The Royal Aeronautical Society: Part 1 – The early years

The Beginning

“At a meeting held at Argyll Lodge, Campden Hill, on 12 January 1866, His Grace The Duke of Argyll presiding; also present Mr James Glaisher, Dr Hugh W. Diamond, Mr F.H. Wenham, Mr James Wm. Butler and Mr F.W. Brearey. Mr Glaisher read the following address:

‘The first application of the Balloon as a means of ascending into the upper regions of the atmosphere has been almost within the recollection of men now living but with the exception of some of the early experimenters it has scarcely occupied the attention of scientific men, nor has the subject of aeronautics been properly recognised as a distinct branch of science...’ and it was resolved “that it is desirable to form a Society for the purpose of increasing by experiments our knowledge of Aeronautics and for other purposes incidental thereto and that a Society be now formed under the title of the Aeronautical Society of Great Britain’ to be supported by annual subscriptions and donations.”

So read the first pages of the first minute book of the Aeronautical Society of Great Britain.

James Glaisher was a Fellow of the Royal Society and an astronomer and meteorologist of much distinction; Francis Wenham an engine designer with interests in scientific instruments, including microscopes, and Dr Hugh Diamond was a Doctor of Medicine and the Secretary of the London Photographic Society.

These men, of diverse interests, founded the Society, nominating Council and Office-Bearers. The eighth Duke of Argyll was elected President, with the Duke of Sutherland and Lord Richard Grosvenor as Vice-Presidents. Glaisher became Treasurer and Brearey was appointed Honorary Secretary, a post which he held until his death in 1896.

Rules were made quickly and presented for agreement and the objects of the Society were given as "for the advancement of Aerial Navigation and for Observations in Aerology connected therewith." The subscription was fixed at one guinea a year, which could be compounded for life for ten guineas.

The first public meeting was held in the rooms of the Society of Arts (later Royal), Adelphi, on 27 June 1866, less than six months after the meeting at Argyll Lodge. Thus began an association with the Society of Arts which lasted for more than 70 years.

At this meeting a lecture was given by Wenham on ‘Aerial locomotion and the laws by which heavy bodies impelled through air are sustained’.

Wenham’s lecture is now one of the aeronautical classics and was the beginning of the pattern of lecture activity which has survived to this day.

From the beginning, the Society aimed at heavier-than-air flight; it was concerned not only with balloons and kites and bird flight, although these played a part in the discussions.

At the end of the first year the Accounts were not difficult to render, for the income was £56 13s 0d, and the expenditure £46 18s 0d, a credit balance of just under £10. The total membership was 65. That year also saw the beginnings of the library of the Society, for the First Annual Report records that eight books had been presented, six of which were in French. In addition there were some 40 patent specifications.

The First Aeronautical Exhibition

Although a combined exhibition with the French had previously been mooted Brearey, in August 1867, proposed that an "Exhibition of Machinery and Articles connected with Aeronautics should be held in 1868." Brearey’s proposal was agreed by the Council, although the Society had been functioning for so short a time and had a balance of only 13s 6d. Members of the Council and others guaranteed the Society against loss.

The catalogue of the Exhibition, which was held at the Crystal Palace, Sydenham, contained 77 entries. These were divided into seven classes – light engines and machinery; complete working aerial apparatus; models; working models; plans and illustrative drawings; articles connected with aeronautics; kites or other similar apparatus. In the last class a prize of £50 was offered by the Ship-wrecked Mariners’ Society for ‘the best form of kite for establishing a communication from a wreck on
...and it was resolved “that it is desirable to form a Society for the purpose of increasing by experiments our knowledge of Aeronautics and for other purposes incidental thereto and that a Society be now formed under the title of the ‘Aeronautical Society of Great Britain’ to be supported by annual subscriptions and donations}

Early Inventions and Theories

The use of aluminium became commonplace in aircraft construction but few realise that it was proposed as long ago as 1869 by D S Brown in a paper read to the Society.

In the Annual Report of 1870 a systematic study of the connection between the pressure and the velocity of air was proposed; it was believed that such experiments would afford the only data in which a true science of aeronautics might be founded. The Report goes on “for this purpose an instrument has been designed by F H Wenham and approved by the Experimental Committee, which is intended to submit to the action of a fan not less than 30 inches in diameter, capable of delivering about 3,000 cubic feet of air per minute. A clear space of 15 feet or more in front of the fan will allow room for a square wooden trunk to guide the blast, ascertain its velocity, and insert the anemometer…”

This was the first wind tunnel in the world. The Experimental Committee consisted of James Glaisher and Charles Brooke, both Fellows of the Royal Society, and four engineers, F H Wenham, E W Young, D S Brown and La Feuvre. The tunnel was made at Penn’s Engineering Works at Greenwich but no drawings or details have been unearthed, although it is known to have been ten feet long and a foot and a half square, and to have had four flat plates. It aroused considerable interest when it was exhibited to members in 1872.

In 1871 Thomas Moy, a competent engineer and one of the enthusiastic pioneers, was elected a member of the Society; he was a confirmed believer in heavier-than-air flight and, with R E Shill, designed the Aerial Steamer. A model was shown to the Society in 1872 and in 1875 trials were made at the Crystal Palace. They were described by Moy in a paper read before the Society in 1875 – they were not successful. In this same year Brearey was awarded the Gold Medal of the Société Française de Navigation Aérienne, a Society which has not survived. Seventy-six years later, one of Brearey’s successors in the office of Secretary, Captain J L Pritchard, was also honoured by the French when, in 1951 at the fourth Blériot Lecture, he was presented with the Medaille Aeronautique. It was the first time this medal had been awarded to anyone in the UK.

Although powered flight was the goal towards which many were striving, one member, Artingstall of Manchester, was advocating man-powered flight, a study which, much later, was given a tremendous fillip by the Society’s Man-Powered Aircraft Group and the Kremer Prize.

The years which followed were somewhat sterile in the heavier-than-air field and it was Moy, in 1881, who voiced the thoughts of many when he said that the scientific progress of the Society appeared to be very slow. The reports contained translations of papers by Alphonse Penaud and, in 1876, a reprinting of the famous paper ‘On aerial navigation’ by Sir George Cayley who was recognised by many both in this country and abroad as the “Father of Aeronautics”.

Just 20 years after the formation of the Society, a paper by Captain Griffiths was read in 1886 on ‘Jet Propulsion for Aeronautical Purposes’ (the words “jet propulsion” had been used by Wenham in a paper in 1867); five years before, Scoffern had written “it is now definitely known that as this speed – 1,100ft/sec – is approached the resistance increases very rapidly.”
The Royal Aeronautical Society: Part 2 – Towards powered flight

The Annual Reports

During the years after 1866 the Society’s finances were in a very unstable position; sometimes there was a small balance in hand but, as often as not, the balance was on the wrong side of the ledger. All this time Brearey had continued to be Honorary Secretary, carrying on all the Society’s work from his home in Blackheath and paying money out of his pocket when required. At a Council Meeting in May 1890 Brearey was voted a sum of £20 13s 8d to defray expenses since 1880, or rather to help to defray his expenses, for this was all the money which could be afforded. In 1876 the membership had reached 100 but, over the next 20 years, it declined until, in 1897, there were only about 40.

Despite the smallness of the membership its standing was such that men like Baden-Powell, Sir Hiram Maxim, Lawrence Hargrave in Australia, Horatio Phillips and Percy Pilcher, Octave Chanute, Graham Bell and Samuel Langley, active in America, and Alphonse Penaud in France, became members.

Membership was being drawn from both Europe and America. This situation has not changed.

Soon after Maxim joined in 1891 he described his experiments to the members and two years later Brearey reported on the apparatus of Horatio Phillips. After Brearey’s report, James Glaisher, in the chair, spoke of renewed hope, concluding with the remark that he would leave with less disappointment than he had done on many previous occasions. This was the same Glaisher who had been present at Argyll Lodge at the founding of the Society.

In 1893 Brearey wrote in the Annual Report: “This little Society, which at no time numbered more than 100 members and which for some years has barely numbered 30, may be congratulated upon the influence which it has extended to all parts of the world where the subject is studied, and where during 28 years its reports have circulated.”

