Music was much valued for its humanising influence - the regular Gilbert and Sullivan productions were very popular - and remains an important subject at Guildford. The Polytechnic pioneered evening lectures in chemical engineering in 1909 (for many years these were the only evening classes in chemical engineering in the UK).
Architect’s drawings for the new library
and started full-time undergraduate and postgraduate courses in the subject after the Second World War.

During the First World War, when student numbers declined sharply, the Polytechnic ran training courses for engineers and workers in munitions factories, and retrained disabled soldiers. Much other war work was also done - researching explosives, inspecting optical instruments and manufacturing shells, machine parts and tools. Lieutenant F H Johnson, RE, who had gained a first-class degree in engineering in 1914, was awarded the Victoria Cross in 1915; he was killed in action two years later. Twenty-eight other students were decorated.

Student numbers climbed to approximately 4,000 in 1920/21 (mainly because of the influx of returning servicemen), fell again to 3,000 in the mid-1920s, and then hovered between 3,000 and 3,200 until the Second World War. A survey of student occupations in 1926/27 showed that the largest single group was clerks (21 per cent); 18 per cent were engineers and 7 per cent were chemists and physicists. Most of these would have been attending evening courses, often for ‘intermediate’ qualifications, although some would have been studying part-time at a higher level. Nineteen per cent were classified as ‘students only’, i.e. full-time day students, most of whom were working for higher-level qualifications; their numbers increased slowly during this period.

It was the Chemistry Department, above all, that established the Polytechnic’s reputation for high-quality teaching and research. The way was paved by the appointment in 1920 as Principal of Dr (later Sir) Robert Pickard FRS, previously Principal of Blackpool Technical College and a consultant to the cotton and leather industries; his brief was to develop the academic side of the Polytechnic’s work. Pickard in turn recruited Dr Joseph Kenyon to head the Chemistry Department. Joseph Kenyon had joined Blackburn Technical School when Pickard was Head of Chemistry there, working as a laboratory assistant and studying in the evenings before winning a two-year scholarship to complete his undergraduate degree. Even before graduating he had assisted Pickard in his research and the two co-authored scientific papers. According to the Royal Society’s memoir of Kenyon, ‘what is now usually thought of as the Pickard-Kenyon method of resolving alcohols has been of enormous value to chemists.’

Joseph Kenyon headed Chemistry at Battersea for thirty years, and continued to supervise research students for another decade. The Royal Society memoir describes the research school that Joseph Kenyon formed at Battersea as ‘second to none as a source of fundamental and inspiring ideas’. Professor Alwyn Davies, who taught at Battersea from 1949 to 1953, describes him as a ‘superb experimentalist and an outstanding tutor: I think it is unknown, before or since his time, that a man of his calibre, an FRS, should be in a polytechnic.’ Even before Kenyon arrived, Henry Phillips (a former pupil of the Technical Day School for Boys) was doing important research under Pickard’s supervision. (Phillips, who went on to become Director of Research of the British Leather Manufacturers’ Association, later served as a Governor of the Polytechnic and chaired the Chemistry Department Advisory Committee.) Within a year of his appointment, three of Joseph Kenyon’s students had started full-time PhD research with grants from the Department of Scientific and Industrial Research, and Kenyon soon began to
Student life

Clockwise from top:
A women’s workshop, probably during the First World War; the engineering and paper-making laboratory; a male gymnastics team; a women’s gymnastics class.
undertake research projects for industry. Between 1922 and 1927 students in the Department were awarded thirteen PhDs and two DScs. Even more remarkable, over the years the Chemistry Department produced four Fellows of the Royal Society: Kenyon himself, Miles Partridge (a student at Battersea during the 1930s), and Professors Martyn Symons and Alwyn Davies (staff members during the early 1950s). In addition, Sir Harry Hookway, who concluded a distinguished career in science and information science as Chief Executive of the British Library, studied chemistry at Battersea and also taught there. In the words of Professor Mark Doughty (see page 182), who attributes his own distinguished scientific career to Kenyon’s guidance, ‘I am astonished at what those few square feet of bench produced in a lab that was dimly lit, cramped, badly serviced and ill equipped.’ No other Department achieved this level of research activity until well after the Second World War, although by the late 1930s the Engineering Department was undertaking some research. (Three further Battersea FRs are Professor Sir Alfred Pugsley, the distinguished structural engineer, who studied engineering at Battersea from 1920 to 1923, Sir Alec Issigonis (see page 186) and Professor Brian Eyre, who writes on page 197.)

The Polytechnic was compelled to exploit its cramped site to the full. The handsome, oak-panelled Edwin Tate Library, given by Edwin Tate to mark his retirement as Chairman of Governors, was opened in 1910; two years later he made another donation to fund books for the library and scholarships. Hygiene laboratories, funded by the Drapers’ Company, were built in 1912, and in 1929 the three-storey west wing was opened by the Princess Royal, who became the Polytechnic’s patron.

