



Blue Plaque Guide

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Foreword

Across the main entrance to the Aston Webb Building, the historic centre of our campus, is a line of standing male figures carved into the fabric by Henry Pegram.

If this were a cathedral, they would be saints or prophets; but this is the University of Birmingham, and the people who greet us as we pass through those doors are Beethoven, Virgil, Michelangelo, Plato, Shakespeare, Newton, Watt, Faraday and Darwin. While only one of those (Shakespeare) was a local lad, and another (Watt) local by adoption, together they stand for the primacy of creativity. They demonstrate that individuals can change the world, and together they have put 'universe' into University.

The Blue Plaque Trail, devised and executed by my colleague Clare Mullett, with tireless support from Anna Young, reflects the tradition set by Pegram's nine figures. When he opened the University in 1909 King Edward VII gave us this requirement:

'To you the students I say that the honour and dignity of this university are largely in your hands and I look to you to initiate and hand down worthy traditions to your successors.'

We are confident that collectively over the past century the University of Birmingham has risen to the King's challenge, as the blue plaques so clearly demonstrate. They celebrate only some of the men and women whose work across the 20th century has influenced, if not

changed the world, from their common home the University of Birmingham.

The University's Research and Cultural Collections, working with Special Collections, the Lapworth Museum, the Barber Institute of Fine Arts and Winterbourne House and Garden, reflect the cross-disciplinary nature of the University's achievements. These are woven into our fabric, and indeed two of those featured in the Trail, Charles Lapworth and John Nettlefold, are intimately connected with the early development of some of our cultural structures, the Lapworth Museum and Winterbourne respectively, while many others have made rich individual contributions to the collections.

The University of Birmingham has long investigated the crossing points between science and art, and it was with that tradition in mind that Sir Eduardo Paolozzi donated his monumental seated figure Faraday to the University in 2000, to mark our centenary. Speaking of his gift, Paolozzi remarked: 'It's not of Faraday, it's for Faraday'. In just the same way, the blue plaques are gifts of the University for their honoured subjects.

Dr James Hamilton
University Curator



Albert Drury (1856–1944)
King Edward VII. Marble sculpture, 1912.



Eduardo Paolozzi (1924–2005)
Faraday. Bronze, 2000.

Introduction

Carved in stone by Henry Pegram, the nine figures over the main entrance to the Aston Webb Building together personify Joseph Chamberlain's vision for the University: 'A school of universal instruction, not confined to any particular branch of knowledge but taking all knowledge in its province.'

These guardians watch over those who pass beneath, reminding all that the University is an integral part of a living international academic and cultural tradition. Since its earliest days, the University of Birmingham has been a home to pioneers who have effected change in the world we live. From the sciences to the arts, their groundbreaking achievements have been recognised and honoured at national and international level, including the Nobel Prize.

The University's Blue Plaque Trail, modelled on schemes adopted in many British cities, demonstrates how Chamberlain's vision has been realised. It celebrates those who have helped shape our heritage as a research university and showcases the University's broad cultural offer and its range of unique museum artefacts and archives.

The University saw the birth of inventions such as the Cavity Magnetron which made possible both radar and microwave ovens and changed the world as we knew it. The feasibility of the atomic bomb, secrets of particle physics, mathematical analysis of Bessel functions and the mass of the Earth were all discovered here. Furthermore, the work of the University's geologists has helped us to understand

climate change and the formation of mountain belts. Health and life expectancy throughout the world has been improved through the work of the University of Birmingham, with developments such as the variable-rate heart pacemaker, pioneering experiments in skin grafting, the synthesis of Vitamin C, and the obstetrical 'flying squads' of Hilda Lloyd. Social policy improvement, investigation into economic reform and innovative town planning involving such individuals as Margery Fry, Sir William Ashley, Francois Lafitte and John Sutton Nettlefold have also greatly enhanced the quality of life worldwide.

Composers, musicians and writers of the stature of Sir Edward Elgar, Louis MacNeice and David Lodge, have taught at the University of Birmingham; Sir Granville Bantock helped found the City of Birmingham Symphony Orchestra; and new critical areas of academic study were developed here by Nikolaus Pevsner in the history of industrial art and design, Professor John Sinclair in corpus linguistics, and the Centre for Contemporary Cultural Studies in the study of 'mass' culture.

The scope and scale of individual and collective achievements at the University of Birmingham are remarkable, and the blue plaques around its campus



serve as reminders of the immense accomplishments of men and women who have worked here in the past.

We hope they will inspire those who pass by and will encourage yet greater achievement in the future.

Clare Mullett

Deputy University Curator



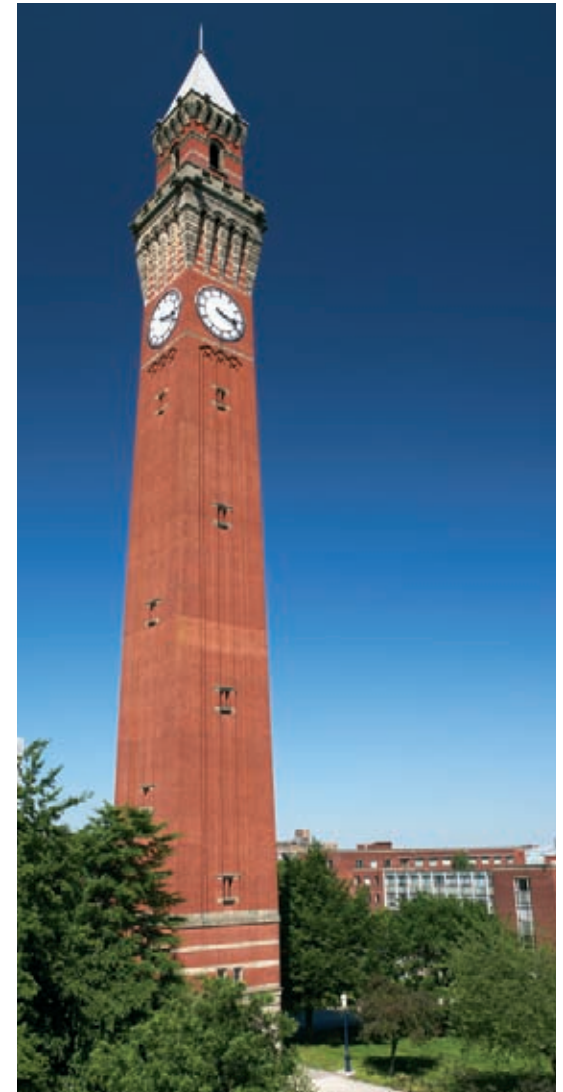
Henry Pegram (1862–1937)
Architectural Carvings of Beethoven, Virgil, Michelangelo, Plato, Shakespeare, Newton, Watt, Faraday and Darwin. Darley Dale Stone, 1907.



Blue plaque example, situated outside Birmingham Business School



Joseph Chamberlain



Joseph Chamberlain Memorial Clock Tower
 (Old Joe)



Dame Hilda Lloyd (1891–1982)

Dame Hilda Lloyd, Professor of Obstetrics, saved many through her midwife 'flying squads', set up in 1936

Hilda Lloyd became the first female professor at the University of Birmingham in 1944 and the first female President of the Royal College of Obstetricians and Gynaecologists in 1949. Passionate about working to alleviate the symptoms of poverty that led to the deaths of many poor pregnant women, one of her many accomplishments was pioneering the use of obstetrical 'flying squads' in Birmingham.

Hilda Nora Lloyd (née Shufflebottom) was born in Birmingham and educated at King Edward VI High School. She entered Birmingham Medical School and qualified in 1916, a period when around 40% of medical graduates at the University were female due to the First World War. After further training and junior posts in London, Lloyd returned to Birmingham as a resident in Obstetrics and Gynaecology at the Maternity and Women's hospitals. She qualified as a surgeon in 1920.

After rising through the ranks, becoming a lecturer in 1934, professor in 1944 and chair of Obstetrics and Gynaecology in 1946, she served on planning committees for blood transfusion and radiotherapy, the hospital governing board, NHS maternity committee and the advisory board for the Royal College of Nursing. Local engagement led to national recognition and in 1949, after overcoming considerable opposition, she was elected by her male peers to be the first female President of a Royal Medical College, at the Royal College of Obstetricians and Gynaecologists.

Despite this initial opposition, her ability, charm and tact led to two unanimous re-elections. Lloyd was interested in practical solutions and one of the major innovations she introduced was the use of obstetrical 'flying squads' in 1936.

The Birmingham 'flying squads' combined obstetrical care with the capacity to carry out emergency resuscitation and, most crucially, blood transfusion. The team generally consisted of an obstetrician who was skilled at resuscitation, a midwife and a nursing student, travelling in an ambulance equipped with transfusion supplies. Whilst the majority of each flying squad's time was spent dealing with deliveries and post-natal emergencies, they also dealt with complications surrounding abortion. Given its illegal status, back street abortions or self-abortioning led to a significant proportion of deaths. The ability to provide emergency care and transfusions at the scene therefore saved the lives of many women.

Whilst childbirth in the UK today is a relatively safe event, this has not always been so. Since the 1950s, the 'Confidential Enquiries into Maternal Deaths' have collected information about why mothers die in pregnancy and childbirth. Lloyd was one of an influential group of obstetricians and midwives whose work led to the initiation of such a ground breaking audit.



Jacob Epstein *Dame Hilda Lloyd*. Bronze bust, 1951

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Leon Abrams (b.1923) and Ray Lightwood (1922–2001)

Leon Abrams and Ray Lightwood developed and implanted the first variable rate pacemaker in 1960

Cardiothoracic Surgeon, Leon Abrams and Medical Engineer, Ray Lightwood developed and implanted the first patient controlled variable rate heart pacemaker. It was subsequently developed as a commercial pacemaker with the support of the electronic engineering company Joseph Lucas Ltd of Birmingham.