These Annual Reports, published each year from 1866 until 1893, are important. Not only did they contain a selection of the papers read before the Society and submitted to it but a final section, ‘Concluding Remarks’, presented a ‘state of the art’ picture each year. Indeed, for the first 25 years or so of its existence, perhaps the most important outcome of the Society’s activities was the publication of these Annual Reports which constituted the first continuous records of aeronautical endeavours in the UK. One thousand copies of the first Annual Report, 1866, were published and the cost of printing, noted in the Council Minutes in 1867, was £36 19s 6d.

In 1896 Brearey died after 30 years as Secretary. Both the Duke of Argyll and the Duke of Sutherland resigned, and the funds of the Aeronautical Society stood at five guineas.

F W Brearey was not an engineer, in fact he had no claim to any scientific background, but he was an enthusiastic believer in a future for heavier-than-air machines. He travelled widely, talking and lecturing, witnessing experiments and demonstrations and was tireless in his correspondence. He worked hard and caused others to work hard, coaxing and cajoling.

The Journal

Captain (later Major) B F S Baden-Powell, a younger brother of the founder of the Boy Scout movement, succeeded Brearey as Honorary Secretary and, at the meeting of the Council on 19 December 1896, made two courageous decisions; first to issue a quarterly journal and, second, to build up a library by buying books. These decisions were made on a balance of five guineas.

It was soon apparent that the money available had to be increased and Baden-Powell offered to put up the money to start the journal. So, in January 1897, the first issue of The Aeronautical Journal was published and the subsidy by Baden-Powell continued for the next three years. The first issue contained a brief obituary on Brearey, an account of the death of Lilienthal, who had been making glides of several hundred feet in Germany and who had inspired Pilcher in the UK, and a list of articles on aeronautics culled from contemporary publications. It was sold at 2s a copy.

So began a journal, now in its 120th volume which, with the Annual Reports that preceded it,
has provided a continuous record of aeronautical achievements. January 2016 also marks a new chapter for the Journal with the beginning of a co-publishing arrangement with the Cambridge University Press and the digitisation of the back catalogue.

**Pilcher and Hargrave**

Both Pilcher and Hargrave were doing important work about this time (1897) and the new Journal began to be used as a medium for their papers. Some by Hargrave on his box kites and rotary engine were reprints of work which had been described in New South Wales, Australia, where Hargrave, an Englishman by birth, lived.

Following Hargrave’s death in 1915 his widow presented his papers to the Society in 1920. The Society’s library has in its care Hargrave’s original letters, lantern slides and photograph albums. Hargrave’s notebooks were returned to Australia in 1963 where they are now housed in the Powerhouse Museum in Sydney.

Hargrave had corresponded frequently with members of the Society and, in May 1899, delivered a lecture to the Society on his box kites and soaring machines. The chair at that meeting was taken by Pilcher, who had been elected to the Council soon after he had joined the Society. He had begun his experiments in soaring flight in 1894 but soon after Hargrave’s lecture he died as a result of an accident – in September 1899 – in his glider on the Braye estate, Stanford Park, Market Harborough, after what the Journal described as, “from a scientific point of view, one of the most successful flights ever made by man. The fact of rising up from the level ground many feet into the air, solely by the aid of being towed by a very light line, is a triumph, proving that if the small amount of pull had been derived from a screw propeller such as Mr Pilcher had actually made, though never tried, it would have gone equally well. But there is an important moral to be learnt from this abrupt descent. Such an apparatus must be so constructed that if one little portion breaks, the balance of the machine will not be wholly destroyed thereby.”

This was possibly one of the first references to safety in the air, an aspect still exercising the minds of all concerned with aviation.

Pilcher was the first Briton to lose his life in the service of aviation and by his death the Society lost a member who had begun to demonstrate that flight was very near. His glider was presented to the Society and currently is in storage at the National Museum of Flight, East Lothian. Born in Bath, Pilcher had served an engineering apprenticeship in Glasgow and made his first gliding experiments on the banks of the River Clyde.

**The Turn of the Century**

On the outbreak of the Boer War in 1899 Baden-Powell with his regiment, the Scots Guards, went overseas. It was later recorded that his man-lifting kites had been used in wireless experiments in Africa. Serving abroad he could not carry on as Honorary Secretary but he was immediately elected President, the second one in the history of the Society.

The first three Honorary Secretaries, Brearey, Baden-Powell and E S Bruce, carried out the work of the Society at their own homes, for finances permitted neither the rental of offices nor paid clerical assistance until 1902 when, with the membership at 100 and a balance of £204, modest accommodation at 53 Victoria Street, London, was obtained at a rental of £20 a year.

Later that year Baden-Powell gave his Presidential address, which is worth quoting in part: “In America, Mr Wilbur Wright and his brother have been making wonderful progress with gliding machines and Professor Langley has been hard at work constructing a large machine ... What we see then, looming in the future, more or less near, according to the energies of and the encouragement we give to those pushing the matter forward, is the introduction of a new invention forming an invaluable and all-powerful weapon of war, an important aid to science and the practical knowledge of our globe, and a speedy, economical and pleasant mode of getting from place to place, such as will probably completely revolutionise our present methods of travel.”

Those words were spoken on 4 December 1902 – the beginning of the fulfilment of dreams and speculation was only a year away – and Baden-Powell has been proved right in his assessment of the future.

James Glaisher died in 1903, less than 12 months before the Wright brothers made their flights on 17 December. James Butler was the only founding member to live to meet the Wright brothers during their visit to London in May 1909.
**Powered flight**

With powered flight achieved at last, many more eminent scientists and engineers appeared on the lists of members of the Council – Prof G H Bryan, W H Dines and Sir Napier Shaw the meteorologists, and Lord Rayleigh, all members of the Royal Society.

The first authentic account of the flights of the Wright brothers to be published in the UK, ‘With the Power Flyer’, was contributed by Orville Wright and published in the April 1904 *Journal*. Names familiar today, such as F W Lanchester, J W Dunne, Handley Page, Moore-Brabazon, Santos-Dumont, appeared in the publications of the Society.

Lanchester read a paper on the Wright and Voisin machines. Moore-Brabazon was flying his Voisin biplane and, at the Aero and Motor Boat Exhibition at Olympia in 1909, Handley Page showed the monoplane designed by Jose Weiss. Samuel Cody exhibited his man-lifting kites and A V Roe his Triplane. Moore-Brabazon made the first circular flight of one mile in England; de Havilland was designing and flying at Farnborough; Dunne had demonstrated automatic stability and Grahame-White was becoming a public figure and popularising flying at Hendon and, most exciting of all, Blériot flew the English Channel.

The first award of the Society’s Gold Medal was made in November 1908, and presented in May 1909, to Wilbur and Orville Wright for “their distinguished services to Aeronautical Science”; this was followed in 1910 by a similar award to Octave Chanute “in recognition of distinguished service to Aeronautical Science.”

The Gold Medal is still the highest honour the Society can confer for work of an outstanding nature in aeronautics and it has been awarded only 78 times. The recipients have included Dr F W Lanchester, Prof Ludwig Prandtl, Juan de la Cierva, Dr Theodore von Kármán, Air Cdre Frank Whittle, Sir Geoffrey de Havilland, Lord Hives, Marcel Dassault, Elon Musk and the Rosetta Mission Team.

**Summary of Agreements Between the Society, the Aero Club, Aerial League and the SBAC**

On 3 May 1909 an agreement was signed between the Aeronautical Society of Great Britain, the Aero Club of the United Kingdom (now The Royal Aero Club) and the Aerial League of the British Empire (now The Air League) which established the separate roles of each organisation:

“The Aeronautical Society shall be regarded as the paramount scientific authority on aeronautical matters, and shall be consulted on all questions dealing with the scientific side of the question.

“The Aero Club shall be recognised as the paramount body in all matters of sport, and the development of the art of aeronautics.

“The Aerial League shall be recognised as the paramount body for patriotic movements and for education.”

Later, in January 1917, an agreement was arrived at between the Society and the recently formed Society of British Aircraft Constructors [later Aerospace Companies] [now called ADS] embodying the following main clauses:

“The Aeronautical Society of Great Britain shall be, as hitherto, the recognised paramount and representative body of the scientific and technological aspects of Aeronautics, including Aircraft Engines.

“The Society of British Aircraft Constructors is the paramount and representative body of the British Aircraft Industry, including Aircraft Engines.

“The two bodies shall co-operate and support each other in their respective spheres in the development of the Science and Industry of Aeronautics.”