Most students lived at home. However, in 1910 the Polytechnic opened its first hostel, mainly for women students of the Domestic Science Training College, in a house on Clapham Common. Residents lived according to a rigid timetable. In 1911 The Battersea Polytechnic Magazine (which was first published in 1908) reported that:

The day in the Hostel begins with morning prayers at 7.45. Breakfast is served at 8 a.m. and by 9 o’clock the students have all left to begin their day’s work at the Polytechnic. By 4.30 p.m. the hum of student life is again heard in the hostel where tea is served till 5.30 p.m. This meal is made as informal as possible. The study room is available for study till 6.30, when the dressing bell rings, and at 7 o’clock dinner is served. After dinner students who wish to resume their study may do so, while others engage in social intercourse, music, and other occupations. At 10 o’clock all public room lights are extinguished and by 10.30 bedroom and cubicle lights are out...

On Sunday it is expected that each student shall attend a place of worship.

During the first year, the Magazine added, students from India, Holland, Canada, Scotland, Ireland and Wales, as well as all parts of England, were in residence: evidence of the Training College’s far-flung reputation. The first Warden, Miss Perry, ran the College’s hostels from 1910 to 1942; she imposed strict discipline, but all the same won the confidence of her girls. The Christmas party - attended by the Principal, the Warden and many staff as well as students old and new - was a highlight of the year: fancy dress, crackers, charades, musical chairs, with an excellent supper besides. By 1920 four more houses in the same block - an imposing mansion with wide views over the Common to
Social life

Above: The first Polytechnic rag day, 1919.

Left: The winning team in the women’s tug-of-war contest at the ‘outdoor fête’ held to mark the opening of the Polytechnic sports ground at Dulwich in 1910.

Right: Flyer advertising the annual sports day in May 1931.
the front and central London at the back – had been taken over, and, with the addition of another house nearby, 140 women students were in residence.

Sport flourished. Sidney Rawson actively supported non-academic activities, unlike Sidney Wells, his predecessor as Principal. Dr Pickard, a keen cricketer and badminton player, advised each new generation of students not to ‘let your studies interfere with your education’. A sports ground in Dulwich was rented in 1910, with dressing-rooms for both sexes and a pavilion. The opening was celebrated with an ‘outdoor fête’. There were tennis matches between Battersea and Borough Polytechnics, a cricket match between men and women students, Morris dancing, a one-act play, three-legged and sack races (both for ‘Gentlemen’ only) and a potato race for both sexes; in addition the ladies were invited to enter a nail-driving contest, the gentlemen a hat-trimming one. Mrs Rawson, the Principal’s wife, presented the prizes. After the First World War, the Dulwich ground became too small to accommodate the increased sporting activity. The City Parochial Foundation was persuaded to buy land at Merton Abbey near Mitcham and lease it as an athletic ground to Battersea and Chelsea Polytechnics; generations of students continued to use it until the move to Guildford.

Non-sporting clubs flourished too, though perhaps more fitfully. In 1914 there was a dramatic club, an engineering society, and three literary and debating societies. Nevertheless the Magazine complained that:

The majority of the students regard [the Polytechnic] in the light of a collection of class-rooms or workshops... So many simply pass through the entrance hall without even reading the notices concerning the various clubs, societies and functions which are organized in connection with the social work of the institution.

In 1931 the Magazine reported that the newly formed Dramatic Society ‘made a brilliant début in staging The Admirable Crichton... [but] not half the day students supported the production’. Other clubs reporting in the same issue were the Engineering Society, which made visits to industrial works and heard papers from students, and the Christian Union (which suggests that the official ban on religious activities was now being flouted).

The Polytechnic’s work continued relatively undisturbed during the Second World War. The Domestic Training College was evacuated to Shrewsbury in 1939, but returned in 1940 in time to lead the Food Education Campaign in Battersea, designed to improve nutritional standards. Later in the War the local ‘Londoners’ Meal Service’, which provided midday meals for the public, was based at the Polytechnic. During the Blitz evening courses were discontinued, but normal day and evening classes resumed in 1942. After a sharp fall in 1940, student numbers increased again, not least because of two scholarship schemes funded by the Board of Education to train young engineers. Although the railway hub at Clapham Junction, the marshalling yard at Nine Elms, and nearby industrial plants and power stations all made Battersea a prime target for aerial bombing, the Polytechnic received only three direct hits throughout the War. These did little damage thanks to the staff’s vigilant fire-watching, although blast damage from bombs and V2s landing nearby was considerable. In 1943 Battersea and Northern
Polytechnics combined to organise 3,000 London students to help bring in the harvest in Wiltshire; about 225,000 acres of corn were harvested. This was the largest scheme of its kind in the country, and was repeated in 1944 and 1945. The Domestic Science Training College produced a manual of recipes for harvest camps.

The Polytechnic’s golden jubilee in 1944 was marked by a lunch (cooked by the staff of the refectory and the Domestic Science Department) for forty guests. In the afternoon, The Polygon (the Polytechnic Magazine had been renamed in 1933) reported that ‘staff and students provided a Variety Entertainment of first class order to a large and appreciative audience. After tea had been served, dancing took place in the Great Hall, and a very happy day came to an end at about 10 p.m.’

**Art at Battersea was not a success. The decorous atmosphere in the art and life classes, left and below left, can hardly have suited Quentin Crisp, below, who studied at the Polytechnic for one term. There, he wrote in The Naked Civil Servant, his account of his life as an artist’s model and homosexual in inter-war London, ‘I had drawn a frog that the principal thought was a piece of drapery. I don’t think that I was taught anything.’**
My Time at Battersea...