Development of the pacemaker started in response to the high mortality associated with slow heart rates after open heart surgery. Abrams and colleagues at the Queen Elizabeth Hospital realised that such a device would also be of value in patients with slow heart rates arising from other causes. With Abrams and Lightwood's use of electrodes attached to the heart coupled to an external pacemaker, they were able to keep all the electronic components outside the body, and could replace in the (highly likely) event of failure. The primary circuit consisted of an inducing coil supplied by a portable transistor which produced short pulses at adjustable intervals and intensity. This was, therefore, the first rate-adaptive (patient controlled) permanent pacemaker.

The first implant took place in March 1960, with two further implants the following month. These three patients made good recoveries and returned to a high quality of life. By 1966, 56 patients had undergone implantation with one surviving for over 5½ years. In 2002, there were still three

surviving pacemaker patients within Birmingham whose first pacemaker system had been of the Lucas-Abrams type. The original device used four 9volt dry batteries.

The commercial Lucas-Abrams device was introduced in 1964 and used a single 1.5volt battery, lasting approximately one month. Patients were able to change the battery themselves and were issued with two devices to cover the event of failure. Other projects that Ray Lightwood was involved in include an electronic fibrillator, the prosthetic blood vessel and a pain-inhibiting pulser. Leon Abrams developed an artificial heart valve which was in regular use for many years. Ray Lightwood died in 2001 after a sudden stroke while changing a light bulb.

The use of pacemakers to improve heart function in patients with severe heart failure is now the subject of a number of research projects held jointly between the College of Medical and Dental Sciences and University Hospital Birmingham.

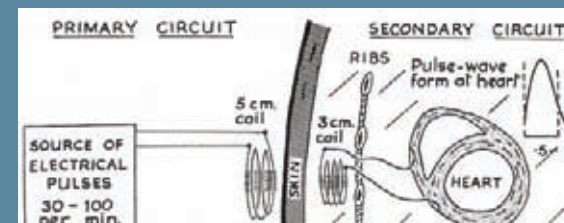


Diagram demonstrating pacemaker circuitry



Early commercial Lucas model



Original mock up of pacemaker



Sir Norman Haworth

(1883–1950)

Sir Norman Haworth, Nobel Laureate in Chemistry,
for work on carbohydrates and vitamin C 1937

Norman Haworth, Mason Professor of Chemistry at Birmingham from 1925 to 1948, made his life's work the study of carbohydrates. He made extensive discoveries in the field, culminating in the synthesis of vitamin C in 1933. He was awarded the Nobel Prize for Chemistry in 1937.

Walter Norman Haworth was born in Lancashire in 1883 to middle-class parents. He left school at the age of 14 and worked first in a linoleum factory. However, he passed the entrance examination to Manchester University in 1903, and, despite parental opposition, took a first class degree in Chemistry in 1906. He then began research in Manchester and completed his PhD in Göttingen in 1910. His first post was at Imperial College, London, moving in 1912 to St Andrews, where he became Lecturer and later Reader in Chemistry. It was at St Andrews that he began his research into carbohydrates, the subject that would occupy him for the rest of his life. Haworth moved to Durham as a Professor in 1920, and then to Birmingham in 1925, where he remained until retirement in 1948.

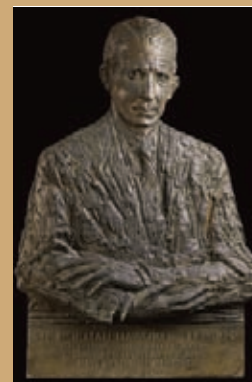
His research at Birmingham established what is now regarded as essential background knowledge in carbohydrate chemistry: the structures of many simple sugars such as maltose, cellobiose and melibiose, and of the carbohydrate polymers starch, glycogen, cellulose, xylan and inulin. He had already reported the true structure of glucose while at Durham. Haworth's finest achievement was the synthesis of

vitamin C (ascorbic acid) in 1933: this was the first synthesis of any vitamin. His Nobel Prize was awarded in 1937, jointly with Paul Karrer, with the citation 'for his investigations on carbohydrates and vitamin C.'

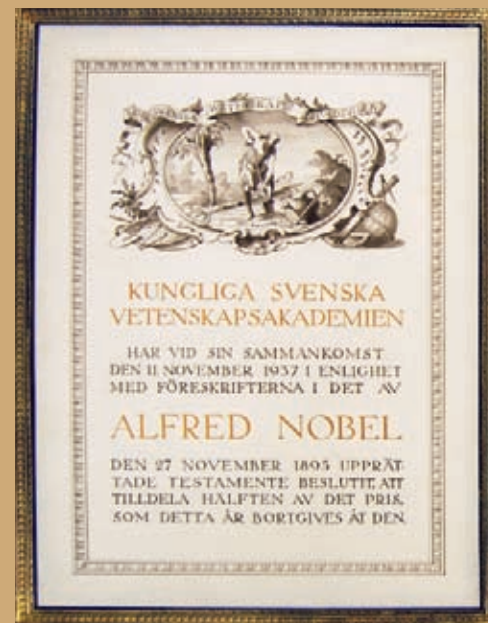
Haworth was elected to the Royal Society in 1928 and received its Davy Medal in 1934, the Royal Medal in 1942, and the Longstaff Medal by the Chemical Society in 1933. He received honorary degrees from several universities, and became an honorary member of the science academies of several countries. He was knighted in 1947. Haworth died suddenly on his 67th birthday in 1950.

Haworth would have carried out his work in the Frankland building.

The synthesis of bioactive compounds, like vitamin C, remains a vibrant area of research at Birmingham, although many of the target molecules are now much more complex. Key research challenges include the invention of new and more efficient reactions and strategies, and probing the potential medicinal properties of novel compounds.



T B Huxley-Jones Plaque of Sir Norman Haworth. Bronze 1963



Nobel Prize awarded to Haworth 1937



Sir Peter Medawar (1915–1987)

Sir Peter Medawar won a Nobel Prize for his work on graft rejection and acquired immune tolerance in 1960

Peter Medawar was Mason Professor of Zoology from 1947–1951. At the University he conducted experiments proving that tissue grafts were rejected by immune responses but tolerated if the host and donor were genetically related or if the host had been exposed to cells of the donor during foetal life.

Medawar was educated at the University of Oxford where he studied with Nobel Prize Winner Sir Howard Florey (co-discoverer of penicillin). He was appointed to the Mason Chair of Zoology at the University of Birmingham at the remarkably young age of 32. It was at the University he initiated, with his colleagues Rupert Billingham and Leslie Brent, the pioneering skin grafting experiments that led to the award of the Nobel Prize in Physiology and Medicine (with Frank MacFarlane Burnet) in 1960 for the discovery of acquired immunological tolerance. This discovery provided the scientific foundations for the development of organ transplantation as a medical technique and was a major landmark in understanding the mechanisms of acquired immunity.

Medawar was subsequently appointed to the Jodrell Chair of Zoology at University College London and then Director of the National Institute of Medical Research. During his life he was the recipient of many honours and awards including a Knighthood in 1965 and the Order of Merit in 1985. Medawar's interest in acquired immunity was stimulated by studies of skin graft rejection in burns casualties in World

War Two which he developed, over the next 20 years, into a remarkably coherent understanding of the biological basis of organ rejection. His scientific style was characterised by a profound ability to synthesise disparate observations into a coherent framework combined with a meticulous experimental approach. His intellectual interests were wide-ranging and influential: he made major contributions to fundamental biological problems such as the mechanism of aging and the origins of cancer. He was a devoted mentor of young scientists and a selfless supporter of new ideas and medical applications of research. He was an outstanding author and scientific communicator ('the wittiest of scientific writers' – Richard Dawkins, 2008) whose books may be read with profit today.

Medawar would have carried out his work in the Aston Webb Building.

Medawar's scientific legacy is still alive at the University in the form of the MRC Centre for Immune Regulation, one of the largest organ transplantation units in Europe and the National Institute Health Research Centre for Surgical Reconstruction and Microbiology in the Queen Elizabeth Hospital. Medwar's work would have taken place in the Aston Webb Building.



Medawar (centre) with Dept of Zoology and Comparative Anatomy 1949–1950



Charles Lapworth (1842–1920)

Charles Lapworth undertook pioneering work into the formation of mountain belts 1882–1883

Charles Lapworth FRS was the first Professor of Geology at Mason College, and a highly significant figure across a wide range of geological fields including palaeontology, stratigraphy, tectonics and various aspects of applied geology.

Charles Lapworth was one of the most important and influential geologists in the late 19th and early 20th centuries. He carried out pioneering work in the Southern Uplands of Scotland, and in 1879 defined the Ordovician period of geological time. This led to the resolution of a long-standing geological dispute. Lapworth recognized the importance of graptolite fossils within the rocks of the Southern Uplands and became a world authority on this important fossil group. He was instrumental in showing the significance of graptolites to stratigraphy, the geological dating and global correlation of rock sequences.

In Birmingham Lapworth took part in the resolution of the Highlands Controversy, over the geological structure of the North West Highlands, and put in place the techniques and geological foundations that underpin modern plate tectonics. These assist in the understanding of the formation of mountain belts from the Alps to the Himalayas. Lapworth also studied the rocks of the Midlands and Welsh Borderland, becoming the leading authority on the geology of the area. He made significant contributions to a variety of applied fields of geology, notably, mining, hydrogeology and engineering geology. Later, he was influential in the

development of the Midlands Coalfields, and the provision of water supplies for major conurbations and industries within the Midlands.

Lapworth received many awards for his pioneering work and contributions to geology, including the Royal Medal of the Royal Society in 1891. In 1899 he received the highest award of the Geological Society of London, the Wollaston Medal, in recognition of his outstanding work in the Southern Uplands, and Northwest Highlands of Scotland.