**Rules and Regulations**

The Annual General Meeting in March 1910 was a stormy one because the members looked on the Council with much disfavour for spending money in 1909 on an experimental ground at Dagenham which was unsuitable and was much criticised. The ‘revolt’, if such it can be called, was carried through to 1911 when a Committee of Inquiry was appointed to report, not to the Council but to the members. The Society was on the way to becoming a professional and technical body. New rules were agreed.
Previously the Council had been self-electing. Now the members elected the Council of whom half had to be technical.

Grades of membership were created – Fellow and Associate Fellow – and members elected to these were technical; the need to encourage younger members, as Students, was also recognised.

In the same year Aerial Science Limited was formed to limit the liability of members: new premises were leased at 11 Adam Street, Adelphi, and the Preliminary Report of the Technical Words Committee, forerunner of the BSI Glossary of Aeronautical Terms, was printed in the Journal; there was an early understanding of the difficulty of nomenclature which has bedevilled aeronautics – and other sciences – ever since. ‘Shed’ was preferred to ‘hangar’ and the ‘helmsman’ was in charge of the steering. Although these two examples have not stood up to the usage of time, many others listed before 1914 have done so and are still in current use, such as “aeronautics – the entire science of aerial navigation,” locomotion now being substituted by navigation; pitot tube, elevator and undercarriage are others.

At the beginning of 1912 the first list of Associate Fellows was published; it included Griffith Brewer, A R Low, J W Dunne, W O Manning, Mervyn O’Gorman, Frederick Handley Page, and Horace Short. The first eight Fellows of the Society were elected in October 1913 – Horace Darwin, FRS; W H Dines, FRS; J W Dunne; Dr R T Glazebrook, FRS; Sir George Greenhill, FRS; Col H C Holders, FRS; Alec Ogilvie, FRS; Dr W N Shaw, FRS. That same year it was announced that examinations for Associate Fellowship would be held. However, the 1914-18 war intervened before the examinations could be instituted and it was not until 1922 that the Society’s first examinations were held.

The Wilbur Wright Memorial Lecture

Following the death of Wilbur Wright in May 1912, an appeal was made so that the Wilbur Wright Memorial lecture might be established. This important lecture is still delivered, although since December 1965 it has been renamed the Wilbur and Orville Wright ‘for their distinguished services to Aeronautical Science’ at the Institution of Civil Engineers, Great George Street, London SW1, 3 May 1909. From left: E.S. Bruce, Dr Shaw, Lt Col Templer, Col Trollope, Wilbur Wright, E.P. Frost (President), Orville Wright, J.C. Inglis, Major B.F.S. Baden-Powell and Sir Hiram Maxim. RAeS (NAL).

The 1914-18 War

Despite two wars, the blackouts and the bombs, there is no gap in the Wilbur Wright Memorial lectures, from the first – delivered in May 1913 by Horace Darwin – to the 104th given in December 2015 by Nigel Whitehead.

Presentation of the first Gold Medal of the Aeronautical Society of Great Britain to Wilbur and Orville Wright ‘for their distinguished services to Aeronautical Science’ at the Institution of Civil Engineers, Great George Street, London SW1, 3 May 1909. From left: E.S. Bruce, Dr Shaw, Lt Col Templer, Col Trollope, Wilbur Wright, E.P. Frost (President), Orville Wright, J.C. Inglis, Major B.F.S. Baden-Powell and Sir Hiram Maxim. RAeS (NAL).
The Royal Aeronautical Society: Part 4 – The 1920s

Qualifying Examinations

The Council realised that there would have to be a meaning to the qualifications of Associate Fellow and Fellow, thus demonstrating that these grades guaranteed a standard of knowledge of aeronautics and that an Associate Fellow of the Society had not been elected on his experience alone. Accordingly, in 1920, an announcement was made to this effect and new regulations about examinations, originally planned for 1912, came into force in 1922.

At the suggestion of Colonel The Master of Sempill, on the 25th anniversary of the Wrights’ first powered flights, 17 December 1928, the Royal Aeronautical Society held a dinner at the Science Museum under the original 1903 Flyer. In protest at the Smithsonian Institution’s lack of recognition of the Wright brothers’ achievement, Orville Wright had shipped the original 1903 Flyer to the Science Museum, London, in January 1928, under whose care it remained until October 1948.

In 1933 the Chairman of the SBAC, founded 50 years after the Society, wrote to the President of the Society:

“The Society of British Aircraft Constructors has followed with great interest for some years the constant efforts which the Royal Aeronautical Society has made to make the Associate Fellowship of the Society very real qualifications.

“They are satisfied now that each grade calls for such experience, training and technical knowledge that, other things being equal, an Associate Fellow of the Royal Aeronautical Society should be chosen for a post in Industry in preference to one not holding one of these qualifications.”

Possibly the original syllabuses might not be impressive today but, over the years, the entire pattern of scientific and engineering education has changed completely.

The earliest examinations had two parts. Part I consisted of papers on English and Elementary Mathematics and these were labelled General Education Qualifications. Part II required two papers from a large variety of subjects, including aerodynamics. By today’s standards this seems somewhat elementary but, in the 1920s, one of the British universities provided a course consisting only of one-hour lectures, three days a week, for two terms; the lectures covered aerodynamics, performance and propulsion, but at that university there were no laboratory periods. Examinations were held overseas as far as India and Australia with the subjects expanded to cover non-engineers (e.g. pilots) and were only discontinued in the 1970s.

The 1920s

To return to the post-WW1 period. In 1919, J Laurence Pritchard became Editor of the Journal and Lt Col W Lockwood Marsh was Secretary. At Cambridge Pritchard took a degree in mathematics and then went to Fleet Street. During the war he was transferred from the Army into the Royal Naval Air Service to work on calculations for aircraft structures. With Professor A J Sutton Pippard, with whom he had worked at the Admiralty, he wrote Aeroplane Structures.

In 1923 the Society organised the first International Air Congress to be held in London. The President of the Congress was HRH The Duke of York and it was officially opened by HRH The Prince of Wales who, with his brother, was joint patron of the Society. The Congress was a great success and was attended by some 551 representatives from 21 countries.

Nevertheless membership was falling – from 1,100 in 1919 to 800 in 1923. In this same year the Carnegie United Kingdom Trust donated £500 towards the purchase of rare books for the library. However, the general financial structure was becoming worse and, by 1925, with the membership at little more than 600, the Society could no longer afford to pay a Secretary. Lockwood Marsh, probably to become better known as the founder and Editor of Aircraft Engineering, resigned. Now the Society was almost back to its starting point but Pritchard, Editor of the Journal with a token salary only and earning his living as a freelance journalist in Fleet Street, became Honorary Secretary and then, as the Society’s finances improved, Secretary from 1926.

Above: The President’s address and reception at the Royal Institution, London, to celebrate the 90th anniversary of the Society on 12 January 1956. The vote of thanks was seconded by Capt Laurence Pritchard, HonFRAeS, RAeS Secretary 1926-1951.

Below: At the suggestion of Colonel The Master of Sempill a dinner was held by the Society under the original 1903 Wright Flyer on display in the Science Museum, London, to celebrate the 25th anniversary of the first flight. RAeS (NAL).
Once more the Society was at a low ebb but again there came a steady although unspectacular improvement. Both the Air Ministry and the SBAC gave donations of £250 per annum. Pritchard visited the British aircraft firms to enlist their help and many agreed to encourage their employees to join the Society; in many cases the encouragement took the form of agreement to pay the entrance fee and, for the first year, the annual subscription. This drive for membership increased the total to over 1,200 in four years.

In 1925 the Guggenheim Fund gave the Society £1,000 on condition that it was spent. So the Journal was enlarged and a collection of slides was begun in the library but lack of funds still curtailed the activities of the Society. Pritchard began a series of lectures at schools throughout the country to stimulate interest and in three years delivered 100 lectures.

The Institution of Aeronautical Engineers, which had been founded in 1919, was also feeling the financial pinch and, in 1927, it was incorporated in the Society; from then, until 1960, the full name of the Society was ‘the Royal Aeronautical Society with which is incorporated the Institution of Aeronautical Engineers.’ In 1960 to this was added ‘and the Helicopter Association of Great Britain’ which was amalgamated with the Society that year.

The Branches

In 1925 formal rules for Branches of the Society were drawn up by the Council. After the war there had been considerable interest in aviation in Scotland and a Branch had been formed there in 1919 but the administration and other arrangements were not satisfactory and it was wound up in 1926. Under the new Rules and more satisfactory conditions in 1925, a Branch was formed at Coventry. This Branch has continued ever since. Subsequently a Branch was established at Glasgow in 1944.

