

Some of my Teenage Memories

On the 3rd September 1939 war was declared, I was then 12 years old and studying engineering at the South East London Technical Institute.

My main interest was in aviation and I spent a lot of my spare time making model aircraft. In 1941 I joined the Blackheath Model Flying club and flew with them at Epsom, the original field at Blackheath being denied to us for military reasons. I cycled from Lewisham to Epsom with a large box containing my aircraft strapped to my back, frequently accompanied by my friends whom I had met whilst at the SELTI.

We flew gliders and rubber powered aircraft on most Sundays, weather permitting. The club featured several champion model flyers including Ron Warring, who later became well known in the field of full size aerodynamics another, Derek Piggott became a world champion glider pilot and George Temple a prominent aircraft designer and aero dynamist.

Bill White, the club's secretary, became a pilot and was subsequently killed. There were many others whose names escape me at the moment.

In November 1941 the "Aeromodeller" reported that while flying for the Blackheath Model Flying Club I won the Faulkner Trophy with a flight of 54 seconds, flying a Wakefield model in blustery conditions.



An early photograph of me with one of my models

Apart from designing and making flying models I was also interested in making small scale models. Before and just after the war these were carved from wood to scale plans provided from the "Aeromodeller" and the excellent series of books called "Aircraft of the Fighting Powers." Later on kits became available and I managed to build up a considerable air force!





Two pictures of some of my many scale models built over the years

Some time after the war about a hundred of these models were sold to a collector, who apparently intended exhibiting them in a museum.

I have always been interested in aircraft and other forms of mechanical transport as this early photograph shows.



A Handley Page W.8 twelve seat airliner. The photograph was taken at Croydon Airport in 1932, when I was five years old. I am the small boy in the group on the right. (Photograph was taken by my father with his Kodak Brownie box camera).

I was very fortunate in that my father worked for the Evening Standard and we made frequent visits to the airport to meet important arrivals. I was more interested in the aircraft than the people, although I was reminded that I was named after Sir Alan Cobham following his epic flight from England to Australia in August 1926. (I was born in November 1926) He made the flight in a de Havilland DH 50 and for this achievement was knighted.

During the period from 1932 until 1939, when the visits to Croydon Airport ceased, there was always an abundance of de Havilland aircraft to admire; the others appeared to me to be developed from aircraft used in the First World War.

Most of the local people who were around during pre-war Croydon will remember the famous Handley Page airliners, especially the large ungainly HP 42 and 45 airliners.

The following three photographs are from my early collection of aircraft magazines:



This photo shows the Handley Page HP 45 Hercules which first flew on the 8th of August 1931 and continued to operate from Croydon until being impressed into service with the RAF on the 3rd March 1940.

I remember thinking the de Havilland aircraft (which were mostly powered by engines designed by Frank Halford) stood out from contemporary, and when I first saw the D H Albatross early in 1939, I thought it the most beautiful thing I had ever seen!



The de Havilland Albatross, “Faraday”

The Albatross was powered by four Gypsy twelve engines designed by Frank Halford. The first delivery of the Albatross was the 22-passenger DH.91 Frobisher, in October 1938 to Imperial Airways. The only significant season of their operation was the summer of 1939, when they were the main type on the two-hourly London Croydon to Paris Le Bourget passenger route. With the onset of the Second World War further development was curtailed.



De Havilland Flamingo

The war also curtailed de Havilland’s promising design the Flamingo. I believe this was intended to replace the Rapide, but again the onset of the war stopped further development. It was

introduced into airline service on the 15th July 1939 with only 14 being built. The last one in service was finally retired in 1950. It was the first all metal DH design and had two Bristol Perseus sleeve valve radial engines. The design of the engine although credited to Harry Ricardo, was influenced by Halford. In 1923 Frank Halford had set up his own consultancy in London, alongside the equally influential engine designer Harry Ricardo. Frank therefore had a hand in the design of the first sleeve valve engine as featured in the Perseus and all the subsequent derivations ending with the 3,000 HP Centaurus, an 18-cylinder, two-row design that was one of the most powerful piston aircraft engines to enter production.

The name de Havilland was seldom out of the papers, as well known male and female pilots were breaking all sorts of records whilst flying in one of his aircraft. If anybody could name an aircraft designer it had to be Geoffrey de Havilland!