The Lapworth Museum of Geology, at the University of Birmingham, houses Lapworth's geological collection and archive, the most complete geological archive of any Victorian or Edwardian geologist.

Lapworth's research interests in Early Palaeozoic Earth history are continued in the Geosystems research group within the School of Geography, Earth and Environmental Sciences. This includes research on the biology and evolutionary history of groups closely related to graptolites, although the modern focus is now on echinoderms and vertebrates.



Lapworth's geological sketch map of the Galashiels-Melrose area of the Southern Uplands of Scotland, circa 1870



Bernard Munns *Portrait of Charles Lapworth*. Oil on canvas, 1914



Frederick Shotton (1906–1990)

Frederick Shotton furthered understanding
of climate change 1949–1974

Professor FW Shotton MBE FRS (1906–1990) was a leading authority in the field of Quaternary geology. By studying these sediments, and particularly their associated faunas, Shotton made considerable advances to our knowledge of climate change in the recent geological past, and how this can help us to understand climate change in the future.

Fred Shotton carried out pioneering studies of the Quaternary geology of the English Midlands, and became an authority on these deposits. During a study of the mammal fauna at Upton Warren in Worcestershire, Shotton and his research student Russell Coope discovered a diverse insect fauna especially rich in beetles. This initiated a study of Quaternary entomology which continued throughout his career, and was continued by Professor Coope. Shotton's work was instrumental in demonstrating the nature of climate change in Britain and Europe during the Pleistocene period, with cold glaciations separated by warmer interglacial periods, and the nature of biological responses to those changes. In addition, his work was instrumental in showing that changes from warm to cold, and vice-versa, were not slow gradual processes but very rapid changes in terms of geological time.

Another important aspect of Shotton's work was his role as a senior military geologist in the British Army. During the Second World War he was dispatched to North Africa to seek groundwater supplies for the forces in the desert

campaign. He was then recalled to Britain and engaged in the preparations for D-Day and the Allied advance across North West Europe. Shotton produced detailed maps of the Normandy landing beaches showing the types of sediments, and particularly the location of substrates that would be dangerous for military vehicles. He then produced hydrogeological maps of Normandy and areas of North West Europe to locate vital groundwater supplies for the Allied army.

Shotton's pioneering Quaternary research resulted in his election as a Fellow of the Royal Society. He was awarded an MBE in recognition of his military geological work. Shotton was Head of the Geology Department at the University of Birmingham from 1949 until his retirement in 1974, and was also Vice-Principal of the University.

Fred Shotton's interest in Quaternary geology is continued by the Geosystems research group in the School of Geography, Earth and Environmental Sciences, which is now a world-leading centre in the use of stalactites as proxies in palaeoclimate reconstruction, in much the same way as tree rings are used, but over much longer time intervals.



Professor FW Shotton MBE, FRS



'Top Secret' detailed map of part of the French coast around Courseulles-sur-Mer. Prepared by Shotton in 1944 to assist planning for the Allied landings in Normandy on D-Day, 6 June 1944



Ice Age mammoth teeth and bones from Worcestershire



Sir Edward Elgar (1857–1934)

Sir Edward Elgar, composer, became the University's first Professor of Music in 1905

The composer Edward Elgar is remembered mainly for his symphonies, his 'Enigma' Variations, his oratorio 'The Dream of Gerontius', his concertos for violin and cello, and his 'Pomp and Circumstance' marches. Born near Worcester, he had many connections with Birmingham, and was the University's first Professor of Music and founded its Music Library.

Edward Elgar was the greatest late Romantic composer in Britain and one of the greatest in Europe. He was born at Broadheath and cut his teeth in nearby Worcester, learning to play the piano, violin and organ and composing for various ensembles (which he also conducted), before joining an orchestra in Birmingham in 1882. Seven years later he was married at the Brompton Oratory and moved to London, but he soon returned to Worcestershire, where he derived inspiration from the Malvern Hills and the banks of the River Severn.

Having attracted attention in the 1890s, he achieved a breakthrough in June 1899, when Hans Richter conducted his *Variations on an Original Theme* ('Enigma') at St James's Hall, London. One year later, in Birmingham Town Hall, Richter conducted his oratorio *The Dream of Gerontius*, based on the poem by John Henry Newman. The disappointment of this under-prepared première was diluted by later, successful performances and by further commissions for the Birmingham Triennial Festival, notably *The Apostles* (1903) and *The Kingdom* (1906).

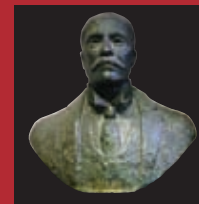
In 1904 the local businessman and philanthropist Richard Peyton offered the University £10,000 to endow a Chair of Music on condition 'that it should in the first instance be offered to and accepted by Sir Edward Elgar'. Elgar, who had been knighted earlier that year, eventually accepted, and his appointment took effect on 1 January 1905.

His inaugural lecture, 'A Future for English Music', was delivered on 16 March and was followed by seven other lectures in 1905–6. But he was not suited to academic life, his lectures did not go down well, and he resigned on 29 August 1908. In addition to the works cited he composed two symphonies, two concertos (for violin and cello), chamber music, and the choral ode *The Music Makers*, of which he gave the autograph score to the University.

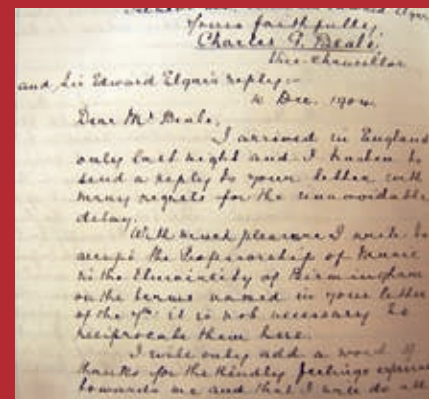
Elgar is a major research interest of Dr Matthew Riley, author of *Edward Elgar and the Nostalgic Imagination* (Cambridge University Press, 2007) and of several essays on the composer (2002–7), and editor of *British Music and Modernism 1895–1960* (Ashgate, 2010).



Sir Edward Elgar



Hilary Carruthers *Portrait Bust of Sir Edward Elgar*.
Patinated plaster



Letter from Elgar accepting Professorship of Music at the University



Annotated manuscript score of *The Music Makers*,
composed 1912



Sir Granville Bantock (1868–1946)

Sir Granville Bantock, composer and conductor,
Professor of Music 1908–34

Granville Bantock had a lasting impact on music in Birmingham. While principal of the School of Music, he succeeded Elgar as Professor at the University and helped found the City of Birmingham Orchestra. He is remembered also for his large-scale compositions and his championship, as a conductor, of music by his contemporaries.

The English composer and conductor Granville Bantock was a prominent figure in the English musical renaissance, with particular interests in the choral festival and brass band movements. Although he was born and died in London, he spent much of his maturity in Birmingham. From 1888 to 1892 he studied at the Royal Academy of Music, where he was the first recipient of the Macfarren Scholarship; in 1892 his one-act opera *Caedmar* was conducted at the Crystal Palace by August Manns. From 1892 to 1896 Bantock edited the *New Quarterly Musical Review* and was busy as a conductor.

In 1897 he was appointed musical director of The Tower, New Brighton, where he turned the military band into a symphony orchestra and programmed music by such composers as Elgar, Parry and Stanford, who were invited to conduct their own works. His interest in contemporary English composers was matched by his encouragement of Sibelius, who dedicated his Third Symphony to him.

In 1900, on Elgar's recommendation, Bantock was appointed as the first salaried principal of the Birmingham and Midland Institute School of Music, and in 1908 he succeeded Elgar as Peyton Professor of Music at the University of Birmingham. Holding both posts simultaneously, he made a lasting impact on music and musical education in the city: his belief in a rounded musical education, in which university and music school are mutually complementary, informs the ethos of the University Department of Music, and he helped found the City of Birmingham Orchestra (now CBSO) in 1920.

On retiring from Birmingham in 1934, Bantock strengthened his ties with Trinity College of Music and moved to London. During his career he composed a vast amount of music, including operas, ballets and incidental music, orchestral and choral works, piano and chamber music, brass band pieces, and hundreds of songs.

British music of the late 19th and early 20th century is an interest of Dr Paul Rodmell, whose book on Stanford was published by Ashgate in 2002. He has published on operatic and concert life in Dublin and Birmingham and is researching a book on opera in Britain 1875–1918.



Annotated postcard sent by Bantock
to Ernest Newman, Music Critic, 1927



Bernard Munns (1869–1942) Portrait of Sir Granville Bantock.
Oil on canvas. 1920



Annotated printed score of 'The Pierrot of the Minute'



Otto Robert Frisch (1904–1979) and Sir Rudolf E Peierls (1907–1995)

Otto Frisch and Rudolf Peierls showed the feasibility of an airborne atomic weapon here in 1940

Whilst working together in the Physics Department at the University of Birmingham in 1940, Otto R Frisch and Rudolph E Peierls wrote the Frisch-Peierls Memorandum. This demonstrated the feasibility of an atomic bomb of practical size, and was vital in establishing the project to build the bomb.