Since 1966 the RAeS has expanded its UK Branch network to cover areas of aerospace activity, such as Farnborough and Cranfield that previously were not served by a local Branch. The Branch network has also been flexible and responsive to demographic changes within the UK aerospace industry and has established successful new Branches in growth areas such as Gatwick and Cardiff. Similarly, the evolution of the industry has resulted in the closure of some Branches primarily as a result of industry rationalisation and redeployment. Examples are Leicester, Merthyr Tydfil, Halton, Reading and Middle Wallop, the latter closing in 1995 due to the Army School of Aeronautical Engineering relocating to Arborfield.

Aerospace is now a global industry and the Royal Aeronautical Society has successfully evolved in line with the aerospace community it seeks to represent. Development of the Society’s global profile and influence is reflected in the growth of RAeS Branches around the world. Today the Royal Aeronautical Society is a truly global organisation and proudly boasts an international network of 67 Branches covering all the major centres of the global aerospace industry, including Toulouse, Seattle and Munich. Annually the RAeS Branches now host 400 lecture evenings around the globe.

The Branches of the Society are unique in one respect; all other engineering institutions confine the membership of local associations to members of the parent Institution only but membership of the Branches is open to all interested in aviation.

The Second Aeronautical Exhibition

In 1929 an International Aero Exhibition was held at Olympia and the Society brought together a remarkable historical exhibition. This was a comprehensive selection of historical material giving a record of man’s struggle for flight from the legendary tales of mythology up to 1914. The success of this exhibition was due to J E Hodgson, Honorary Librarian of the Society. Hodgson loaned material from his own collection and many others produced engravings, manuscripts, books, models and other objects and inventions. Exhibits were received from France, Italy, Germany and Sweden. Lectures on the progress of aeronautics were delivered by speakers from France, Holland and Sweden, as well as from the UK; the Australians, Kingsford Smith and Ulm, lectured on their pioneer transpacific flight. It took 30 pages of the Journal (October 1929) to list and give a brief description of the exhibits.
The Royal Aeronautical Society: Part 5 – WW2

The Move to No.4 Hamilton Place

In 1926 there had been an appeal for an Endowment Fund specifically for the acquisition and upkeep of a new home. Largely through the efforts of various Presidents, from the small beginnings of 1926 it swelled over the years to well over £100,000. By the time the Society finally achieved its own lecture theatre in 1960 the Endowment Fund had reached over £130,000.

By 1937, the membership had reached almost 2,000 and the library was outgrowing the available accommodation. It was clear that the offices of the Society were again becoming too small, so appeal efforts were intensified for the Endowment Fund. In 1938 the Society acquired from the Crown the lease of No.4 Hamilton Place, together with the mews property opposite, 8 and 9 Hamilton Place. Believed to have been built about 1805 by Adams and previously occupied by the late Leopold Albu, who spared no expense to make the house one of the most dignified and gracious in London, No.4 Hamilton Place became the headquarters of the Society. A Committee, with advisers from the Royal Institute of British Architects, was formed to make the necessary alterations and to furnish the premises in keeping with the dignity of the Society and the original beauty of the house. All the furniture and fittings – in mahogany and walnut – in the Council Room and Committee Rooms were specially designed. The official opening took place in 1939 with a two-day reception on 16 and 17 June. Three months later, WW2 broke out.

Wartime Activities

Many of the Society’s most treasured possessions, such as rare historical books, old prints, irreplaceable and valuable items, including the minutes of the Council meetings since 1866, were moved to the country; records and lists of members were duplicated and one set was kept in the country. Although the offices did not receive any direct hits from bombs, windows were blown out and other damage caused on several occasions. Everyone on the staff fire-watched.

Many of the normal activities of the Society were suspended for the duration of the war but new and important activities began. With the co-operation of the Air Ministry and the then Ministry of Aircraft Production, the Society arranged a number of secret weekend meetings early in 1941 at which members of all the Royal Air Force Commands and the Fleet Air Arm met leaders of the aircraft industry. Wartime operational experience, criticisms and ideas were freely exchanged between pilots and air crews, ground crew and staff, and the designers and aircraft and engine makers. Among the topics discussed at these meetings were the fighting qualities of aircraft, engines, maintenance, propellers, undercarriages and accidents. As the tempo of the war increased and because of increasing war restrictions and the difficulty of transport, food, accommodation and the bombing, these meetings had to be discontinued at the end of 1942 – but they accomplished much that was important.

In addition, from 1941 until 1946, there was an Advisory Committee of the Society which reported directly to successive Ministers of Aircraft Production. The suggestion for such a Committee was originally made by Sir Henry Tizard, a Past-Chairman of the Society, when he was Special Technical Adviser to the Minister of Aircraft Production, at that time Lt-Col J T C Moore-Brabazon (afterwards Lord Brabazon), a Past President of the Society. The proposal was put by the Minister to the Council and the Advisory Committee was formed almost immediately. It consisted of six or seven leading technical representatives of the aircraft industry, drawn from the membership of the Society, to whom the Minister could refer any problem on which he wanted advice. The Committee was also empowered to advise the Minister on problems which it considered required urgent solution for the war effort. Ministers availed themselves of both kinds of advice in an atmosphere completely free and unrestrained. Although the membership changed under pressure of war, A H R Fedden (later Sir Roy) remained as Chairman throughout and Pritchard was the Secretary to the Committee. This Committee was kept in being by succeeding Ministers of Aircraft Production. Among those who served on this Committee were Sydney Camm, Arthur Gouge, E W Hives, R K Pierson, C C Walker, Major T M Barlow, Major F B Halford, Roy Chadwick – all leading aircraft and engine designers – and Dr L Aitchison, one of the foremost metallurgists.

Meetings with the Minister were held once a month and during the five years of its life the Committee prepared no fewer than 40 secret memoranda on problems arising from the war. Lord Brabazon wrote to Fedden:

“The Royal Aeronautical Society and especially those members who gave their time at so difficult a period in the war are to be congratulated and thanked for what they did to bring about a successful air triumph.”

So secret was the work of this Advisory Committee and the work done at the weekend meetings between the Services and industry, that...
only those members closely connected with them knew anything about them until after the war. The full story has yet to be told.

Despite the war some of the more normal activities were continued or gradually resumed. New rules for the grade of Fellow were passed, Branches resumed lectures, as did the Graduates’ and Students’ Section. In 1939 the Society had held discussions with the University of London and agreement had been reached on the founding of a BSc in Aeronautical Engineering; resolutions on the Education and Training of Aeronautical Engineers were forwarded to the Ministries of Labour and Aircraft Production, to the Air Ministry and to the Board of Education. Arrangements were made to enable the Associate Fellowship Examinations to be held in POW camps, at stations of the Royal Air Force and aboard HM ships.

**Design Data**

Another wartime activity of the Society, also secret at the time, which became of increasing importance in the years that followed, was the setting up of a technical department in 1940 and the appointment of special technical committees to produce data sheets, first on stressed-skin structures and, in 1942, on aerodynamics. These secret data sheets proved of inestimable value during the war to the aircraft industry at home, in Canada, Australia and in the United States of America.

Although the Society had produced some data sheets in 1927, and the Institution of Automobile Engineers produced a number in 1921, the Society can claim to have pioneered, with its technical committees and specialist technical staff, the collection, critical evaluation and presentation of design information in a form immediately usable by designers and technicians, so saving them innumerable hours of individual research.

After the war the technical department lost a number of its members but, in 1951 and 1952, new staff were engaged and work on the now unclassified data sheets was greatly expanded to cover not only structures and aerodynamics but also performance, fatigue and, for several years in co-operation with the Institute of Fuel, fuels and oils. In 1960, at the request of the SBAC and the Ministry of Aviation, the work of the technical department was extended to cover transonic aerodynamics and, in 1962, flight dynamics. This work was financed by the SBAC and the Ministry of Supply (afterwards the Ministry of Aviation) which made equal contributions. Consequently, the Society's long-established Aeronautical Series and the Institution's Mechanical Engineering Series formed interlocking parts of a system of data sheets and memoranda in a common format.

In 1966 the work of ESDU was extended to the Chemical Engineering field, in co-operation with the Institution of Chemical Engineers. In 1968 ESDU moved out of No.4 Hamilton Place and the mews houses at 8 and 9 to rented offices on the fifth floor of 251-259 Regent Street. Subsequently Council decided to sell ESDU (29 June 1982) as a separate organisation. ESDU was later acquired by IHS in June 1997.