Mark Doughty

1936-1951

I first entered the gates of Battersea Polytechnic in December 1936. I was just fifteen years old and needed employment to sustain me as an otherwise penniless Yorkshire boy on his own in London.

As you entered, you left behind the clatter of Battersea Park Road. It is impossible to convey how lively that road was, noisy with frequent trams and teeming with human life. North of the Poly were the sedate mansions overlooking the Park, the residences of the relatively rich. To the south were dozens of overcrowded streets where people eked out lives on the edge of poverty, seeking solace in roadside chitchat and in the innumerable local pubs.

Immediately to the left on entering the portals was a wooden kiosk, the abode of the hall porters, resplendent in dark uniforms with yellow piping and buttons, sometimes sporting polished top hats. They, of course, knew everything. Opposite the entrance were the stone stairs to the upper floors. Carved into them was the inscription Ars Longa Vita Brevis. Under the stairs was a narrow room – almost a cubbyhole – which housed the bookstore. In those pre-war days, textbooks were ridiculously few.

I was employed at first as one of several lab-boys in the Chemistry Department on the second floor. The pay was about 15 shillings a week. Mr Hall, the Head Laboratory Technician, instructed me on my duties: filling reagent bottles, setting up and clearing away apparatus for the labs, carrying up those stairs large drums of solvents. I asked who the Head of the Department was. Hall said he was Dr Joseph Kenyon, adding that, after my initial interview, I would probably not speak to him again. As things proved, he could not have been more wrong.

Most of the students then were evening students, who hoped to improve their position by studying after a hard day’s work. Full-time students were rare; even as late as 1948, the number of day students in their final Chemistry BSc year was around ten. University students needed lots of parental money behind them. The attraction of my job was that I was granted occasional time off for lectures without fee.

After some time I was obliged to transfer to Bedford College in Regent’s Park in order to earn an extra shilling or two. After the camaraderie of the Polytechnic, I was miserable in an institution where there was almost no contact with professors or even students. I was ready to give up London and return to work on the fish docks of Hull. Mercifully a letter arrived asking me if I would return to Battersea and become personal assistant to Dr Kenyon. I was stunned. Why me? He had probably learnt that I was hardworking and zealous, but I was certainly not brilliant and, moreover, had absolutely no organic chemistry under my belt – that branch of chemistry in which Dr Kenyon specialised. I returned to my digs in Battersea, and Dr Kenyon’s warmth and concern soon taught me to overcome my shyness and inexperience. It probably helped that he, too, was a northerner, and it certainly helped that he became for me, I now realise, a substitute for the father I had lost at eight years old.
Today all the chemistry laboratories would be condemned as death-traps. In the Research Laboratory, where I was now to assist for five years, there was only one inward-swinging exit door and no other way of escape from this upper-floor room. There was little equipment and little money for chemicals. We raised a cheer when Denis Duveen – a member of the Tate Gallery family – bought us, out of his own pocket, a small gas-burning bench refrigerator, which today would elicit only derision for its smallness. It is remarkable that the Research Director could produce good PhD graduates out of such limiting conditions, but such is genius.

Come the Second World War, the Polytechnic, though completely blacked-out, carried on with a reduced male population. Soon the fine railings and gates were dismantled for scrap metal, and dangerous chemicals were buried. Ten-foot-high blast walls were erected along the ground-floor corridor; between them were benches to seat staff and students whenever the air-raid sirens wailed. Firewatching was instituted, and a nightly rota of staff members donned steel hats and prepared to put out incendiary bombs falling on the roof. Buckets of sand were everywhere. Thankfully, there was no major damage, though an air-raid shelter across the street received a direct hit, killing all the occupants. Anti-aircraft guns roared on Clapham Common and falling shrapnel was always a hazard.

As a degree student in Chemistry, I was exempted from military service but, during the bleak time of 1941–42, I volunteered and began training as an RAF pilot. Returning after four years, I took my old job in the Research Laboratory. After gaining a BSc in 1949 and a PhD in 1951, I left the Polytechnic for good. It had been a true alma mater. Dr Kenyon died in November 1961; it would have pleased him to know that the indigent Yorkshire lad, whom he befriended, tutored and encouraged for fifteen years, ended his career as a Distinguished Professor Emeritus of a Canadian university.

Mark Doughty worked as a research chemist and chemistry teacher in Britain before moving to Canada, where he lectured at Concordia University, Montreal, from 1963 to 1996. He also served for three years as Principal of Lonergan College at Concordia University.