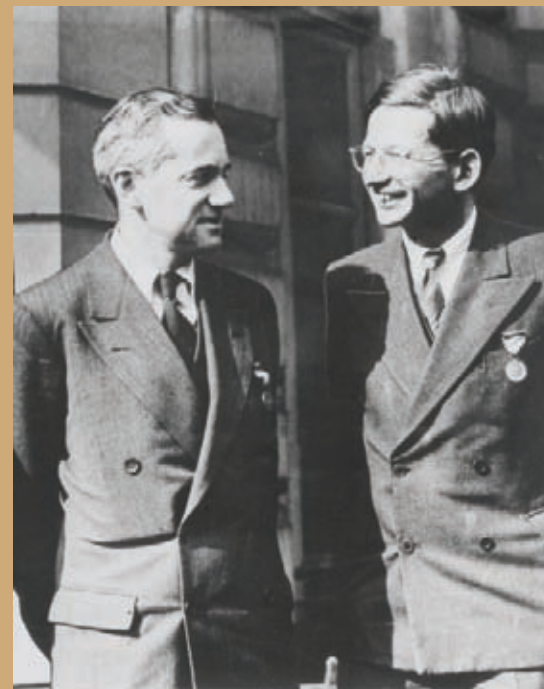
Otto Robert Frisch and Rudolf E Peierls, Jewish physicists who fled from Austria and Germany in the 1930s, worked together in the Physics Department at the University 1939–40.

Given their origins, Frisch and Peierls were classified as 'enemy aliens', and were not allowed to work on the radar project; the focus of the department's war effort (plaque 10). However, in March 1940 they made 'a rough estimate – on the back of the proverbial envelope' showing that the critical mass of the pure uranium isotope 235 needed to sustain a chain reaction was only about 1 kg. This was much less than then thought to be required using natural uranium. Thus, an atomic bomb, delivered by air, was a realistic possibility. Frisch and Peierls immediately realised the implications, but were concerned that the Germans might become aware of it. To engage official attention they wrote the Frisch-Peierls memorandum 'On the Construction of a 'Super-bomb'; based on a Nuclear Chain Reaction in Uranium'. This covered the basic physics, how to construct a bomb,

the damage it could inflict and the consequences of the radiation released. As they had no access to the British authorities they showed it to Sir Mark Oliphant (plaque 11), who passed it to military planners. This memorandum played a vital part in establishing the Manhattan Project to construct the bomb. Both Frisch and Peierls, now as naturalised British citizens, held senior positions in the project at Los Alamos in the United States.

In 1947 Frisch was appointed Jacksonian Professor of Natural Philosophy at Cambridge and continued research in nuclear physics. Peierls returned to Birmingham, where he founded the Department of Mathematical Physics and gathered around him some of the best theoretical physicists in the world. In 1963 he became Wykeham Professor of Physics at Oxford. Throughout his life he was active in seeking to prevent the horrors that a nuclear war would bring.

The School of Physics and Astronomy has for many years been involved with the nuclear power industry, particularly with the MSc programme on the Physics and Technology of Nuclear Reactors which was started in 1956.



Frisch and Peierls at Los Alamos
c.1943–1945



Sir John Randall (1905–1984) and Harry Boot (1917–1983)

John Randall and Harry Boot first operated a
Cavity Magnetron to produce radar waves here on 21 Feb 1940

The Cavity Magnetron is the principal generator of high-power centimetre-wavelength electromagnetic radiation used in radar and microwave ovens. It was developed in Birmingham by Sir John Randall and Harry Boot and first operated on 21 February 1940. The device was immediately used to power airborne radar in World War Two.

The Magnetron was developed in the top-secret Admiralty Laboratory set up under Sir Mark Oliphant in the Nuffield Building of the Physics Department at the start of the Second World War. The principal researchers were John T Randall and a young research student Harry A H Boot. They developed early ideas for magnetrons by including a set of resonant cavities drilled in a single copper block, and they were successful in operating the first cavity magnetron on 21 February 1940. Under the pressures of wartime the first commercial model was in operation on 29 June and these magnetrons were used to detect aircraft and a submarine by radar in September of the same year! The Allies' use of radar based on magnetrons small enough to be carried in aircraft was of huge importance in the outcome of the War.

In peacetime radar has become vital in navigation at sea and in the air. The cavity magnetron can be found in use in almost every modern kitchen where it is the source of power in microwave ovens. John Randall was awarded

a knighthood and subsequently worked away from Birmingham on the structure of DNA. Harry Boot was awarded his doctorate and an MBE. He continued for some time in work on microwave devices.

Exhibits relating to the development of the magnetron can be seen in the collection of historic physics instruments on the second floor of the Poynting Building.

The Microwave Integrated System Laboratory, led by Professor Mikhail Cherniakov, carries out research into radar technology, including projects relating to the integration of emerging microwave technologies for remote sensing.



Harry Boot (left) holding an original magnetron anode block with Sir John Randall holding a klystron in 1976



Original Cavity Magnetron, 1940 – Object on loan to Science Museum from Research and Cultural Collections. Image © Science Museum and Science/SSPL



Sir Mark Oliphant (1901–2000)

Sir Mark Oliphant pioneer of particle physics with
the Proton Synchrotron built here 1946–1953

Sir Mark Oliphant began to unlock the secrets of particle physics by designing the Proton Synchrotron, completed here in 1953. Subsequently, proton synchrotrons became the dominant source of high energy particles until the present day, including the Large Hadron Collider (LHC) at CERN, Geneva.

Sir Mark Oliphant was born in Adelaide, Australia in 1901. After attending the local university, he won a scholarship to Cambridge in 1927, where he worked with Ernest Rutherford on nuclear physics research. There, he discovered that heavy hydrogen nuclei could be made to react with each other, and in 1932 accomplished the first fusion of hydrogen. In 1937 he was elected a Fellow of the Royal Society and moved to the University of Birmingham to become Poynting Professor of Physics.

Oliphant made the original proposal for the Proton Synchrotron in 1943, as a means of accelerating protons to energies one hundred times greater than existing machines. He drew up detailed designs and obtained initial funding of £140,000, a figure that would equate to £4.5 million in present terms. Construction of the Birmingham Synchrotron was started in the Nuffield Building in 1946, and the full energy of 1 GeV was achieved in July 1953. The Birmingham machine continued to play an important role in particle physics until 1967, enabling researchers to study the interaction of 1 GeV protons with protons, neutrons and nuclei, as well as the

newly discovered pi-meson or pion, which contributes to the nuclear force. A variety of techniques were used including nuclear emulsions, cloud chambers, bubble chambers and scintillation counters. Members of staff and research students who worked on the synchrotron went on to occupy prominent positions at other laboratories, including CERN.

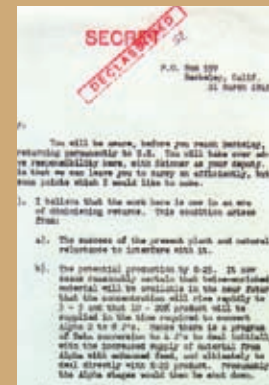
As head of department during the war, Oliphant also played a major role in advancing two of the other innovations commemorated here (plaques 9 and 10). Oliphant was also a part of the Manhattan Project, along with his team which included Frisch and Peierls, though after witnessing its use at Hiroshima and Nagasaki, he later became a vocal critic of nuclear weapons.

Oliphant returned to Australia in 1950, where he led the Research School of Physical Sciences and Engineering at the new Australian National University and after retiring, served from 1971–1976 as Governor of South Australia.

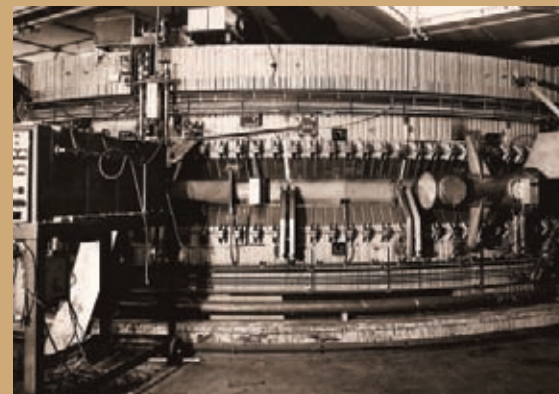
The University of Birmingham Particle Physics group is currently working on three experiments at the LHC namely ALICE, ATLAS and LHCb. These recorded and analysed proton–proton collisions at a collision energy of 7 TeV during 2010 as well as some lead ion collisions. They should provide key results within two years including searches for new particles including the Higgs boson.



Photograph of Oliphant in the
Picture Post



Top secret correspondence between
Oliphant and Harrie Massey



Photograph of the Birmingham Proton Synchrotron around 1953 showing
the huge electromagnet with the beam pipe running horizontally across
the middle of the picture and a large vacuum pump on the right



John Henry Poynting (1852–1914)

John Henry Poynting, first Professor of Physics,
determined the mass of Earth in Birmingham in 1890

John Henry Poynting was the first Professor of Physics at Mason College who subsequently established the Department of Physics at Edgbaston in 1909. He is famous for his contribution to the theory of electromagnetism and locally best known for his experimental determination of the mass of the Earth.

John Henry Poynting was appointed at the age of 28 to be the first Professor of Physics at Mason College in Birmingham on its foundation in 1880. He came from Cambridge where he had embarked on the difficult experiment to measure the gravitational attraction between two massive spheres using a beam balance. The force he found to be equivalent to a weight of only 0.2 milligrams. He finally completed this measurement in Birmingham in 1890, and from it he was able to calculate Newton's gravitational constant G and hence the mass of the Earth. The experiment required great skill and patience for which he was well known. It is referred to in Francis Brett Young's novel *The Young Physician* (1919) which is set in Birmingham.

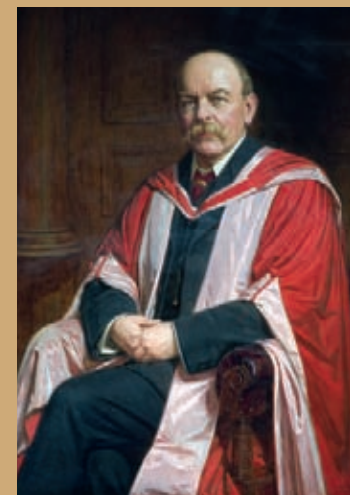
Poynting is best known, however, for his contribution to electromagnetism. The vector \mathbf{EH} , representing the flow of energy in an electromagnetic field, is named after him. He worked on the pressure exerted by a beam of light and on many delicate experiments in optics and the properties of materials.