“...the Royal Aeronautical Society and especially those members who gave their time at such difficult a period in the war are to be congratulated and thanked for what they did to bring about a successful air triumph..."
The Royal Aeronautical Society: Part 6 – Post-war

Post-war Period

The years after the war were busy ones in every way; the number of members had grown to some 5,000 by 1945 and there were 24 Branches. To each of the three Vice-Presidents of the Society was allocated a special sphere of influence; to one, a revision of the rules, problems affecting membership and general policy; to another the technical work and to the third, co-ordination of the Branches and their welfare. The By-Laws were revised preparatory to the application for a Royal Charter, which was granted by His Majesty King George VI, Patron of the Society.

For the first time since 1927 the subscriptions of members were raised. A President's Badge of Office was designed and was presented to the Society by Sir Frederick Handley Page, the President at that time; in 1947, he also bought and presented to the Society the Cuthbert-Hodgson Collection of aeronautical prints, books and relics covering the history of flight. This collection, begun some time before 1820 by John Cuthbert, and added to over the years by other people, came up for sale during the 1914-18 war and was bought by J E Hodgson, the Honorary Librarian of the Society. Although he received many tempting offers from America and elsewhere, he had always hoped that, finally, the collection would come to the Society.

Lectures at Branches

In 1948 the Council decided to hold at least one main lecture of the Society each year at a Branch. The first was given at Birmingham in October 1948, with the President in the chair. Each President has been so encouraged by the attendance and enthusiasm shown on these occasions that the number of main lectures given at Branches during the year rose from one in 1948 to nine in 1965.

Branches of the Society had not been confined to the UK. On the amalgamation of the Institution of Aeronautical Engineers in 1927 the Branch of the Institution in Australia became the first overseas Branch of the Society. Subsequently, Branches had been formed in Montreal and Ottawa, in 1930, and in New Zealand and South Africa after WW2. These overseas activities were encouraged by the founding of the British Empire Lecture – the second ‘named’ lecture to be established by the Society and first given in November 1945. This series of lectures, later known as the British Commonwealth lectures, was given annually, one year the lecturer being from one of the Commonwealth countries and the next from the UK. Lecturers were drawn from Australia, Canada, New Zealand, India and Central Africa. Home lecturers have included HRH The Prince Philip, Duke of Edinburgh, who honoured the Society by delivering the tenth lecture before an audience of about 800 members and friends in Church House, Westminster, in December 1954. On this same occasion His Royal Highness accepted Honorary Fellowship of the Society.

Divisions

In 1948 the overseas Branches were given greater autonomy by the creation of Divisions of the Society in Australia, New Zealand and Southern Africa – and later in Rhodesia (now Zimbabwe).

The Divisions were empowered to found Branches under the jurisdiction of the Division. Today there are Branches in Australia at Canberra, Sydney, Melbourne, Queensland (formerly called Brisbane), Perth and Adelaide; in New Zealand at Auckland, Bay of Plenty, Hamilton, Palmerston North, Wellington, Blenheim and Christchurch and in Southern Africa at Johannesburg and Pretoria. Each Division is self-governing, holds its own memorial lectures and awards its own medals. Since 1959 the President of each Division has been a member of Council of the Society. A Branch was established in Pakistan in 1984 which was upgraded to a Division in 1992.

The position of the overseas Branches in Canada was entirely different. There was a multiplicity of institutions in Canada, all trying to serve the aeronautical engineer. There were Branches of the Society but in name only for they were moribund; there were Sections of the American Institute of the Aeronautical Sciences and
there was the Engineering Institute of Canada which had an Aeronautical Division. With the encouragement of the Society and much assistance from the Institute of the Aeronautical Sciences, the Canadian Aeronautical Institute was formed in 1954. It is now the Canadian Aeronautics & Space Institute (CASI).

**Anglo-American Conferences**

Liaison between the Society and the American Institute of the Aeronautical Sciences (the IAS merged with the American Rocket Society (ARS) in 1963 to form the AIAA) had always been close because the Society played a leading part in the founding of the Institute in 1932. Pritchard visited America to advise there and the Institute was even modelled, in essentials, after the Society.

After the war it was decided that joint meetings should be held and in 1947 the first Anglo-American Aeronautical Conference was held in London, convened jointly by the Society and the IAS. This Conference set the pattern for succeeding ones and consisted of lecture sessions and discussions for most of a week, preceded by visits to firms in the aircraft industry and to government establishments. So successful was the first Conference that they were held every two years, alternately in the UK and in North America. In addition to the interchange of technical information, the goodwill, understanding and technical co-operation and the friendships that were established over the years did much to strengthen the collaboration between the countries. From 1959 the Canadian Aeronautics and Space Institute participated as a full member.


This sequence was broken in 1965 because the Society planned an International Congress as part of its centenary celebrations in 1966. The International Council for the Aeronautical Sciences (ICAS), which was formed in January 1957, held its fifth congress in London in 1966, with the Society as the organising body. The Society is represented on the Council and Committees of ICAS.

**Named Lectures**

The Society has always maintained close collaboration with aeronautical bodies in other countries. At the very beginning the first Council entered into 'cordial relations' with the Société Aerostatique et Meteorological de France which had been founded in 1865 but which, unlike the Society, did not survive. In 1948, with the establishment of the Louis Blériot Lecture, close association was maintained with AFITAE – Association Française des Ingenieurs et Techniciens Aéronautique et l’Espace (in 1971 AFITAE merged with the Société Française d’Astronautique (SFA) to form the AAAF). The Blériot Lecture was held jointly with the AFITAE and was given in Paris one year by a member of the Society and in the succeeding year by a Frenchman in London and commemorated Blériot's flight across the English Channel in 1909.

In addition to these ‘named’ lectures commemorating the great pioneers, the Society has inaugurated others in memory of British pioneers – the Lanchester Lecture in 1957 (in memory of F W Lanchester whose insight into aerodynamic problems as early as 1907 was so much in advance and so little understood by most people); the Cierva Lecture of the Rotorcraft Section, first given in 1961, and the Handley Page Lecture in conjunction with the Cranfield Society. The first lecture in this latter series was given by HRH The Duke of Edinburgh in 1963. More recent named lectures include: Beaumont (an Air Law Group lecture), Ballantyne (for young people), Brabazon, Sir Sydney Camm (biennial alternately with the RAF), Sopwith and Stewart (Aerospace Medicine Group lecture). The Branches, too, have their named lectures commemorating great names in aeronautics including: Sir George Cayley, Sir Henry Royce, Trenchard, Sir Geoffrey de Havilland, Templer, Sir Arthur Marshall and Willy Messerschmitt.

**Delegates from the first Anglo-American Conference visit the SBAC Show at Radlett. The group includes: Capt J L Pritchard, Sir Roy Fedden, Dr Theodore von Kármán, N E Rowe, Sir Frederick and Lady Handley Page, Peter Masefield, Halli Cox (RAeS President) and F R Banks, RAeS (NAL).**
Air Transport Courses

Under the new Secretary, Archie Ballantyne, the activities of the Society continued to expand. In 1954, the Society was asked to sponsor an Air Transport Course which, it was considered, would help to educate airline executives and to bring air transport operators and manufacturers together, to their mutual advantage. The Council of the Society decided not just to sponsor the venture but to run such a course.

The first Air Transport Course was held at Oxford in 1956, with the Secretary as Director and three resident lecturers, on the economics, operations and law of air transport and with ‘guest’ lecturers from international airlines and organisations. So successful was the course that it was held annually at Oxford into the new century. It was originally held over three weeks but was reduced to eight days at the request of sponsors who no longer wanted their staff away for so long. During the 1990s, week-long versions of the course were held in Kenya, South Africa and Cyprus.

Sections and Groups

During the post-war years aeronautics became more and more specialised and it was impossible to cover all subjects in any one lecture session to satisfy all members. In 1957, the Society authorised and drew up rules for the formation of sections to cover specialised activities. A Students’ Section of the Society had been formed in 1921, which became the Graduates’ and Students’ Section in 1934 when the grade of membership of Graduate was instituted, and this was now brought under the new rules for Sections. The first new section to be formed was the Guided Flight Section which soon became the Astronautics and Guided Flight Section. This was followed in 1960 by the Rotorcraft Section after the amalgamation with the Society of the Helicopter Association of Great Britain. Each Section was under the general direction of the Council but had a large measure of autonomy of its affairs under its own Committees and organised its own lectures, many of which were published in the Journal.