Most of the students then were evening students who hoped to improve their position by studying after a hard day’s work. Full-time students were rare.
One of the Polytechnic’s most distinguished students was Sir Alec Issigonis, FRS, who designed the highly popular Morris Minor and the Mini, its even more celebrated successor. Issigonis enrolled at the Polytechnic to study engineering after emigrating to London from Smyrna (now Izmir) in 1922. The maths elements of the course gave him some difficulty: he failed three times, and subsequently called pure mathematics ‘the enemy of every creative genius’. In this photograph of the tug-of-war at the Polytechnic sports day on 17 June 1927 Issigonis is third from the right.
The post-war years

The influx of returning servicemen, eager to study and to make the most of college life, transformed the Polytechnic’s atmosphere. John Salmon, who joined the Chemistry Department in 1948 (and subsequently became Head of Department and Professor, and Pro-Vice Chancellor of the University of Surrey), recalls the ex-services students:

_They were as keen as any I have ever taught, mature and enthusiastic, and they helped to turn the Polytechnic into a real powerhouse. It may have been congested and cramped, but the building hummed with energy from nine in the morning to nine at night. There was also a real sense of pride in the Polytechnic and in the Department among both staff and students. This was coupled with the staff’s real enthusiasm for teaching and research, which compared favourably with University College London, where I had studied as an undergraduate and for my PhD._

In 1947 *The Polygon* reported on successful sports, social and cultural programmes organised by the relevant Union committees. Social events in the Christmas term included three dances and a firework party. The Christmas Dance, it reported, was ‘the dance of the year... Cabaret, band, Christmas tree, amplifier, paper chains and evening dress all went to make the evening go with a swing’.

Pride in the institution was at least partly a legacy of the Polytechnic’s vocational and local ethos. It had been founded to offer education, and hence better employment prospects, to young people who would otherwise have been denied them. Staff were conscientious in their teaching and their pastoral care for students. But the institution was still somewhat uneasily split between relatively ‘elementary’ courses (e.g. for Ordinary National Diplomas, ONDs) and higher studies, with several Departments offering postgraduate courses and at least two, Chemistry and Mechanical Engineering, carrying out significant research. (And conditions for research were far from ideal. John Salmon considered himself lucky that, in return for teaching two evenings per week, he was able to keep one whole working day free for research. When he and his colleague Victor ‘Griff’ Griffiths (see page 55) came in to do laboratory work during the Christmas vacation, they had to work in coats and gloves; the LCC would not heat the building unnecessarily.)

The appointment of Dr Ralph West, Head of the Chemistry Department at Northern Polytechnic, as Principal in 1947 initiated an era of rapid change. Technological education was again becoming an issue of national importance, and the new Principal was determined to ensure that the Polytechnic took full advantage of the new opportunities. During the 1950s all the elementary courses were transferred to other institutions (not without disquiet from some teaching staff), and by the end of the decade Battersea offered only degree courses and courses leading to ‘diplomas of professional status’, i.e. recognised by the relevant professional institute. The number of day students also increased to some 900. In 1953 Dr West was able to make the bold claim that Battersea was ‘the foremost Technical College in the country for advanced level work’.

Part-time students had always formed an important element of the Polytechnic’s work. For many young people unable to stay on at school because they needed to earn a
living, part-time study, demanding though it was, represented their sole route to educa-
tional advancement, as Brian Eyre recalls (see page 197). Numbers of part-time degree
students gradually fell during the 1950s, not least because the revised London
University degree course introduced in about 1950 proved very onerous for part-time
students, and part-time degree courses were eventually closed in about 1960, although
courses leading to diplomas and professional qualifications continued to be run.

To increase the appeal of its courses - temporarily threatened by the LCC’s policy of
charging higher fees to ‘out-county students’ (i.e. those living outside the LCC’s bound-
aries) and by a decline in the number of overseas students - ‘sandwich’ courses were
introduced in 1955. These allowed students to spend a significant time gaining hands-on
industrial or professional experience. To begin with, there were two types of sandwich:
‘thick’ (two years’ study, the professional year, and a final year back at college), and ‘thin’
(a five-year course with six months each year spent at college, six months in industry).
Ultimately the ‘thick’ sandwich prevailed. The importance of this development in giving
both the Polytechnic and then the University of Surrey a distinctive appeal and in
equipping its students for the working world cannot be over-estimated.

Working space remained a perennial difficulty, especially since higher-level teaching
required more sophisticated facilities. A nearby primary school (the Chesterton Road
annexe) was colonised immediately after the War. The Domestic Science Training
College’s move (see below) released more space, and a new east wing was opened in
1954 by the Princess Royal, the Polytechnic’s patron. Even so, the problem was never
resolved. After he was appointed in 1958 to head the Physics Department, Lewis Elton
remembers hunting the building for space to accommodate his expanding Department:
a forgotten office full of old furniture was taken over and the ends of corridors were
turned into bite-sized offices - but ‘you had to make sure the desk was installed before
the door, otherwise you couldn’t manoeuvre the desk in.’ By the early 1960s the
Polytechnic was operating from five sites in Battersea and Putney, only two of which were
within a mile of each other. At many of them the accommodation was depressing, in
poor condition and unsuitable for teaching and research. Battersea itself was still a
heavily industrial area: Gordon Hartman, who joined the Polytechnic staff in 1963,
recalls leaving a sheet of white paper on his desk at the Falcon Road annexe (a former
furniture repository) and returning a few minutes later to find it sprinkled with black
dust.