After the University of Birmingham was established Poynting was responsible for building an up to date Physics laboratory on the Edgbaston campus.

This building, which now bears his name, was opened in 1909 and is still in use by Physics. It contains a collection of historic physics instruments, many originating from Poynting's time. Some of these can be seen in the museum area on the second floor.

Work on gravitation has recently been resumed in the School of Physics and Astronomy under Professor Clive Speake, with studies of the force of attraction at very small distances, and a project led by Professor Mike Cruise to detect gravitational waves of astrophysical origin.

'Physical Curios'
featured in *MERMAID*
student magazine, 1905



Bernard Munns (1869–1942). *Portrait of John Henry Poynting*. Oil on canvas. 1920



Photograph of Poynting's weighing apparatus, © National Physical Laboratory, Middlesex



Margery Fry (1874–1958)

Margery Fry, influential prison reformer and one of the first female magistrates. Warden here 1908–1914

Margery Fry was the first warden of University House, the first all-women university Hall of Residence in Britain. She went on to be a renowned prison reformer, noted for her work with the Howard League of Penal Reform. She was one of the first women in Britain to become a magistrate.

In 1904, Margery Fry was appointed as the first warden at University House on Hagley Road, Edgbaston, with responsibility for the care of the residents and maintenance of the property. Her resourcefulness was quickly noted when the halls were moved to their new building on Edgbaston Park Road in 1908. She showed shrewd administrative skills, documenting building requirements, and independently furnished University House to make it homely. Fry created a lively community in the halls, using painting and literature to engage students' interest. Her knowledge of art stemmed from her close relationship with her brother, the artist and critic Roger Fry. Six of his paintings are hung in the Business School, the present occupant of the former University House building. Assisted by Rose Sidgwick, the first female lecturer at the University of Birmingham, Fry wrote plays for the students, drama being a favourite pastime throughout the history of University House. During this time, Fry became involved in wider fields of education. She became one of the first woman governors at King Edward's School, and was a member of University Council. Her interests in social work began in Birmingham, when she served on many committees,

including the County Subcommittee on Mental Deficiency. This experience of social work, coupled with her Quaker background made it inevitable that she would be drawn into work with the Friends' War Victims Relief Committee. From 1915 to 1917 Fry was based in the Marne region of France, and travelled through war zones, teaching and supporting vulnerable people.

After the war, Margery Fry turned her energies to Penal Reform, the subject that claimed her attention to the end of her life. She was instrumental in 1921 in amalgamating the Penal Reform League and Howard Association, forming the Howard League for Penal Reform. In the same year she became one of the first female magistrates in Britain. In her time on the University Grants Committee she worked to preserve the independence of the universities by administering State Aid directly from the treasury.

Fry's relationship with University House remained strong throughout her lifetime due to her attendance at reunions and in her rich correspondence, now held in the University Archive. Research and Cultural Collections has created a period room in the Business School which is dedicated to Margery Fry, with information and images documenting the history of University House.



Photograph of Margery Fry next to Rose Sidgwick memorial bird bath



Charles Haslewood Shannon (1863–1937). *Portrait of Margery Fry*. Pastel, 1915



Carlo & Arthur Giuliano, attrib. *Pendant and chain* c.1880. Presented to Margery Fry by the University of Birmingham upon her retirement

14

Sir William Ashley (1860–1927)

Sir William Ashley founded Britain's first Faculty of Commerce here in 1902

Sir William Ashley, economic historian and economist, created Britain's first Faculty of Commerce at the University of Birmingham and founded business studies education in the UK. He was an advocate of tariffs to protect the British economy from competition and to finance social insurance and old age pensions.

Sir William Ashley (1860–1927) was born in London and educated at Oxford where he gained first-class honours in Modern History. He developed an interest in economic history; Arnold Toynbee's lectures on the industrial revolution and the work of German historical economists were important influences. He pursued an academic career in Canada and the USA, because history-based economic studies in Britain, compared to mathematical approaches, were unfashionable. In 1892, at Harvard, he was appointed to the first chair of economic history in the Western world. Ashley was awarded a PhD by the University of Berlin in 1910, and was a British government adviser during World War One. He was knighted in 1917. Afterwards he served on various government investigations of agriculture and industry. He became the first President of the Economic History Society in 1926.

In 1902, Ashley became Professor of Commerce at the University of Birmingham. He was also involved in politics, supporting Joseph Chamberlain's campaign in the early 1900s to introduce tariffs to protect the British economy.

Before coming to Birmingham, Ashley wrote extensively on economics and economic history, and in Birmingham, his books, *The Tariff Problem* (1903) and *The Progress of the German Working Class in the Last Quarter of a Century* (1904) revealed his interests in contemporary economic debate and social reform. In 1914 he published *The Economic Organisation of England*. In 1928, *The Bread of our Forefathers: an Enquiry into Economic History* was published posthumously.

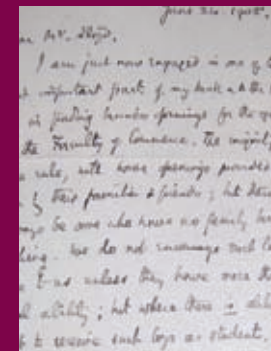
Ashley pioneered the academic study of business and developed a curriculum which married economics with history and languages. His programme aimed to produce educated managers for industry and commerce.

The Ashley Building at the University of Birmingham was named after him.

The University of Birmingham continues to teach economics, business studies and economic and social history, where the study of economic activity is informed by historical understanding. Research, publication and teaching still contribute to our understanding of the economic history of the West Midlands, Britain and the wider world. The Ashley building at the University of Birmingham was named after him.



Sir William Ashley



Letter from Ashley to JH Lloyd, discussing business placements for those without family business connections



Ashley (centre) with the Commerce Society



George Neville Watson (1886–1965)

George Neville Watson, mathematician, published pioneering work on Bessel Functions in 1922

The Mason Chair of Mathematics dates from the founding of the Mason College of Science, in Birmingham, in 1875. The chair was subsequently incorporated into the University of Birmingham on its foundation in 1900. G N Watson became the Mason Professor of Mathematics in 1918.

George Neville Watson was born in 1886, in Westward Ho!, Devon. In 1904 he won an entrance scholarship to Trinity College, Cambridge. After holding a Research Fellowship at Trinity he left Cambridge in 1914 to take up an Assistant Professorship at University College, London.

In 1915 he collaborated with E T Whittaker to produce a second and extended version of Whittaker's earlier book *Modern Analysis*. This remarkable text has been an inspiration to both pure and applied mathematicians. It is still in print.

Watson was appointed Mason Professor of Mathematics at the University of Birmingham in 1918 and continued in this post until his retirement in 1951.

In his early years at Birmingham, Watson devoted himself to writing an immense treatise on the theory of Bessel functions. First published in 1922, this remarkable contribution to mathematical analysis is perhaps the most valuable of Watson's many services to mathematics. Even today, this book holds the definitive reference to Bessel

functions; these functions are solutions to certain differential equations describing, for example, heat conduction and wave propagation.

During the years in which Watson held the Mason Chair of Mathematics, he wrote nearly 150 research papers in mathematical analysis. These papers cover his work on the Ramanujan notebooks, mock theta-functions and general integral transforms. The Watson Building at the University of Birmingham is named after him.

Research work into theory and generalisation of Bessel functions has been undertaken since 1982 at the University of Birmingham. This programme was initiated by W Norrie Everitt (Mason Professor of Mathematics 1982–1989) and his co-workers Clemens Marktett and Lance L Littlejohn.



Watson (centre) with the Mathematics Department 1931–32



First draft of 'Modern Analysis'



Louis MacNeice (1907–1963)

Louis MacNeice, poet, author and playwright,
taught Classics 1930–1936

Louis MacNeice's years in Birmingham (1930–1936) were central to his development as a writer. He came, as he put it, 'to this hazy city/to work in a building caked with grime,' where he laid the foundations for a rich production of poetry, radio drama and criticism.

Louis MacNeice was born in Belfast, the son of an Anglican minister, later a bishop. Childhood for MacNeice was, as his poems reveal, a time of insecurity. His mother died when he was seven, and he was looked after by domestic servants and a governess. School at Marlborough, followed by Merton College, Oxford, broadened his horizons and brought him new friends including John Betjeman, Anthony Blunt, W H Auden and Stephen Spender. He wrote extensively in these early years, both verse and prose, and completed his university career in 1930 with a first in 'Greats'. In this same year he published a collection of poetry, *Blind Fireworks*, was appointed lecturer in Classics at the University of Birmingham, and married.

Confronted by the scale, industry and tumult of Birmingham, the elegant MacNeice was initially confused and out of place. Auden had described him as 'a tall languid undergraduate...rather foppishly dressed.' Furthermore, he was a poor lecturer with a monotonous drone that failed to excite his students. However, friendships with Professors E R Dodd and Philip Sargant Florence, and colleagues Ernest Stahl and John Waterhouse, encouraged him in his

writing and teaching. His leftward leaning political stance brought him further friendships with students including Reggie Smith, later a BBC radio producer closely involved with the Communist Party, Walter Allen the literary critic and novelist, and the Birmingham sculptor Gordon Herickx. When their son Daniel was 18 months old, his wife Mary abruptly left him. This shattered MacNeice's newly-established equilibrium, and caused him to realise that he was now 'under no more obligations to be respectable'. He travelled to Spain in 1936 with Anthony Blunt, and that same year left Birmingham to take up a lectureship in Greek at Bedford College, London.