The first group to be formed, although before the new rules, was the Historic Aircraft Maintenance Group after the Society had bought, in 1953 (the 50th anniversary of the Wrights’ first flight), the Nash Collection of Historic Aircraft to prevent it being sold to America. It was then thought that a National Aeronautical Museum would be founded. The aircraft, which included a 1909 Blériot, 1912 Caudron GIII, 1913 Maurice Farman F40, 1914 Avro 504K, 1917 Sopwith Camel, 1917-18 Fokker DVII and 1918 SE5A, were restored by voluntary workers, enthusiasts and some ‘old hands’ – craftsmen with long association with aircraft going back to the 1914-18 war. The aircraft were shown at several of the Society’s Garden Parties, including the Centenary one but, in 1991 the nine aircraft from this collection, together with the Vickers Wellington bomber which had been added to it, were sold to the Ministry of Defence, realising over £250,000 and ensuring that the aircraft could be displayed and maintained by the RAF Museum. Some smaller items were not included in the sale.

In 1959, the first Groups were formed under the new rules. They were the Man Powered Aircraft Group, the Agricultural Aviation Group and the Historical Group. The Air Law Group was formed in 1961 and the Test Pilots’ Group in 1963. There are now over 20 Specialist Groups who meet to organise conferences, lectures and to write the occasional Paper in response to current topics of interest. The Groups include: Aerodynamics, Aerospace Medicine, Air Law, Air Power, Air Transport, Airworthiness and Maintenance, Avionics and Systems, Flight Operations, Flight Test, Flight Simulation, General Aviation, Management Studies, Historical, Human Factors, Human Powered, Rotorcraft, Space, Structures and Materials, Propulsion (this is a joint group with the Institution of Mechanical Engineers), Unmanned Air Systems and Weapon Systems and Technology.
Man-powered Flight

Just as in 1866, some members of the Society talked of man-powered flight so, in 1966, a number of man-powered flight enthusiasts had built lightweight aircraft to be flown by man alone. In 1959, a prize of £5,000 was offered by Henry Kremer, an industrialist, for the first successful flight of a man-powered aircraft flying a figure of eight around two markers half a mile apart. The Southampton University Man Powered Aircraft Group achieved the first man-powered flight on 9 November 1961, followed on 16 November by the first flight of the Puffin of the Hatfield Man Powered Aircraft Club. In May 1962 a special award of £50 was made to the Hatfield Club for a straight flight over half a mile. Unfortunately, both of these aircraft were damaged in accidents but a second Puffin was built and flew in 1965. All these aircraft, as well as two research projects, received financial assistance from the Society. Attempts were also made by enthusiasts in Liverpool and Halton.

Eventually the prize was increased to £50,000 and was won in America by Dr Paul MacCready with Gossamer Condor in 1977. Henry Kremer gave a further £100,000 for the first flight across the English Channel and that was again won by MacCready, this time with Gossamer Albatross in 1979. He then gave another £100,000 for a world speed competition. Interest was immediate and money was distributed to five prizewinners. There are still two further major competitions: marathon for £50,000 and sporting aircraft for £100,000. In July 2012 and again in 2013 the Society's Human Powered Aircraft Group organised the Icarus Cup where teams competed in various tasks.

The Lecture Theatre

For many years the Society had dreamt of having its own lecture theatre. The Annual Report of the Council for 1946-47 recorded: “It is with regret that the Society has no lecture hall of its own.” When the Presidential Address was, temporarily, revived in 1956 on the 90th anniversary of the Society, the need for the Society to have its own lecture hall in addition to its own home, was emphasised. Immediately one member, a Past President, Sir George Dowty, donated a cheque for £100. But, not until 1957 were active steps possible. Many sites and possibilities had been investigated but when the Hyde Park Corner Scheme was announced the Society was able to buy enough land from a neighbouring garden to 4 Hamilton Place to make a lecture theatre feasible. With access to the rear of the building made possible because of the reconstruction of Hyde Park Corner, and the possibility of extending the lease of 4 Hamilton Place, an appeal was launched. Members and industry responded and work on the Society's lecture theatre was started in 1959. On 2 December 1960, Lord Brabazon of Tara formally declared the lecture theatre open. At the same time a further (fifth) floor was added to the top of the house. In 1979 a new lease with the Crown Estates Commissioner was signed which would have expired on 5 January 2059, however, on 31 March 2009 the Society purchased the freehold, thereby safeguarding its headquarters for future generations. During 2003 the lecture theatre was refurbished following a kind donation from the Boeing Company. In 2006 the basement area under the lecture theatre, which for many years had been used as an overflow book and journal store for the Library, was cleared and completely refurbished following generous sponsorship by Airbus UK to create the Airbus Business Suite. A second donation from Airbus Group allowed substantial improvements to the access to the Suite, along with new basement toilet facilities. These were formally opened by Denis Ranque, Chairman of Airbus Group, on 19 January 2015.
At a Council meeting on 19 December 1896, the decision was taken to build a library by buying books. By 1937 the library was outgrowing the available accommodation at the Society's offices at 7 Albemarle Street and this was one of the reasons for prompting the move to No.4 Hamilton Place, where the large first-floor drawing room became the library's new home. By 1987 it was realised that this room was needed more frequently for both Society functions and outside lettings. The library was therefore moved to the third floor and the vacated room became the Argyll Room, named after the Society's founder and first President. In the following years other rooms were also named – Brabazon (currently the Members' Bar), Cayley (currently the Reading Room), de Havilland (now restored to its former open state), Handley Page, Sopwith, Hawker, Merlin, Eagle and Jupiter (the last three were in the basement).

Following the Pioneers of Flight Exhibition held 4-9 August 2003 – during which many key documents and publications tracing the early development of powered flight held in the Library's archives were displayed at Hamilton Place – the then RAeS President, Sir Peter Norriss KBE CB AFC FRAeS, noted how the exhibition had underlined the historical importance of the material in the Society's care, raising the question of how it should be looked after in future, suggesting that a 'national aviation library' should perhaps be created to accommodate such heritage collections.

The National Aerospace Library

A Society Library Working Party was subsequently formed and over the following years the Library's holdings (the vast majority of which were stored in rather cramped conditions in the basement of Hamilton Place underneath the lecture theatre) were reviewed in considerable detail. The development of this basement area into the new Airbus Business Suite in 2005 necessitated that alternative accommodation needed to be found to house much of this material and over various major moves many 1,000s of journals, technical reports and other publications were placed into storage in the old RAE 'A Shed' hangar at TAG Farnborough Airport, where they were shelved alongside the archives of BAE Systems Heritage.

This was intended to be a temporary storage arrangement until the Society established a more permanent home for the material but it was some years until the Society opened a ‘satellite’ library archive to complement the existing Library collections and service at the London headquarters. Located at Farnborough Business Park in the former Royal Aircraft Establishment (RAE) Q134 Weapon Aerodynamics/Space building, now known as The Hub, the National Aerospace Library opened for researchers on 27 November 2007, housing over 10,000 books and 40,000 technical reports formerly held in the basement at Hamilton Place, with additional staff support initially provided through the Hampshire Public Library service.

In May 2009 the Society's Presidential Advisory Committee decided to relocate the whole Library operation to Farnborough, along with the Careers and Education Department, the Society acquiring the lease to the adjoining area known as ‘The Secret Factory’, which formerly housed an exhibition on the history of the Farnborough site, into which the now much-enlarged Library expanded, the Library move being completed in August 2009.

The Collections

The library has grown, by bequests, gifts and purchases, into one of the most comprehensive aeronautical libraries in the world, for both technical and historical material. The resources of the library are used in many ways, apart from the borrowing of books by members.

The library is centred around essentially five major collections of books/pamphlets, journals, technical reports, regulatory material and the photographic collections (original photographs, glass lantern slides, ballooning lithographs, posters).

The Society's library holds an extensive collection of over 30,000 books (including
directories, conference proceedings, pamphlets and many rare books and unpublished papers). Extensive holdings are held of various company brochures and other internal publications produced by many of the leading aircraft companies over the years and, in particular, there are extensive holdings relating to the Bristol Aeroplane Company (and its predecessor British and Colonial Aeroplane Company) and Junkers. Particular note should be made of the library’s holdings of the Cuthbert-Hodgson, Poynton, Maitland and Lord Ventry collections of early ballooning, airship and other early aeronautical material.