However none of this would have been possible without Geoffrey's friend Frank Halford, a name long since forgotten, but not by me!

The Gypsy series of engines, designed by Major Frank Halford, featured in most of the pre-war de Havilland record breaking and commercial aircraft and were noted for their long life and reliability. Many examples are still flying today in Tiger Moths and Rapides (known in the RAF as the Dominic).

Apart from the brilliance he displayed in the design of aircraft engines I also knew him as a racing car designer and driver.



Frank Halford circa 1926. Photo from my early Flight magazine.

It is easy to see why, during my pre-war years, Geoffrey de Havilland and Frank Halford became two of my most respected engineers. As I began to enter into my teens I was already determined to seek a career in aviation.

In 1937, aged 11, I went to the Brockley Grammar School at Hilly Fields in Lewisham, however early in 1938 the school was evacuated (to Robertsbridge in Kent), I chose not to go. After a period without a school I attended the Morden Terrace Secondary School. This school had been re-opened during the summer of 1938 for those local children who had not been evacuated. Initially it was opened only on a part-time basis, but later in the year it opened to provide full-time education.

Later in 1938, now aged 12, I won a scholarship for the South East London Technical Institute (SELT) enabling me to start a 3-year full-time engineering course, which I completed early in 1941.

My first job was at the Redwing Aircraft Co, Croydon, which I joined in the summer of 1941. I was employed helping to make self-sealing fuel tanks for Wellington bombers. After a few weeks at Redwings I soon realised this was not the career I had in mind and approached the RAF at Kidbrooke to see what was available. Kidbrooke was the home of the No.1 Maintenance Unit

and Balloon Centre and was also the base for the RAF's Dance Band, the Skyrockets.

Following an interview at Kidbrooke I was offered a seven year mechanical engineering trade apprenticeship which I accepted, commencing the apprenticeship on the 17th of June 1941. Kidbrooke was also the home of the first Air Training Corps Gliding School, (No. 141) headed by Squadron Leader Furlong, a competent gliding pilot. I had already joined the ATC shortly after it was formed in February 1941, whilst still at the SELTI.

At Kidbrooke I initially worked with an ex Rolls Royce engineer helping to repair Merlin engines and more mundane things like making trolleys containing the batteries required for starting aircraft engines. After a couple of years I became restless and wanted to join the RAF, (as a pilot of course). I remember having a medical at the Yorkshire Grey (Lee Green), for something called the "Y" scheme, but heard nothing more. Eventually I learned that my application had been stopped because of my engineering apprenticeship. I realised that at the end of seven years the best I could hope for was to be a competent fitter, not what I had in mind when commencing the apprenticeship.

I was informed that it was not possible for me to work in their drawing office and they had nothing else to offer apart from experience in their workshops. I subsequently had an interview with the Station Commander, Wing Commander Clapp and learnt that he could possibly get me an interview with the Bristol Aircraft Company and, if successful, would be willing to transfer my apprenticeship. I said that I would prefer the de Havilland Aircraft Company, but he held little hope of that because the chances of an apprenticeship with de Havilland was very small and generally over-subscribed.

Nevertheless I wrote to de Havilland at Hatfield and was eventually summoned for an interview at their Stag Lane engine division at Edgware. I was asked questions about my previous schooling, work experience and why I had chosen de Havilland to further my career, this last part was easy! After what seemed like a lifetime I learnt that I had been successful and was offered a position as a trade apprentice, engine fitter and tester, which I gladly accepted.

I was informed that the hours of work would be from 7.30 am to 5.30 pm weekdays and 7.30 am to 12.30 pm on Saturdays. I was given a brochure to read (circa 1937) which described the aims of the apprenticeship training scheme and what was expected in return. No salary, but they would be willing to give me a small allowance to help towards my travelling expenses while I still lived in Lewisham. The thought of being able to work with the de Havilland Aircraft Co. was much more important than worrying about how I was going to get there and still be able to report for work at 7.30 in the morning! It didn't enter my mind as to how I could live without money, after all my parents had supported me so far and I must have thought they would continue to do so, fortunately for me they did.

Incidentally I recently learnt that Wing Commander Clapp was one of the founder members of the de Havilland Technical School.