When Manor House School on North Side, Clapham Common, became vacant, it
seemed ideal for the Domestic Science Training College, especially since it was close to
the hostels. Detailed plans were made for the Training College to move there, so freeing
urgently needed space on the main Polytechnic site for other departments. However, for
complex financial reasons, the Training College came under the direct control of the
LCC in 1948; until then, although it ran a number of teacher training colleges, the LCC
did not have its own Domestic Science College. Although Training College students
continued to use the facilities of the Polytechnic Students’ Union for a time, eventually
the two institutions went their separate ways. The Polytechnic continued to offer other
(non-teacher-training) courses in domestic subjects (still described as ‘for women’); in
1949, when the Domestic Science Department at Chelsea Polytechnic closed, staff,
The Polytechnic’s Chemistry Department was an early centre of academic excellence. In this remarkable photograph, dating from the early 1950s, appear one current Fellow of the Royal Society, Dr Joseph Kenyon (front row, fourth from left); two future FRSs, Alwyn Davies and Martyn Symons (back row, third and sixth from right); and two future Pro-Vice-Chancellors of the University of Surrey, V S (‘Griff’) Griffiths and John Salmon (front row, second and third from right). Dr Kenyon had recently retired as Head of Department, but remained a very active researcher. His successor, Dr F R Goss, is on his left.

Staff–student cricket match, summer 1948. The staff umpire (back row, far right) was Dr West, the Polytechnic’s Principal. H Arrowsmith (second row, second from left) was the Polytechnic secretary and clerk to the Governing Body. Third from the left in the front row is Dr G A H Elton of the Chemistry Department; he left the Polytechnic to run the Baking Research Association and later returned to the University as Visiting Professor in Biochemistry.
students and equipment all transferred to Battersea. By the early 1950s a fully fledged Department of Hotel and Catering Management had emerged, with higher entry qualifications. The Department soon won a good reputation in the industry, which had previously relied on hotel schools with a narrower curriculum. A silver-service training restaurant (which served *haute cuisine* meals to visitors and staff) and a complete reception area were built to give students practical experience. Students learnt housekeeping skills - such as laundry, bed-making, ironing and fabric preservation - in a purpose-built flat with sitting-room, bedroom, kitchen and bathroom. Sue Walton, a student from 1954 to 1957, recalls that the cookery curriculum required students to spend their first year acquiring the basic culinary skills - sauces, stocks, game - in the practice kitchen; not until the second year were they permitted to cook for the restaurant’s guests. She also recalls the warm atmosphere in the Department (to begin with there were only forty students in each year) and in the Polytechnic generally: ‘You soon got to know almost everyone and enjoyed the social atmosphere in the college.’ Organising black-tie dances and balls became an informal part of the curriculum (as it remains at Guildford for students of the successor School of Management Studies for the Service Sector).

In 1954 the first of many International Evenings was held, a tradition that persisted in Guildford for many years. For the 1955 Evening, according to *The Polygon*, the Great Hall was teeming with ‘people of many races, with multi-coloured complexions, with a hundred different national costumes and a babel of languages’. The countries represented were Hungary, the West Indies, the UK, Vietnam, Iraq, Nigeria, India and Poland.
My Time at Battersea...

Ernest Littauer

1954–1961

I entered Battersea Polytechnic in 1954 to study mechanical engineering, later transferring to metallurgy. We had a series of excellent lecturers who were always willing to give their own time and provide the tutoring needed to ensure that we would succeed. Their first priority was teaching rather than their own research interests. This personal attention, and a frequent requirement that we stand up, go to the board and explain recondite matters, made us quite confident in ourselves.

The location of the College was admirable. We abutted Battersea Park and I recall that virtually every day when the weather was clement I would walk around the park with colleagues admiring the flowers and talking about our studies. These interactions were extremely useful. Many graduates so liked the environment that they stayed on for their advanced degrees, notwithstanding offers from other universities. I was invited to study for my PhD at Cambridge, but I felt such loyalty to Battersea that I never seriously contemplated leaving. This turned out to be a good decision. My research adviser, Dr Lionel Shreir, Reader in Corrosion Science, subsequently arranged an introduction for me to Lockheed Aircraft Corporation in California for whom he was consulting. I was hired by Lockheed in 1963. The confidence instilled in me by my supportive instructors and the debating practice I received at the College and earlier at boys’ school served me well. I found that US engineering graduates were often not as comfortable as I was in giving technical presentations to management or customers. My British accent seemed to give me an aura of respectability!

Battersea was known for the high-spirited nature of its students. We had annual rags and cordial relationships with many other institutions. As part of our high jinks, we would raid other colleges to purloin their mascots. I participated in such raids on Chelsea Polytechnic, Imperial College and Northampton Polytechnic, but with only moderate success.

I was a member of the college Entertainment Committee. Our social programme was extremely popular. The annual International Festival was a highlight. Representatives of our polyglot student population performed national dances and other acts, enabling us to get a feel for the cultures of Africa, India, China, the Middle East, Australasia and Europe. Students from all over London attended these special events. We held monthly hops with good dance bands and jazz groups. Sometimes we arranged all-night jazz hops. These functions were always very popular and people would queue to get in. Alcoholic beverages and food were served in the College and at the pub across the street. Although at Battersea there were more male students than female, we never lacked women at these functions – we specially invited students from the all-female colleges, i.e. Royal Holloway and Bedford, and of course from Manor House Training College. The college administration was always supportive of these activities.