The worldwide coverage of its journal holdings is a key strength of the library and, as this has been a policy of the Society since its formation, it has resulted in probably a unique collection recording the development of aviation around the world.

The Society’s library is a depository library for all ICAO publications (including the Documents, Circulars, Annexes and Digest of Statistics series), and holds a complete set of Jane’s All the World’s Aircraft and the Putnam reference series.

Concerning photographs, the Society’s library holds a very extensive photographic/glass lantern slide/lithographic collection of aviation images (well over 100,000) from the early days of ballooning through to the present day. Many thousands of digitised images from the collection can be viewed via the website www.aerosociety.com/printsandposters managed by the Mary Evans Picture Library.

Many of the early members of the Society and their descendants had the foresight to leave for posterity their books and papers to the Society and the Society’s library holds, among other pioneers, letters and other manuscripts of Sir George Cayley (1773-1857), John Stringfellow (1799-1883), Wilbur Wright (1867-1912), Orville Wright (1871-1948), Katharine Wright (1874-1929), Lawrence Hargrave (1850-1915), Major B F S Baden-Powell (1860-1937), C G Grey (1875-1953) and the design notebooks of F S Barnwell (1880-1938), in addition to various files of papers relating to the long history of the Society itself.

The library continues to be offered books and other aviation material by individuals, companies and organisations.

The library online

In 1998 computerisation of the library’s extensive catalogue was completed, the new web-based version, searchable via the Society’s website (http://aerosociety.cirqahosting.com/), being launched in 2013.

To coincide with the 2003 centenary celebrations of the Wright brothers’ first powered flight, the texts of the library’s Wright letters were published in full (Letters of the Wright Brothers, edited by Brian Riddle and Colin Sinnott and published by Tempus Publishing).

Digitisation of eight separate archive projects (Sir George Cayley notebooks [five], Wright letters, Lawrence Hargrave photograph albums [two], Percy Pilcher drawings, Horace Short’s Notebook, Henson’s 1842-43 Aerial Steam Carriage drawings, the British and Colonial Aeroplane Company Ltd Minute Book No.1 1910-1919 and the Aeronautical Society of Great Britain – Council Minutes Volume 1866-1909) was undertaken in 2014. In parallel a dedicated website (www.aerosocietyheritage.com) was developed during 2015 to enable researchers to view these key documents in the development of aviation on a page-by-page basis, and so help to raise the profile of the National Aerospace Library and its collections – one the world’s most extensive archives of material recording the evolution of Man’s attempts to conquer the dream of flight from prehistory to modern times.

For further information contact the National Aerospace Library.
T +44 (0)1252 701038 or 701060
E nal@aerosociety.com
The Society’s first Garden Party was held in 1919 at the Handley Page Aerodrome at Cricklewood. The idea originated as a ‘get together’ of members and their friends to celebrate the Society’s 50th anniversary, which it had not been possible to do in 1916. There was no flying at the first Garden Party but aeroplanes were on display and there was an aeronautical atmosphere. The next was not held until 1932 but, from then until 1939, the Society’s Garden Party, usually the first big aeronautical event of the year, was also one of the highlights of the year. There was always a flying programme in which many of the newest aircraft, both civil and military, were seen for the first time in public, flown by the country’s top pilots. Ambassadors, Air Attachés and visitors from all over Europe attended these Garden Parties which were not open to the public but to members and their friends only.

Garden Parties were held most years between 1947 and 1958 but there was then a gap until 1966. The flying programme at the Centenary Garden Party held on 19 June 1966 was representative of British aircraft from 1909 to the V/STOL Hawker P1127, the Kestrel. The static display ranged from the Society’s Nash Collection of historic aircraft (1909-1918) to the most advanced aircraft of the day – the BAC TSR-2. A combined Garden Party in 1991, held at the Shuttleworth Collection’s Old Warden Aerodrome, marked the Society’s 125th anniversary and the SBAC’s (now ADS) 75th anniversary while, in 1993, the Society held a Garden Party at the Brooklands Museum in conjunction with the Guild of Air Pilots and Air Navigators (now The Honourable Company of Air Pilots). The Society celebrated the 100th anniversary of the Wright brothers’ first flight by returning to Old Warden for a Garden Party and sunset flying display in June 2003 and again in 2004 and then in 2008 to celebrate the 100th anniversary of British aviation.

"the Society’s Garden Party, usually the first big aeronautical event of the year, was also one of the highlights of the year"
Above: Miss J E Schofield poses in front of a Miles Hawk Speed Six at the 1949 Royal Aeronautical Society Garden Party held at White Waltham Aerodrome on 8 May.

Left: The 1950, 1954, 1956 and 1993 Garden Party programmes. Top far left: John Profumo, Joint Parliamentary Secretary to the Ministry of Transport and Civil Aviation, and his wife, the actress Valerie Hobson, at the 1956 Royal Aeronautical Society Garden Party at Wisley on 15 July.

Middle far left: Outside the Enquiries Tent at the 1953 Royal Aeronautical Society Garden Party at Hatfield on 14 June. From left: Joan Bradbrooke, Editor, The Aeronautical Journal; Florence Barwood, assistant to the RAeS Secretary, Capt Laurence Pritchard, RAeS Secretary and Mrs Pritchard. All RAeS (NAL).

RAeS Garden Parties

1919 Handley Page, Cricklewood
1932 London Air Park, Hanworth
1935 Fairey Aviation, Great West Aerodrome, Heathrow
1936 Fairey Aviation, Great West Aerodrome, Heathrow
1937 Fairey Aviation, Great West Aerodrome, Heathrow
1938 Fairey Aviation, Great West Aerodrome, Heathrow
1939 Fairey Aviation, Great West Aerodrome, Heathrow
1946 Handley Page, Radlett
1947 Handley Page, Radlett
1949 White Waltham
1950 White Waltham
1951 White Waltham
1952 White Waltham
1953 de Havilland Technical School, Astwick Manor, Hatfield
1954 London Heathrow Airport
1956 Vickers-Armstrongs, Wisley Aerodrome
1957 Vickers-Armstrongs, Wisley Aerodrome
1958 White Waltham
1959 College of Aeronautics, Cranfield
1991 Shuttleworth Collection, Old Warden Aerodrome
1993 Brooklands Museum
2003 Shuttleworth Collection, Old Warden Aerodrome
2004 Shuttleworth Collection, Old Warden Aerodrome
2008 Shuttleworth Collection, Old Warden Aerodrome

Left: Charles Hughesdon and his wife, the actress Florence Desmond, at the 1939 Royal Aeronautical Society Garden Party at the Fairey Aerodrome on the Great West Road, London, on 14 May. RAeS (NAL).
The Royal Aeronautical Society: Part 10 – To the Present

SLAET Merger

The Society of Licensed Aircraft Engineers and Technologists (SLAET) merged with the Society on 29 June 1987. This released some office space at Grey Tiles, its Kingston-upon-Thames headquarters, which was taken up in January 1988 by the Membership and Publications Departments, together with The Air League which had been renting an office at Hamilton Place since 1973. These staff returned to London in 1990 and Grey Tiles was sold (31 October 1991). The Air League subsequently moved out to Broadway House, Tothill Street, in March 1997 to make space for the Society’s new Careers Centre.

Council of European Aerospace Societies

The Council of European Aerospace Societies (CEAS) was originally founded as the Confederation of European Aerospace Societies (CEAS) by the Royal Aeronautical Society, together with that from France (AAAF), Germany (DGLR) and Italy (AIDAA) at the Farnborough Air Show in 1992, following a long period of co-operation organising European aerospace technical conferences.

The Confederation has been further expanded on two occasions; firstly, in 1994 with the Spanish (AIAE) and Dutch (NVvL) Societies joining and secondly, in 1996, with the Swedish (FTF) and Swiss (SVFW) Societies.

In 2003 the eight constituent Societies decided to strengthen their co-operation by providing CEAS with a legal status and more flexible resources. The Confederation CEAS was transformed into the Council of European Aerospace Societies CEAS under Belgian law.

In later years the societies of Greece, Russia, Poland, the Czech Republic and Romania joined CEAS. At present CEAS consists of 13 National Member Societies which, in total, represent over 34,000 individuals. Apart from the member Societies, CEAS has a number of Corporate Members (ESA, EASA, VKI and Euroavia).