To get to Stag Lane I caught a Southern Railway train at St John's station Lewisham, going to London Bridge and then an underground train to Edgware, followed by a 15 minute walk to Stag Lane. Subject to war time delays the time allowed to get to Stag Lane was about two hours.

I joined de Havilland's on the 14th June 1943 and commenced training in their Technical School's workshop, situated in the previous Vanden Plas coach works at Kingsbury, North London. I received training in their fitting, machine and engine sections. Many of my fellow apprentice's names now escape me but I still remember Peter Hazlegrove, Ron Bainbridge, Colin Doe, Jim Gearing, John Campbell and Mickey Ashman. The initial training lasted about a year and then I was transferred to the DH Engine Division at Stag Lane Edgware, which was headed by the famous engine designer, Frank Halford! I spent time in the engine assembly shops, working on the Gypsy series engines and then on to the engine test bed. There was great secrecy over Frank Halford's latest creation, his version of Frank Whittle's jet engine which was to become the Goblin and the first jet engine to enter production.

De Havilland has frequently been described as a family firm and despite the large number of

Employees (during the war de Havilland had over 38,000 on its payroll with 40% of them women) this was certainly my impression, we felt valued. I particularly remember the visits by its directors, including the “great man himself”, who would discuss things with you as equals, so different from other companies that I have since experienced. Despite the long hours and the hardships caused by the war it is an accepted fact that seldom was anybody absent through illness. In my case I was still living in Lewisham and had to make the journey to and from Edgware under war time conditions. This meant having to contend with air-raids, the black out, incessant smog and poor food, yet I cannot recall ever missing a day's work. The same applied when my journey time was considerably increased following my transfer to Hatfield.



The founder Directors of the de Havilland Aircraft Company. Standing, Francis St. Barbe and Charles Walker and seated, Sir Geoffrey de Havilland, Wilford Nixon and Frank Hearle

Joining de Havilland ended my career with the ATC. I had joined the Air Training Cadets, with two of my school friends, whilst still at the SELTI; this was shortly after the Cadets were formed in 1941. Apart from formal classroom training and the inevitable drill, we spent a week at various operational airfields. I remember visiting Holmsley South, Odiham and Wing.

Incidentally the Commanding Officer at Wing was Lionel Van Praag, an Australian whom I remembered as a speedway rider, having frequently seen him at the New Cross Speedway before the War. Lionel won the run-off for the Speedway World Championship against Eric Langton in 1936.

My brother William was seven years older than me and had joined the RAF at the beginning of the war, together with two of his friends, Teddy Daden and Stan Atkins. Both became pilots and were subsequently killed, Stan flying a Wellington bomber and Teddy flying a Beaufighter.

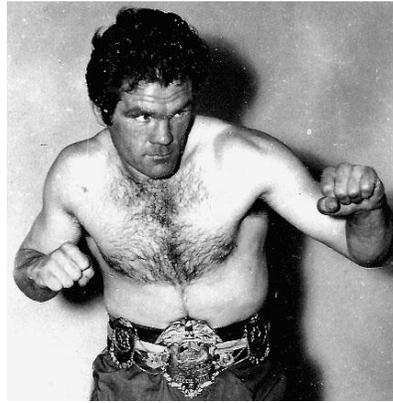
My brother joined as an aircraft rigger as he was not interested in flying. After training, early in 1940, he was sent overseas to Oudtshoorn, a training airfield in South Africa. He was very interested in physical training and attended a gymnasium in Catford. In 1937 he ran with Tommy Farr on Blackheath Common. (Tommy Farr was our current heavy weight boxing champion), during his preparation to fight the American world heavyweight champion, Joe Louis.

I remember that my brother used to receive a magazine called “Health and Strength” which featured nude pictures of both men and women, but it did little to help with my sex education as all the interesting bits were air brushed out.

While in South Africa we heard that he had been sparring with his PT instructor for whom he had a very high regard. He thought he could even become a future champion, his name was Freddie Mills! Freddie Mills became the World Light Heavyweight Champion on the 26th July 1948.



My brother Bill



Freddie Mills

My mother used to write to my brother several times a week but we were lucky if we got a reply within a month, and then several letters arrived at the same time, some were heavily censored making it difficult to understand.