After leaving Battersea, Ernest Littauer spent thirty-three years with Lockheed, becoming Vice-President of Research at Lockheed Martin Missiles and Space Company.
The Polish University College

The Polytechnic’s academic standing - in terms of staff, students and equipment - was boosted when it took over the Engineering Departments of the Polish University College (PUC) in 1953. The origins of the PUC went back to 1942, when the Polish Government-in-Exile formed the Commission for Higher Technical Education to train the scientists and technologists who would be needed to reconstruct Poland after the War. Great-power diplomacy intervened, Poland fell into the Soviet sphere of influence, and only a handful of the Polish refugees in the UK ever returned home. (Poland’s Communist regime regarded anyone who had sought refuge in the west with the greatest suspicion.) In 1947 the Commission, which had taught Polish curricula, was replaced by the Polish University College. The PUC was made responsible (by Act of Parliament) for preparing students – mostly ex-servicemen, together with some students leaving Polish secondary schools in Britain - for external University of London degrees; total enrolment was limited to 1,180.

The last PUC students enrolled at the start of the 1950/51 academic year. In 1951 it was agreed that in 1953 the remaining PUC engineering students (the PUC taught civil, mechanical, electrical and chemical engineering) would transfer to Battersea; the Polytechnic would also take over the PUC’s building in Putney and its equipment, and employ some of the teaching and technical staff. The PUC’s Departments of Architecture and of Economics and Commerce were dissolved.

The PUC achieved much in its short life. Academic standards were high, and students were enthusiastic to learn. Many of the senior staff - all of whom, except in the service Department of English, were Polish - had taught at Polish universities before the War. There were some distinguished scholars among them, including Professor Z Klemensiewicz, who had invented the glass electrode in 1908, and postgraduates and staff undertook research. Many of the students were in their mid-20s, some in their early 30s; all were confronting life in a new country where they were determined to make their mark, and virtually all found jobs in their chosen profession, although mostly outside Britain; British industry and institutions did not readily offer jobs to foreigners. Students were taught in Polish during their first two years (those who had served in the 2nd Polish Korps in Italy had only recently arrived in England and most had little or no English), and thereafter in English. Although London University curricula were followed, some features of Polish university teaching was retained. The most notable of these was the degree thesis: each undergraduate had to carry out and write up (in English) a research project during the final year. The Polytechnic adopted this practice in the late 1950s for Diploma in Technology students (see page 195), and for some degree courses as well.

The PUC was housed in eight buildings scattered between Knightsbridge and Putney. Staff and students built the laboratories and installed the equipment themselves. Dr Stan Portalski (a PUC student who subsequently taught there and at Battersea and the University of Surrey) recalls that the equipment was ‘just as sophisticated as that available at Battersea’. Russell Tailby, who taught chemical engineering at the Polytechnic (and subsequently became Professor at the University of Surrey),
was the first staff member to come into contact with the PUC. Impressed with its facilities, he alerted the Principal, Dr West. In Russell Tailby’s words, he was ‘never a man to let the grass grow under his feet’ and moved quickly to seize the opportunity to acquire staff and equipment for the Polytechnic.

There was considerable resentment that only eight academic staff and some fifteen technicians were taken on at Battersea. The Polytechnic gained considerably from their presence, and later attracted other academics of Polish origin to join the staff. One of the most distinguished of these was Z S Makowski, who, having studied at the PUC and taught there and at Imperial College, became Head of the Department of Civil Engineering at Battersea and then Dean of the Faculty of Engineering at the University of Surrey. An international expert in space structures, Professor Makowski founded the University’s Space Structures Research Centre.

One PUC lecturer who did transfer to Battersea and then to the University was Henryk Zygalski. Not until well after his death in 1978 was it revealed that he had been one of the trio of brilliant young mathematicians who in 1932, while still students, had set to work in Warsaw to break Germany’s Enigma code. Zygalski’s particular contribution was to devise a new method of breaking the code using perforated cards, after the Germans altered their enciphering procedure in 1938. Fleeing the German invasion of Poland in 1939, Zygalski eventually reached Britain via Spain in 1943. He never resumed his work on Enigma but without Zygalski and his colleagues Jerzy Rozycki and Marian Rejewski, Enigma might not have been broken – and we can only speculate at the possible consequences for the course of the Second World War.

**College of Advanced Technology**

In February 1956 the government announced that it planned to create new Colleges of Advanced Technology (CATs) that would teach advanced technology to university standard. Battersea Polytechnic was quick to seize the opportunity, and its name was among the first eight recognised later
A class on reception work in the Hotel and Catering Department’s purpose-built reception area in December 1955. The lecturer is Rik Medlik, who had just joined the Polytechnic staff. He went on to become Professor and Head of Department, and remains Emeritus Professor of the School of Management Studies for the Service Sector.
that year. The official change of status took place in June 1957. (Although Battersea was now designated a College of Advanced Technology, the Governing Body decided to drop the word ‘Advanced’ from the College’s title. One Governor, the Labour MP Austen Albu, who was also a professional engineer, argued forcefully that there was no such thing as ‘advanced technology’, and carried the day.)