CEAS has co-operation MoUs with the International Council for the Aeronautical Sciences (ICAS), American Institute for Aeronautics and Astronautics (AIAA), Académie de l’Air et de l’Espace (AAE), Chinese Society of Aeronautics (CSA), Korean Society for Aeronautical and Space Science (KSAS), Association of European Research Establishments in Aeronautics (EREA) and European Aeronautics Science Network (EASN).


CEAS publishes a quarterly CEAS Bulletin and, since 2011, also a refereed and Scopus-indexed CEAS Space Journal and CEAS Aeronautical Journal.

CEAS organises its activities through a yearly CEAS General Assembly and a Board of Trustees. The CEAS Board of Trustees consists of representatives of all the CEAS Member Societies and the CEAS Officers. The yearly elected CEAS Officers are: President, General Director, VP Awards and Membership, VP Finance, VP External Relations & Publication, Branch Chief Aeronautics and Branch Chief Space. The CEAS Board of Trustees meets four times each year. It is responsible for the programme of conferences, as well as for the other co-ordinating activities.

Since 1998 the Confederation has presented annually a CEAS Gold Award to mark ‘Outstanding Achievements to European Aerospace’ – UK winners have been Sir Ralph Robins, Richard Case, David Southwood and Gordon McConnell.

Furthermore, CEAS annually presents a CEAS Technical Award in order to recognise outstanding contributions, by individuals or teams, to the advancement of aerospace technology in Europe.

Finally, CEAS can present its CEAS Distinguished Service Award to recognise persons who have made outstanding contributions or provided an exceptional service that helped to advance the vision and goals of CEAS.

For more information see www.CEAS.org

Following the success of the Society’s annual Ballantyne schools event, which runs to this day, the Society launched a dedicated careers service

Below: Careers in Aerospace LIVE, the Society’s recruitment fair, has become one of the biggest events in its calendar.
Careers Advice and Support

Following the success of the Society’s annual Ballantyne schools event, which runs to this day, the Society launched a dedicated careers service on 1 July 1997. Free 1-2-1 advice and guidance appointments are at the heart of the careers support and, given the persistent concerns raised over the lack of availability of quality careers advice, is an important function which sets the Society apart from other professional engineering institutions.

The RAeS launched the Centennial Scholarship Fund as part of the 100 years of powered flight celebrations in 2003, with generous support from RAeS members – corporate and individual. Awards are made to support individuals’ academic studies in aerospace/aviation, along with team awards for external aviation youth programmes. To date, over 400 awards with a value of over £650k have been made.

The Society’s recruitment fair, Careers in Aerospace LIVE, was launched in 2006 and has become one of the biggest events in its calendar. Taking place annually in November as the autumn recruitment cycle opens, around 700-800 visitors seeking careers in aerospace and aviation descend on RAeS HQ to meet like-minded employers and training organisations.

There were growing concerns around the low take-up of Science, Technology, Engineering and Maths (STEM)-related subjects among school pupils. With 2007 marking the Careers team's tenth anniversary, it was decided to celebrate with an event for children born in the same year. ‘Cool Aeronautics’ events were born, the first took place at the Society’s HQ, welcoming 90 pupils from London primary schools with talks from aerospace engineers, airline pilots, space engineers and interactive workshops. Today, the events are a key focus of the 2016 celebrations, with our biggest programme yet, reaching over 1,100 pupils in the first half of 2016, sponsored by the Airbus Group, introducing primary schools to the local aerospace community.

Schools Build-a-Plane Challenge takes off

The work with schools continued with the launch in 2009 by the Society and Boeing UK of the Schools Build-a-Plane Challenge (SBAP), one of the UK’s most ambitious school STEM programmes yet. Two secondary schools, Yateley School, Hampshire, and Marling School, Stroud, received their RANS SE6 Coyote light aircraft kits to build to LAA Permit to Fly standards, later followed by four more schools: Ercall Wood Technology College, Telford; Bridge Learning Campus, Bristol; Ernesford Grange Community School, Coventry; and North West Wolverhampton Academy.

2016 – Join us

This work, and more, is dependent on a network of volunteers and industry supporters. To get involved please contact: Rosalind Azouzi, Head of Skills and Careers T +44 (0)20 7670 4325/6 E rosalind.azouzi@aerosociety.com

The programme aims to demonstrate the high engineering standards teachers and pupils could achieve within a school environment. With all pupils offered the chance to fly in their aircraft after its Permit is issued, airworthiness and human factors understanding also become essential and in this respect the programme also demonstrates how aviation can develop young people’s emotional intelligence, maturity, confidence and raise aspirations.

In 2014, now completed, Yateley’s aircraft, G-YTLY, and Marling School’s aircraft, G-SBAP, became the first school-build aircraft to fly at Farnborough International.

2009 also saw the Society’s own in-house careers magazine launched, Career Flightpath, which is now published biennially and is in its fourth edition, featuring interviews with key professionals in aerospace and aviation, industry profiles, careers and job search advice.

Further projects include a Careers in Aerospace website launched in partnership with ADS in 2010 offering specialist careers information, advice and guidance and 2016 sees a project to redesign and relaunch the website with fresh content, mobile-device responsiveness and improved directory. In 2012 the RAeS began working with family radio station Fun Kids radio, producing two radio series for 8-12 year-olds. Based around a new character, Amy Aviation, 25 episodes are now available with Amy taking listeners on a journey through flight and aerospace engineering. Each episode is also animated with videos available to view for free via YouTube. The audio series has reached over 200,000 radio listeners and the online videos have been viewed over 20,000 times.
The Royal Aeronautical Society: 
Part 11 – RAeS publications

The Society has published many publications but currently these include three journal titles: The Aeronautical Journal; AEROSPACE and the online only The Journal of Aeronautical History, plus many published proceedings of conferences and symposia organised by the Society.

A summary of the many publications of the Society includes:

1867-1893 Annual Reports of the Aeronautical Society of Great Britain
1897-date The Aeronautical Journal (also published for many years under the title Journal of the Royal Aeronautical Society)
1919-1920 Transactions of the Royal Aeronautical Society Nos 1-3
1947-1978 Anglo-American Aeronautical Conferences proceedings
1949-1983 The Aeronautical Quarterly
1997-2013 Aerospace International
1999-2013 The Aerospace Professional
2011-date The Journal of Aeronautical History (online only)
2013-date AEROSPACE

In addition to these, the Society has published the proceedings of a large number of conferences that it has organised.

At various stages of its evolution the Royal Aeronautical Society has incorporated other aviation organisations which had their own publications that became amalgamated with those of the Society, the details of which are as follows:
Journal of the Institute/Institution of Aeronautical Engineers 1919-1927
Journal of the Society of Licensed Aircraft Engineers and Technologists 1952-1965 continued as Tech Air 1966-June 1987 then amalgamated with the aforementioned Aerospace.

Special issues of The Aeronautical Journal

On 17 December 1903 the Wright brothers achieved the world's first manned, sustained, controlled, powered flight in a heavier-than-air machine. In 1953 on the 50th anniversary of the Wright brothers’ flight the Society devoted a whole issue of its Journal to the Wright brothers.

In January 1966 the Royal Aeronautical Society celebrated the centenary of its formation and the issue of its Journal for that month was a large compilation of reminiscences and historical reviews of how aviation and the aerospace industry in Britain had developed during that time. At the same time the Society also looked forward with publications such as The Skyward Urge – Aviation 1866-2016: RAeS Graduates and Students Section Centenary Symposium 15-16 July 1966 and The Future of Aeronautics (London: Hutchison & Co, 1970) a compilation of the Second Century Papers contributed by various authors surveying potential future developments that could occur in aviation and aerospace in the second century of the Society's existence. This forward-looking theme was echoed in the special 1,000th issue of The Aeronautical Journal published in December 1996 and again in the 100th anniversary of powered flight issue of June 2003.

To mark the Society's 150th anniversary in January this year, a special issue of the Journal was published with papers from people who have made significant contributions to aeronautics. This was also the first issue of the Journal to be published in partnership with Cambridge University Press, which has also digitised the entire Journal back catalogue. This is now available for purchase and is accessible by visitors to the National Aerospace Library and No.4 Hamilton Place.

Delivering the Dream

Also to mark the Society's 150th anniversary, the Society published a commemorative book, Delivering the Dream, by Richard Gardner, which explores aviation's many milestones.