Towards the end of the war my brother married a South African girl, Sylvia. She was the daughter of a well respected family who owned a principal South African newspaper called the Cape Argus. Apparently my brother was now mixing with South African gentry! We now started to receive letters from his wife and family who helped keep us up to date with the news.

Oudtshoorn was known as the No. 45 Air School and was situated about 300 miles from Cape Town. I have since wondered how my brother managed to get to know the family in Cape Town.

Early in 1940 my parents were requested to house an RAF trainee who was taking an electrical course at the SELTI and if my memory is correct the course lasted about 6 weeks. I remember several such trainee lodgers, while we still had a house!

Before the war I used to cycle to our local RAF Biggin Hill airfield to watch the aircraft. These were mostly Hurricanes and Blenheims with a few biplanes. I can't remember seeing any Spitfires at this time. We watched most of the events from a vantage point high up in the woods at Downe, at the northern end of the airfield. We continued these visits at weekends and sometimes in the evenings until late afternoon of Friday the 30th August 1940.

At this time the war seemed a long way off, although a lot had happened, mostly bad. We had already lost several of our capital ships including the aircraft carrier Courageous and the battleship Royal Oak and Hitler had conquered most of Europe, including France, with the evacuation of our troops at Dunkirk being only a few months away. The German Luftwaffe was busy attacking our shipping and coastal towns, but the war had not yet reached me.

On the 30th August 1940 I remembered that it was a sunny evening as we put our cycles down and prepared to watch events, everything appeared to be quite normal. On this occasion we were watching Hurricanes being refuelled and various other activities when suddenly we heard the noise of low flying aircraft quickly followed by the rattle of machine guns and the deafening sound of bombs exploding. The noise was terrible and in a very short time we could see our airfield was in a mess, planes and vehicles burning everywhere, with the sound of fire bells and ambulances. We had no warning that a raid was imminent and so it came as a complete surprise. We had a brief glimpse of the aircraft and they looked like our Blenheims, but we later found out that they were Junkers 88's. We were very shocked (I was 13 at the time) and surprised by the raid and it was sometime before I returned.

The London blitz started on the 7th September 1940 and lasted for 76 consecutive days and nights. For the first weeks the Germans seemed to do as they pleased, with little opposition. We heard a few anti-aircraft guns firing, but saw little of any real opposition from our fighters. On most days and nights we heard bombs exploding and the bells of rescue lorries. The next day we saw damaged houses and heard about people being killed and wounded. This was mostly by word of mouth as the news on our radio and newspapers were censored. If we listened to the German

radio an Irishman, William Joyce, known by us as “Lord Haw Haw“gave his version of the air raids. In the evening we listened to the radio and sometimes played card games or Monopoly.

I remember my mother frequently joining a queue, although mostly she had no idea what she was queuing for, it didn't matter, if it was still available when she got to the head of the queue she bought it anyway. A sausage, rabbit or even offal was considered a luxury. Lack of essential food was becoming a problem, even fruit and vegetables were now in short supply.

The actual Blitz has been very well documented, so I will only comment on my experience. I spent a lot of my school attendance in their air raid shelter. Sometimes I accompanied my mother shopping at Lewisham and Catford, but nearly always spent some time in a convenient surface shelter. We later heard that these were not safe, being constructed with a brick wall and a heavy concrete roof. Consequently if a bomb landed nearby, the blast could cause the walls to collapse and the heavy roof fall on the people inside. We had heard of deaths so caused but with bombs exploding near by it somehow seemed safer to get under cover. Incendiary bombs were falling everywhere and to make life even more exciting, the Germans added a device which caused the incendiary bomb to explode, causing an extra hazard.

Early in 1940 we had a dog and kept chickens and a pet tortoise in the garden. My father had strengthened the coal cellar for use in a raid. Because we had a cellar we were not entitled to an Anderson Shelter.

Sometime in November 1940 our house in Lewisham received a direct hit. The bomb also destroyed most of the houses in the adjoining road. I remember my aunt and uncle were staying with us as their flat in Brockley had been badly damaged. At the time my uncle was in the garden when he decided it was time to come in. He remembered reaching the top of the cellar door but nothing else. He had landed on top of my father amongst all the rubble of our cellar. At the time I had made my bed on top of some ladders, but was now on the floor. My father called to see if we were OK and was reassured by our answers. I remember that it was completely dark and that I had difficulty in breathing, because of the dust and smell of gas. As usual I had gone to bed in old clothes which now felt wet and uncomfortable. My father said he couldn't move because something was on top of him, it was my uncle! In a short time we heard welcoming voices enquiring if anybody was there and shortly afterwards were led to safety, wet and dirty, but otherwise unhurt.