CAT status represented far more than a new name. The College’s academic standing was both recognised and boosted, for the remaining non-advanced courses were gradually dropped. Staff who were engaged in research had their teaching commitments relaxed. The post of Reader was introduced in order to attract experienced researchers to the College. (It is worth noting that Polytechnics were not permitted to create professorships; nor were CATs until 1961. Thus even so eminent a chemist as Joseph Kenyon remained Dr Kenyon all his life.) The composition of the Governing Body was changed to include representatives of industry and of other education authorities besides the LCC. The LCC was required to charge the same fees to all students, thus ending the discrimination against ‘out-county’ students; since the LCC’s boundary was only a few miles away – for instance, Croydon, Wimbledon and Kingston, easy train journeys from Battersea, all lay outside the LCC area – this was of considerable importance. Government funding became available to improve laboratories and library and study facilities, and also to build new student residences.

Equally significant for Battersea was the introduction, at the same time as the CATs, of a Diploma in Technology (Dip. Tech.). This had degree status, but its practical orientation was designed to equip students for a career in industry. The College was already offering diploma courses, and so was well placed to adopt the new Dip. Tech., although the number of Dip. Tech. students was always lower than those studying for a degree. Dip. Tech. students were also required to write a final-year thesis.

Research now began to play an increasingly important role in the College’s outlook, strongly encouraged by the Principal. When Lewis Elton arrived from King’s College, London, to run the Physics Department in January 1958, research activity in physics was almost non-existent; the Department had won its first-ever research grant from industry (for £500) in July 1957, and had admitted its first full-time research students in September that year. Lewis Elton recalls that:

*As Head of Department, I was allocated a large laboratory, while the rest of the staff had to crowd into a single room. Ironically, as a theoretical nuclear physicist, I didn’t need the space in any case, and was happy to hand it over to my colleagues.*

Ten years later, the Department had trebled the number of staff to forty postgraduate students, and had won international recognition for its work. Other departments engaged in research during the 1950s included the engineering disciplines (mechanical, civil and electrical) and metallurgy. However, it was not until the late 1950s, when a number of new Heads of Department were appointed, that the research momentum really began to develop.
At about this time the College introduced 'liberal studies' for all students: about three hours' teaching each week, including a weekly lecture in the Great Hall by an external speaker, in subjects outside students' main disciplines. This was a compulsory part of Dip. Tech. courses – departmental stewards used to stand at the entrance of the Great Hall to 'clock in' students - and degree students were strongly encouraged to attend. The aim was to help students develop an understanding of the broader social context in which they would be following technological careers, and also to foster their personal creativity. Liberal studies, later known as General Studies, remained an important feature of the University of Surrey until the 1980s.
My association with Battersea Polytechnic began in 1951 when I started an Ordinary National Certificate course in metallurgy at Wandsworth Technical College. This was linked to the Higher National Certificate course at Battersea which I studied from 1955 to 1957. At this time only a small proportion of children went to grammar schools and a few per cent to university. All of us on the National and Higher National Certificate courses were working full-time as apprentices and technical trainees – the part-time courses provided an alternative route to professional qualifications. They involved a major commitment over a number of years. I travelled from my home in Northolt to Wandsworth and then Battersea for two half-days and three evenings a week over five years. I also had a full-time job. The same was true of everyone on the course, and I remain very impressed with all my fellow students who stuck the course out. I give this background as it is an important part of the culture and atmosphere at Battersea at the time.

Another important factor was the quality and commitment of many of the teaching staff at Wandsworth and Battersea. In the Metallurgy Department at Battersea new horizons opened. There was a much bigger group of students, and for the first time we encountered academic research, with several lecturers leading research groups. The Head of the Metallurgy Department was Lionel Derry, who had many irons in many fires and a reputation as a wheeler dealer. But he did a great job in establishing the Department as a major force at Battersea. I was particularly grateful to him for providing the opportunity to stay on as a full-time student on the new Dip. Tech. course in metallurgy. I and my fellow students (all four of us) were among the first to take this course.

Becoming a full-time student opened up further horizons. For the first time I could get more involved in life at Battersea. Initially those of us who had been part-time and highly focused for many years found the transition quite difficult. During my first year my tutor Jim Moore told me to ease up and spend time reading and getting involved in other things. I also noticed a hierarchy among the students. One group appeared to spend most of their time playing bridge, some making quite a lot of money. Then there was the 53 Club, which at the time was a sort of secret society. One had to be chosen and it was rather exclusive, which caused some resentment. I am glad that this attitude was abandoned and the 53 Club now provides a very valuable channel for ex-students to maintain contact.

Forty or so years on and having had a varied career, I look back on the training I received at Wandsworth and Battersea very positively. Some of the lectures in both the Higher National and the Dip. Tech. courses exposed us to the frontiers of the subjects, for example in corrosion science (Lionel Shreir) and advanced physical metallurgy (Peter Miodownik). These and other courses pointed me towards wanting to do research, and since then I have been directly involved in my own research or in leading research groups and organisations. It is good to see today that the legacy of Battersea is a successful Materials Department in a thriving modern university that has established its own distinctive style.