MacNeice's poems have fractured rhythms that evoke domestic anxieties, wartime disruption, impermanence and the sudden joy of unexpected encounters with nature. They are profound reflections of real experience, and this search for the real was characteristic both of his work and his life.

MacNeice's greatest poem *Autumn Journal* (1939) has a treasured place on the English Department's MA course in Victorian Modernity. Its trenchant autobiographical record of life in the 1930s and his time in Birmingham attracts much interest among students, many of whom become converted MacNeiceans thereafter!

| Classics | |
|--------------------|---------------------------------------|
| A. L. MacNeice | 2 July 1930 |
| Assistant Lecturer | 2 July 1930 |
| 1930 | 1 Oct. 1930 - 30 Sept. 1931 * 200-0-0 |
| 1931 | 1 Oct. 1931 - 30 Sept. 1932 250-0-0 |
| 1932 | 1 Oct. 1932 - 30 Sept. 1933 295-0-0 |
| 1933 | 1 Oct. 1933 - 30 Sept. 1934 350-0-0 |

Louis Macneice's staff card



Nancy Culliford Sharp (*Frederick*) Louis MacNeice oil on canvas, 1938
© estate of Nancy Sharp/National Portrait Gallery, London



Sir Nikolaus Pevsner (1902–1983)

Sir Nikolaus Pevsner, architectural historian,
researched English industrial design 1934–1935

Nikolaus Pevsner spent two years on a fellowship in the Department of Commerce at the University of Birmingham (1934–35). It was during this time in Birmingham that he carried out, on the suggestion of Philip Sargant Florence, Professor of Commerce, much of the research for his influential book *An Enquiry into Industrial Art in England* (1937).

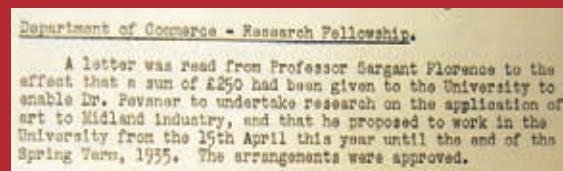
Nikolaus Pevsner, born and educated in Leipzig, left Germany for England when in 1934 he was forced out of his lectureship on English architecture and art history at the University of Göttingen by Nazi race laws. It was in Birmingham that he embarked on his unique contribution to the knowledge and understanding of British architecture. The history of industrial art and design was a relatively new subject for academic study, but Pevsner made it his own, and through his writings fostered a new appreciation of the roots of modernism.

In 1940 Pevsner was briefly interned as an enemy alien, and set to work clearing rubble from Blitz-damaged London streets. On his release, however, his knowledge of architecture was put to more constructive use as a contributor to and later editor of the *Architectural Review* and editor of the slim and informative King Penguins. His influential survey *An Outline of European Architecture* was first published in 1942, and it is still in print. Pevsner's greatest contribution to public understanding of the British environment is his authorship of the 46 volumes of his

Buildings of England series, the first volume (Cornwall) being published in 1951, the last (Staffordshire) in 1974. The series was commissioned by Alan Lane of Penguin. Books following the success of *Outline*, but despite its social and cultural value the series never made money. Alan Lane described Pevsner as his 'best-losing author'. At their height, Pevsner produced two volumes a year, travelling the counties with his wife and assistants, taking notes in the buildings by day, and writing them up with rigid discipline by night.

As a lecturer at Birkbeck College, Nikolaus Pevsner was greatly loved by generations of students, while as a broadcaster his measured tone with its Germanic inflexion carried understandings of art and architecture across the country. Principal among his broadcasts were his Reith Lectures on *The Englishness of English Art* (1955). Pevsner carried out his research with the Department of Commerce, now based in the Business School.

Birmingham: Pevsner Architectural Guides by Andy Foster contributes towards an important element of the History of Art first year introductory programme, where students discuss and analyse a number of significant buildings in Birmingham.



Minutes documenting Pevsner's Research Fellowship at the University of Birmingham.



Hans Schwarz *Sir Nikolaus Bernhard Leon Pevsner* © National Portrait Gallery, London



David Lodge (b.1935)

David Lodge, author of satirical 'campus novels'
taught English 1960–1987

Emeritus Professor David Lodge CBE is a renowned literary critic and award-winning novelist. Many of his novels explore human relationships and ideas in the context of the world of academia. He has also written insightful books on the art and craft of fiction.

David Lodge is Emeritus Professor of English Literature at the University of Birmingham. Outside academia he is best known for his 'campus novels', many of which are set in the fictional city of Rummidge which bears an uncanny resemblance to Birmingham. Features of the campus, such as the clock tower and the Muirhead Tower, appear in a lightly disguised form in these novels, as the background to a parade of recognisable academic types. Lodge's novels are funny and entertaining, but they carry profound messages about human relationships, scholarship, and private and public lives.

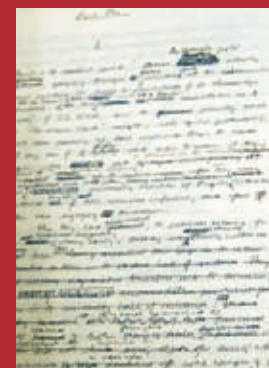
David Lodge has consistently been commended for his fiction and has received awards including the Hawthornden and the Whitbread Prizes, as well as twice being short-listed for the Booker Prize. His adaptations, of his own novels as well as Dickens's *Martin Chuzzlewit*, have appeared on television. His 2011 novel, *A Man of Parts*, is a moving, funny and masterful novel about the life of H G Wells – writer, thinker, lover and man of genius. In 1997 David Lodge was made a Chevalier dans l'Ordre des Arts et Lettres by the French Ministry of Culture, and in the 1998 New Years Honours list, he was appointed CBE for

his services to literature. His literary criticism is universally admired and his books on writing, especially *The Art of Fiction* and *Consciousness and the Novel*, are seminal texts for any would-be writer; witty, intelligent and ultimately educating. Part of Professor Lodge's legacy is doubtless the burgeoning Creative Writing programme which now exists within the School of English, Drama, American & Canadian Studies, offering BA and MA courses to just such aspirants.

The University of Birmingham continues to nurture creativity. Lecturers in creative writing include novelist and screenwriter Richard House and poet and short story writer Luke Kennard, whose poetry was shortlisted for the Forward Prize. Playwriting is taught by the acclaimed playwright Steve Waters.



David Lodge at the University
of Birmingham



Holograph manuscript of *Small World*



David Lodge at a book signing at University of Birmingham
2011 – Arts at Birmingham



Francois Lafitte (1913–2002)

Francois Lafitte, pioneering social policy analyst, worked to widen access to family planning during the 1960s.

Francois Lafitte was Professor of Social Policy and Administration at the University of Birmingham from 1958–80 where he became interested in the matter of family planning; an area in which there was little public authority advice at the time. Lafitte was particularly concerned with matters of birth control and abortion.

Lafitte was influential in shaping post-war social policy. He cared deeply about social provision for ordinary people and was highly critical of the Family Planning Association's failure, as he saw it, to reach couples of lower socio-economic groups. In 1960 he was appointed chair of the Family Planning Association working party and in 1963 co-authored the influential *Family Planning in the Sixties*, which led to the Family Planning Act in 1967. He also chaired the British Pregnancy Advisory Service from 1968 to 1988 and continued to campaign for improved social conditions throughout his life.

Lafitte described himself as 'a young man of no importance who tries to be a good European'. While working for the leading institute for the study of social questions, Political and Economic Planning (later the Social Policy Institute), Lafitte produced his most widely known work: *The Internment of Aliens*, a Penguin Special published in 1940. It was the first book to bring the public's attention to the mass and indiscriminate internment of German-speaking refugees and political exiles in Britain following Holland's occupation by the Nazis in 1940. A number of Lafitte's

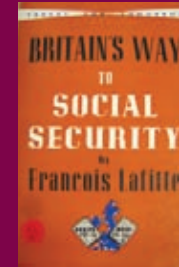
own friends had struggled against the Nazis in Germany and Austria and were later imprisoned in France and Britain as 'enemy aliens'.

Shortly after joining *The Times* newspaper in 1943 to write about social policy issues, Lafitte published *Britain's Way to Social Security*, which highlighted problems with the existing approach and recommended a raft of changes.

Social scientists at Birmingham continue to have an impact on every aspect of society. Their work explores many challenges including exploring the needs of new migrants, refugees and global communities; the wellbeing of children and families; improving lives and the security of those living in transitional and developing countries to the future of UK public services.



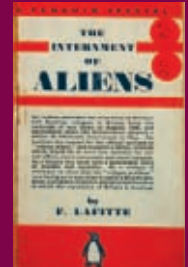
Photograph of Francois Lafitte. 1969



Britain's Way to Social Security 1945



This Matter of Breeding
James Seth Memorial
Lecture 1974



The Internment of Aliens
1940



Lafitte with Arthur Collis and some final year Social Administration undergraduates, on University library steps. 1979

20

The Centre for Contemporary Cultural Studies

The Centre for Contemporary Cultural Studies, the focus for British cultural studies, founded here in 1964

In the inaugural lecture that followed his appointment as Professor of English at the University of Birmingham in 1962, Richard Hoggart announced that he intended to build upon the success of his seminal book *'The Uses of Literacy'* and conduct research into 'mass' culture. Within two years, Hoggart had founded the Birmingham Centre for Contemporary Cultural Studies.

Rather than focus on 'high' culture, the intention was to carry out group research on areas of popular culture such as chart music, television programmes and advertising. This approach went profoundly against the grain of conventional academic practice. Under the directorship first of Hoggart, then Stuart Hall and later Richard Johnson, and with the commitment of Michael Green throughout, work at the Centre would show that popular culture was not only worthy of academic study but often also politically significant. The Centre produced work that shaped the nature of cultural studies as an international discipline. It showed, for example, the importance to young people of subcultures based around style and music, the ideological influence of girls' magazines over their young readership, and why a 'moral panic' over the presence of black communities had evolved in 1970s Britain.