We were taken to a local rest centre and given new clothes and a welcoming cup of tea. Next morning we went to see if anything could be rescued, but our house was just a heap of rubble. Most of the elderly had been evacuated so there was no shortage of empty houses which the council had commandeered. We were given one such house but at the end of the week had to move because it had been badly damaged by a close bomb. We managed to stay in the next house until the end of the war, despite it being frequently damaged by several near misses.

Eventually we had more anti-aircraft guns and these brought an extra hazard of falling shrapnel. I remember my father saying that there was more chance of being hit on the head with a piece of hot shrapnel than being hit with a bomb!

Another thing I recall is that our Navy brought some ships up the Thames to assist the London anti-aircraft guns. Cycling to Greenwich I remember seeing a destroyer which we learnt was the famous “Cossack,” the destroyer which had achieved fame when it had rescued our merchant sailors from the German prison ship, “Altmark”.

By June 1943 when I joined de Havilland, I was well aware that we were at war! I had very little time for relaxation, but enjoyed cycling, swimming and a little tennis, but no time for girls!

At Stag Lane I had spent time in their production work shops, which were mainly staffed by conscripted women. Most were young and obviously enjoying the freedom of being away from home. Their main interest appeared to be sex! As an introduction to girls I was not very impressed. The cleaners were always complaining about the sexual graffiti in the women's toilets, the foreman frequently admonishing the girls for their bad behaviour. As a young lad I felt intimidated and surprised! Although aged around 17 sex had not played an important part in my

life and had found many other things to interest to me.

There was a very strong communist element at Stag Lane and they were always complaining about something, including the food in the canteen. However this did not noticeably improve the situation. We had brown Windsor soup, Woolton pie, macaroni cheese, a fish called snoek, whale meat and other fancy named dishes but generally tasteless. Tea and cocoa were available, but not coffee. A bread roll and mug of tea cost tuppence (1.6p). The only fruit available was home grown and scarce. Because we were considered manual workers we were entitled to a more generous menu, but I don't think anybody noticed!

Despite the war apprentices were expected to dress smartly and to wear a collar and tie. Bad behaviour was not tolerated and could bring a strong rebuff from the apprentice supervisor, Mr Watford, even including dismissal and no return for any fees paid.

Initially I trained on Gypsy Major and Minor engines, which I found very interesting. At last I was with people who had made a real contribution to the aircraft industry, people I could respect! As part of my training I was expected to attend evening classes in order to obtain the Higher National Certificate in aeronautical engineering, at Hatfield Technical College. This was not practical while I was still living in Lewisham. After much discussion I was allowed to take the HNC in mechanical and structural engineering, at evening classes three nights a week, at my old school SELTI. This added to an already long day and left even less time for relaxation.

I did not find my time spent in the production workshops very interesting, after once learning the routine I became bored, but not the women! They were quite happy to do the same thing day after day, as long as they were in the company of other women and could discuss the things they did the night before. Fortunately I only spent a few months in each department, but it felt a lot longer than this before being transferred to a more interesting section.

On the 23rd August 1943 we were saddened to hear that Geoffrey de Havilland's third son John had been killed, when two Mosquitoes on test flights had collided.

During 1945 I was asked to attend an interview at Hatfield which resulted in my trade apprenticeship being re-graded to a student apprenticeship. This meant that I would be able to serve the last 3 years in the Company's design and drawing offices, but this was to be in their Propeller Division at Hatfield. I remember that there were several people at the interview including Squadron Leader Reeve and one of the founding directors. Frank Hearle. The interview was very friendly and several of my Vanden Plas apprentices were re-graded at the same time.

Whilst being very happy that this would bring me nearer to achieving my ambition of becoming an aircraft designer, I was very concerned about getting to Hatfield. The option of finding accommodation at Hatfield did not appeal to me, especially the cost. I decided to continue to travel from home.