Forty or so years on and having had a varied career, I look back on the training I received at Wandsworth and Battersea very positively.
Towards a university

With the benefit of hindsight, it is clear that CAT status represented a somewhat awkward halfway house. In some respects by the early 1960s the College was a university in all but name. In the 1960/61 academic year, most of the 1,171 full-time undergraduate students were reading for a degree or a Dip. Tech., and there were well over 100 postgraduate students. There was little doubt about the quality of the students; Lewis Elton remembers that ‘when I arrived I found no significant difference between the students at Battersea and those I had been teaching across the river at King’s College.’ And increasing residential provision (two new halls of residence were opened in 1961 and 1966) was helping the College to attract more students from outside its traditional south-west London catchment area: in the early 1960s well over 60 per cent of students came from outside the LCC area, compared with about 5 per cent in the 1920s.

However, the buildings – especially the laboratories and social facilities – were, to quote Lewis Elton again, ‘appalling; there is no other word for it’. The Principal commented that: ‘Overcrowding is very bad indeed, and it says much for the loyalty of the staff that there is so little trouble.’ In 1961 only about 10 per cent of the teaching staff were ‘recognised’ by the University of London, although the proportion was increasing steadily. And there were still considerable constraints on the College’s freedom of action. While the LCC had given up its former close involvement in the College’s affairs, the Principal still had to request approval for many decisions on staffing, equipment and so on. (From 1962 onwards CATs were directly funded by the Department of Education and Science, so at least this situation improved.)

Ralph West retired as Principal in 1960, and was succeeded by Dr D M A Leggett, previously Reader in Mathematics at King’s College, London. It required a new leader to identify the opportunities inherent in the College’s somewhat ambiguous situation. Peter Leggett (as he was always called) did so brilliantly. He also transformed the management of the College from what J W Wakely, chief accountant at Battersea and then at Guildford from 1953 to 1977, described as a ‘benevolent autocracy’ into a ‘kind of democracy’.

Within a month of his arrival, Peter Leggett presented a paper on the ‘future development of the College’ to the Governors. For the most part the document was concerned with future expansion in Battersea. Explaining the factors that ‘will tend to increase the number of students wanting to study science or engineering at a university or CAT’, Peter Leggett proposed that the maximum number of full-time students at Battersea should be fixed at 2,000. To accommodate this increase and relieve the existing pressures on space, a 2.5-acre site to the west of the College should be acquired. However, the paper also argued, as if in passing, that:

*if the size of the College is to be increased beyond 2,000 full-time students, consideration must be given to the transfer of the College to a completely new site. Moreover, if such a move is to be made, the decision to do so must be taken at once.*

A year later Peter Leggett returned to his theme. The possibilities, he argued, were to expand the present site by compulsory purchase – unlikely, since local opposition had
already prevented the College taking over a temporary building in Battersea Park; to move to a bigger site within London; or to move to a larger site still (at least 100 acres) probably outside London and ideally south of the Thames so as to maintain some local links.

This was exactly the right time to push for a move, and for university status as well. The ‘plateglass’ universities (Sussex, East Anglia and so on) were already being planned. The Government was willing to commit to substantial expenditure on higher education. And when the Robbins Committee reported in October 1963, it recommended a major expansion of higher education, including the upgrading of the CATs to Technological Universities, with an additional 3,000 to 5,000 students per institution.

Events moved increasingly fast. After opposition from some Governors had been overcome, the Governing Body agreed on 10 January 1962 to look for a new site, and set up a Development Advisory Committee. The Committee considered sites at Crystal Palace, Harrow, Stevenage, Guildford, Hammersmith, Epsom and Barnes; sites in Croydon, Bracknell and Cornwall were also offered to the College. In the end, the choice lay between Barnes and Guildford, and less than four months later, on 2 May, the choice fell on Guildford. The town’s advantages, from the College’s point of view, were that it was near south-west London and close to several important research institutes, had a single site available, was surrounded by attractive countryside, and was at least reasonably enthusiastic about the prospect of a university. Now the Governors approached Surrey County Council about finding a suitable site in or near the town. Lengthy discussions and consultations in Guildford followed (see page 16), and on 28 February 1964 a meeting between College officials and local authority representatives resulted in agreement on the move and on the site for the new university. During this crucial period for the embryonic university, the Robbins Report was published (see page 20). On 14 May 1964, the Government announced that it agreed to the proposed location and that, subject to planning permission being obtained, it would be ‘prepared to provide resources for this development as part of the programme for the expansion of higher education’. In 1965 the Queen was formally petitioned for the grant of a Charter and the establishment of the University of Surrey, and in August 1966 the University of Surrey Act was passed.

Finally, on 9 September 1966, the Grant of Charter formally established the University of Surrey, and the new name was erected on the portico. After seventy-two years Battersea Polytechnic had ceased to exist. Its ideals and aspirations and its commitment to learning would now be taken forward by the new University of Surrey.
Enjoying the Charter Ball given to mark the grant of the University’s Royal Charter. In the centre are Mr and Mrs Sidney Rich. Sidney Rich chaired the Governors at Battersea from 1952 to 1966, and served as the University’s first Chairman of Council from 1966 to 1975.

The first Executive of the University of Surrey Students’ Union. Clockwise from top left: Sumil Das, Vice-President; David Varney, President; Chris Chambers, Deputy President; Tony Riley, Sports Vice-President; Maddy Lowe, Secretary; Bob Simpson, Entertainments Vice-President.