The Centre's focus on the 'contemporary' in Birmingham, Britain and later around the world was combined with an engagement with critical theory, often introduced from the continent. The application of these theories to

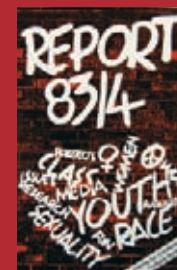
contemporary society was rigorously debated during weekly seminars on race, gender, class and representation. Conventional boundaries between teachers and students were intentionally broken down, creating a democratic approach to learning that meant that many of the key interventions produced at the Centre were made by graduate students.

The Centre made a point of recruiting students from backgrounds under-represented at the University – ethnic minorities, mature students, often working class, many of whom would go on to be leaders in the field. It was the training ground for several noted public intellectuals and produced numerous texts foundational to the emerging discipline of cultural studies. The Centre later merged with the Department of Sociology and was closed down in 2002.

The Centre's approaches continue to influence research into culture undertaken across the colleges of Arts and Law and Social Sciences. In recognition, the Department of History, in collaboration with the Cadbury Research Library, is creating an archive of the Centre. In summer 2014 the University will host an international conference marking 50 years since the Centre's inception.



CCCS publication
'On Ideology'



CCCS publication
'Report 8314'



CCCS publication
'Cultural Studies 9'



CCCS publication 'Annual report 1969'



John Sutton Nettlefold (1866–1930)

Pioneer of town planning. First chairman of City Housing Committee. Lived in this house from 1903 to 1919

'...We can, if we will, arrange for healthy, wholesome surroundings for every Birmingham adult, and, even more important, give every Birmingham child the 'light and air' that are so essential to its healthy development.'

John Sutton Nettlefold, speech made to Birmingham City Council, 3 July 1906.

John Sutton Nettlefold was instrumental in the civic movement in Birmingham during the early 20th century. His efforts to improve the lives of the poorest and his endeavours to reinvent town planning culminated in the founding of Moorpool Housing Estate – a garden suburb which offered its tenants better living conditions akin to those available at the Cadbury's Bournville. The Estate consisted of 500 low cost, low density houses designed to be a garden city. Construction of the Estate began in 1907 and was completed in 1912. Unlike Bournville, Moorpool was not intended solely for workers of Guest, Keen and Nettlefold but for the community at large. Nettlefold's vision was to see skilled workers, artisans, professionals and businessmen living side-by-side.

Whilst founding the Estate, Nettlefold was the Chairman of the city's Town Planning Committee and developed the Town Planning Act (1909). This banned the building of back-to-backs and allowed other local authorities to develop town planning schemes. His motivation was

ceaseless as he spread his ideas in books such as *Practical Housing* (1908) and *Garden Cities and Canals* (1914).

Nettlefold epitomised the civic mentality of early twentieth century Birmingham. He was elected Councillor of Edgbaston and Harborne in 1898 and was the first Chairman of the Housing Committee in 1901. The council accepted his report on garden suburb policy in 1906, leading to the development of estates such as Moorpool. His civic ideals were also apparent at Guest, Keen and Nettlefold, where training schemes were offered to employees to help to develop their knowledge to the benefit of the wider community.

Much of Nettlefold's inspiration came from Winterbourne House where he lived with his family from 1903 to 1919. He wanted to offer the citizens of Birmingham the chance to live in equally beautiful surroundings.

Winterbourne House and Garden is open throughout the year for staff, students and the public to enjoy. This University-owned heritage attraction consists of Edwardian period rooms, education facilities, interactive displays and boasts a seven acre botanic garden with recognised national collections and over 6,000 plant species.



Winterbourne House



John Sutton Nettlefold. c. 1920



John Sinclair (1933–2007)

John Sinclair set up the COBUILD project,
pioneering a dictionary using ‘real-world’ text

John Sinclair was Professor of English Language at the University of Birmingham for more than 30 years. He directed the COBUILD project, a joint venture by the University and HarperCollins publishers. The Collins COBUILD English Language Dictionary was the first dictionary to be based on corpus analysis and is still regarded as a world-leader.

John Sinclair's contribution to the study of Linguistics in this country and around the world is immeasurable. He was among the first to study spoken interaction on a systematic basis, establishing in the 1970s with Professor Malcolm Coulthard an approach to the structure of interaction that still is highly influential. He was also among the first to analyse written discourse as also essentially interactive. But Professor Sinclair is probably best known today for his work in Corpus Linguistics, a discipline of which he can be said to be a founding father. He single-handedly overthrew earlier assumptions about corpus size, design, and investigation methods, and in doing so founded a lexically-based approach to the description of English which offers a substantial challenge to conventional theories of linguistics. Concepts such as the Idiom Principle, Units of Meaning and Semantic Prosody are deceptively simple yet breathtakingly revolutionary.

The project with which his name is most obviously associated is the COBUILD project. COBUILD was a company jointly managed by the University of Birmingham and HarperCollins publishers during the 1980s and 1990s. Its purpose was to build the largest general corpus of English then in existence and to analyse it using dozens of researchers.

The project had an educational, and commercial, outcome – a series of dictionaries, grammars and usage books for learners of English – as well as acting as a rigorous testing ground for John Sinclair's theories about language. At the time of the publication of the first COBUILD dictionary (1987) the idea of a dictionary for learners based on the observation of large amounts of real language was outrageously revolutionary, but the dictionary immediately became so popular among learners that before long all new learner dictionaries were based on corpora.

The University of Birmingham hosts the Centre for Corpus Research and continues to be a world leader in the field of Corpus Linguistics and Discourse Analysis. Research on phraseology, collocation and discourse builds on theories and concepts drawn from John Sinclair's writings.



COBUILD Dictionary, first edition



Definitions in the COBUILD dictionary of 'Language'

23

Marie Corelli (1855–1924)

Marie Corelli, novelist and protector of local heritage, lived and died here 1901–1924

In 1901 the popular novelist Marie Corelli made Mason Croft her home. She provoked controversy among Stratford's residents by challenging local business interests, mounting a vigorous national campaign to save buildings associated with Shakespeare on Henley Street and restoring Harvard House as a rendezvous for visiting Americans.

Mary MacKay adopted the pseudonym Marie Corelli while attempting a career as an improvisatory pianist in the early 1880s. Failing to find success in music, she turned to writing: her first novel, *A Romance of Two Worlds*, was published in 1886. Its mixture of mysticism, 'science' and morality proved a hit, and she lost no time in producing *Vendetta* (1886), *Thelma* (1887) and *Ardath: the Story of a Dead Self* (1889). In 1893 *Barabbas: a Dream of the World's Tragedy*, a fictional version of the crucifixion, secured her celebrity as a best-seller. In all, she published more than 30 novels and short-story collections and contributed widely to anthologies and women's magazines.

Corelli openly defied the critics who ridiculed her work. She generated publicity by refusing to allow reviewers access to advance copies of *The Sorrows of Satan* (1895), in which her attacks on the sins of high society delighted readers. Hers was a deeply conservative vision, and she opposed women's suffrage and the 'new woman'. She attracted a surprisingly diverse range of admirers, including Oscar Wilde and William Gladstone, and at the

height of her fame welcomed to Mason Croft such visitors as Sarah Bernhardt, Ellen Terry, Adelina Patti, Clara Butt, Mark Twain, General William Booth, Ella Wheeler Wilcox, and visiting dignitaries from Belgium, South Africa, Australia and the USA.

Corelli's assumption of the role of guardian of Shakespeare's legacy was resented by Stratford's worthies. Undeterred by hostility, however, she used her celebrity and influence to rally support for buildings threatened by redevelopment. *The Plain Truth of the Stratford-on-Avon Controversy* (1903), *America's Possession in Shakespeare's Town* (1909), and *Harvard House Stratford-upon-Avon, Guide Book* (1909) are testimony to her concern. Nevertheless, despite her serious contribution to Stratford's Shakespearean heritage she is remembered locally merely as an eccentric.

In 2006, The Shakespeare Institute hosted an international conference entitled *Suitable for the Boudoir and the Circulating Library: Marie Corelli and Popular Women Novelists 1880–1910*. Shakespeare Institute staff are amongst those currently creating an 'App' which proposes to include the character of Marie Corelli to lead users on a tour of Stratford-upon-Avon.



The Residence of Marie Corelli, Stratford-on-Avon.
Mason Croft c.1910 – © Shakespeare Birthplace Trust



H Donald Smith *Portrait of Marie Corelli*. Monochrome photogravure. c. 1897



Dudley Hardy *Corelli caricature* 1903 – © Shakespeare Birthplace Trust



H Donald Smith *Portrait of Marie Corelli*. Monochrome photogravure. c. 1897

Acknowledgements

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Thanks go to the following staff for nominating the achievements and shaping the entries: Professor Stephen Decent, Professor John Dowell, Susan Elias, Professor Brian Ford-Lloyd, Holly Grange, Professor Ian Grosvenor, Professor Mike Gunn, Lee Hale, Professor Matthew Hilton, Isobel Jackson, Dr Mark Kilby, Professor John Kinson, Professor Martin Powell, Dr Jonathan Reinartz, Professor Nigel Simpkins, Professor Paul Smith, Dr Elena Theodorakopoulos, Professor Peter Watkins, Rebecca White, Andrew Whiting, Alan Wright.

Special thanks go to the authors of the text in this booklet. They are, as follows:

1. Dame Hilda Lloyd – Anna Young
2. Abrams and Lightwood – Dr Mike Gammage
3. Sir Norman Haworth – Dr Tony Barson and Dr James Burdon
4. Sir Peter Medawar – Professor John Heath
5. Charles Lapworth – Jon Clatworthy
6. Frederick Shotton – Jon Clatworthy
7. Sir Edward Elgar – Professor Colin Timms
8. Sir Granville Bantock – Professor Colin Timms
9. Frisch and Peierls – Dr Robert Whitworth
10. Randall and Boot – Dr Robert Whitworth
11. Sir Mark Oliphant – Anna Young
12. John Henry Poynting – Dr Robert Whitworth
13. Margery Fry – Lucy Wheeler
14. Sir William Ashley – Dr Malcolm Dick
15. George Neville Watson – Dr Tomas Johansson
16. Louis MacNeice – Dr James Hamilton
17. Sir Nikolaus Pevsner – Dr James Hamilton
18. David Lodge – Professor Susan Hunston
19. Francois Lafitte – Clare Mullett
20. Centre for Contemporary Cultural Studies – Kieran Connell
21. John Nettlefold – Nadia Awal
22. John Sinclair – Professor Susan Hunston
23. Marie Corelli – Dr Maureen Bell

For full picture references of our objects (Research and Cultural Collections) and archive material (Cadbury Research Library) please see the following website:
www.rcc.bham.ac.uk/blueplaque

Please note

For reasons of clarity, the plaques have been placed on University buildings according to their current use. Over time, buildings on campus have changed their functions or been replaced, so in this booklet we indicate in which building the original work would have taken place.

To create the University of Birmingham's Blue Plaque Trail, all members of staff were invited to vote for an achievement which they felt should be honoured. Historical and modern achievements from all disciplines were considered by a selection committee comprising a wide range of representatives in order to make a fair decision. Although we feel that we have included a strong selection of notable achievements in this trail, it may be that you would like to suggest another plaque to be included at a later stage. If this is the case, please write to us at: info@rcc.bham.ac.uk



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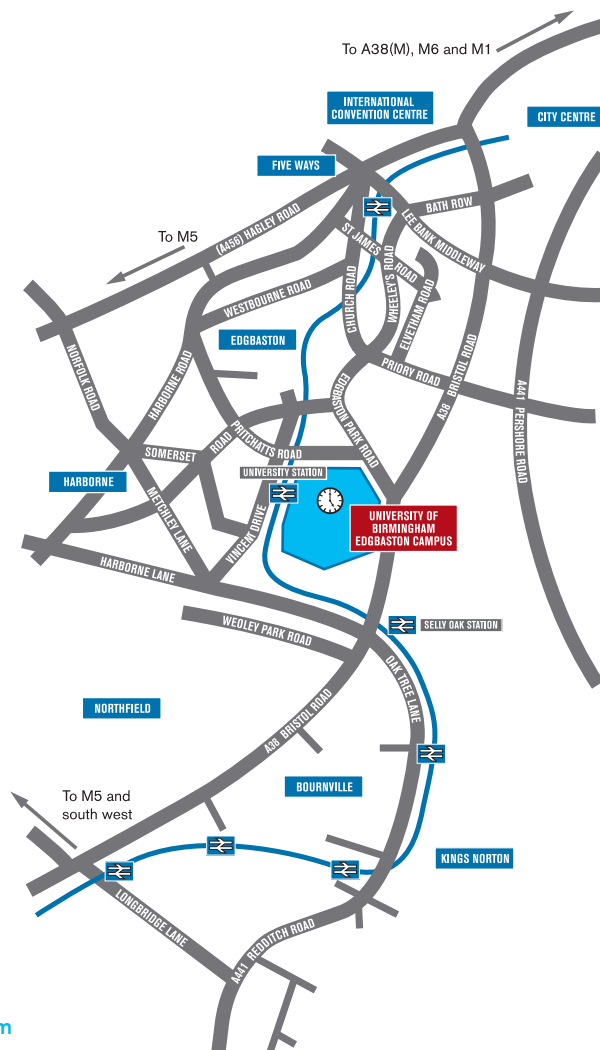
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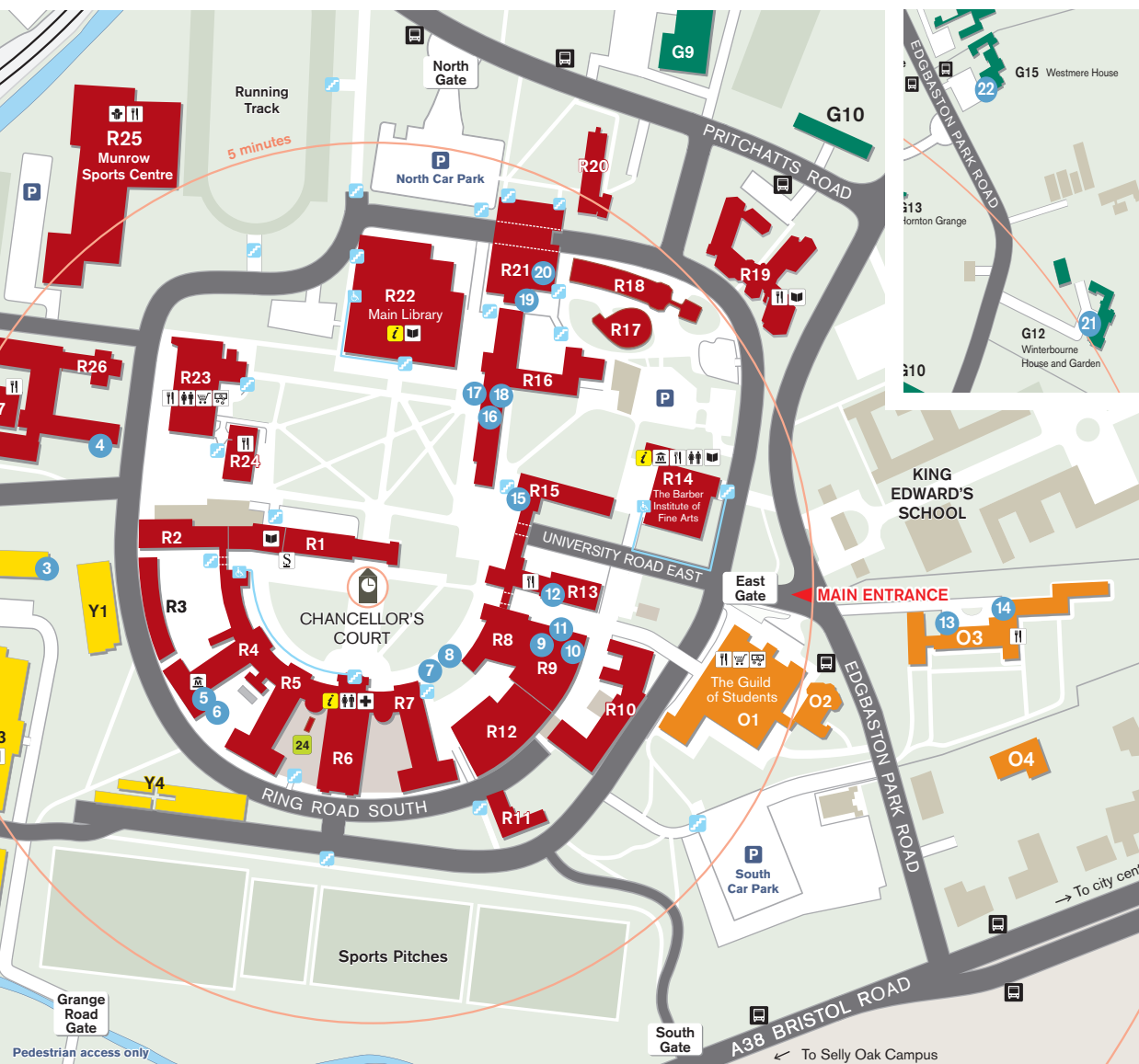
The Shakespeare Institute

Mason Croft Building, Church Street,
Stratford-upon-Avon, CV37 6HP

For a detailed street map of the town go to:

www.stratford-upon-avon.co.uk/soamapm.htm





Plaque locations

- | | | | |
|-----------------------|---|----|--|
| 1 | Dame Hilda Lloyd Medical School (B1) | 12 | John Henry Poynting Poynting Building (R13) |
| 2 | Leon Abrams and Ray Lightwood Medical School (B1) | 13 | Margery Fry Birmingham Business School – University House (O3) |
| 3 | Sir Norman Haworth Haworth Building (Y2) | 14 | Sir William Ashley Birmingham Business School (O3) |
| 4 | Sir Peter Medawar Biosciences (R27) | 15 | George Neville Watson Watson Building (R15) |
| 5 | Professor Charles Lapworth Aston Webb – A Block, Earth Sciences (R4) | 16 | Louis MacNeice Arts Building (R16) |
| 6 | Professor Frederick W Shotton Aston Webb – A Block, Earth Sciences (R4) | 17 | Sir Nikolaus Pevsner Arts Building (R16) |
| 7 | Sir Edward Elgar Bramall Concert Hall (next to R7) | 18 | David Lodge Arts Building (R16) |
| 8 | Sir Granville Bantock Bramall Concert Hall (next to R7) | 19 | Francoise Lafitte Muirhead Tower (R21) |
| 9 | Robert Otto Frisch and Rudolf E Peierls Nuffield (R9) | 20 | Contemporary Cultural Studies Muirhead Tower (R21) |
| 10 | Sir John Randall and Harry Boot Nuffield (R9) | 21 | John Sutton Nettlefold Winterbourne House (G11) |
| 11 | Professor Sir Mark Oliphant Nuffield (R9) | 22 | John Sinclair Westmere (G15) |
| Not on the map | | | |
| | | 23 | Marie Corelli The Shakespeare Institute, Stratford |

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