On the 26th of September 1946 Geoffrey de Havilland lost another of his sons, the chief test pilot Geoffrey junior. He died when the Swallow he was flying crashed after completing a high speed test run. John Cunningham, an ex de Havilland apprentice, became the new test pilot.



The de Havilland Swallow first flew on the 15th May 1946

The de Havilland Swallow was designed to gain experience with swept wing aircraft and was powered by a single Goblin engine. Three were built and reached 640 mph in level flight. The DH108 Swallow established a number of "firsts" for British aircraft, it was the first British swept-winged jet aircraft and the first British tailless jet aircraft; it was also the first British aircraft to exceed Mach 1, the speed of sound.

To go back a bit, while at Kidbrooke I used to watch and listen to the resident dance band the Skyrockets led by Paul Fenhoulet, I liked this sound and started to collect records of this kind of music and early jazz, as well as classical records. My father did not approve of my music preferring opera. However my mother did and appeared to like the sound of swing bands and its vocalists. At this time she had a job at Docklands Youth Centre with Tommy Steele (aged about 6) being one of her pupils.

Although I had originally begun collecting classical records, swing and jazz began to take preference. I collected mostly American bands, but also included some British bands, such as the Squadronaires, Skyrockets, Geraldo, Ambrose and others. On the radio there was plenty of dance music and light entertainment to enjoy. The tune "In the Mood" was popular, played by Joe Loss and not Glen Miller, this came later.

I remember during my evening class period, hurrying home to hear boxing, which if I remember correctly was generally on a Tuesday evening beginning at 9 o'clock, with commentary by Raymond Glendening and inter-round summaries by Barrington Dalby.

I particularly remember the Bruce Woodcock fights; he was our heavyweight champion from 1945 to 1950. He had two epic fights with Freddy Mills winning both of them. Freddie Mills was our light heavyweight champion from 1942 until 1950 and world champion in 1948. Freddie Mills also appeared in several films. On the 25th July 1965 he was found dead in his car, believed to have been murdered by one of the London gangs. The mystery has never been solved.

On the 7th May 1945 Germany surrendered and the European War finally came to an end. After the victory parades and celebrations we became aware that austerity would still be with us for some time, but we did not realise for how long! We still had rationing which had started early in the war and had affected butter, sugar, bacon, ham, meat, canned meat, fish, clothes and furniture by a points system. Clothes and furniture were to a standard known as utility and not very exciting.

Vegetables were available but fruit was scarce, with little that had to be imported. Ration books had to be registered with a particular shop, no shopping around! When "treats" became available a queue quickly formed, although sometimes people at the end of the queue had no idea what they were queuing for. Bread was not rationed during the war but became rationed on the 21st of July 1946. Rationing didn't completely end until nearly ten years after the war, in 1954.

On the 15th of August 1945 Japan finally surrendered and with it the end of the Second World War. The war had occupied a very important part of my informative life, between the ages of 12 to 18. If nothing else I still remember the true friendship and self imposed standards that were necessary to help us survive. We needed the help and friendship of other people, having a lot of money and possessions was of little importance and then only if they could be of immediate help to others less fortunate. People mattered, not class, religion or the many other things that seem to keep us apart today. A famous novelist, J.B.Priestly, wrote "The British were absolutely at their best in the Second World War. They were never so good in my lifetime before it, and I'm sorry to say that they've never been so good after it".

I have no doubt that Winston Churchill's war time speeches were instrumental in providing us with the will to continue the fight. After all when he came to power on the 10th May 1940 (aged 66) we had very little to be proud of and virtually nothing left of our army after Dunkirk. Many, including the Americans, could not understand how we thought we could win this war, with no army, a small air force and with only our navy intact. In fact many in our government did not agree with Churchill and thought we should be discussing the best terms for surrender. They thought Churchill's defiant speeches only made it more difficult to negotiate with Hitler; thank

goodness they were wrong.

Churchill (Conservative) headed a wartime coalition government with Clement Attlee (Labour) as his deputy. The rest of the government featured ministers from both parties. At the end of the war there was a general election and Churchill was thrown out of power with a landslide victory for Labour, with Attlee as our new Prime Minister.

Whilst this had no reflection on our appreciation of Churchill's achievements during the war, Labour promised the electorate so much more, especially attractive to our returning troops. Unfortunately with a bankrupt Britain there was no way that these promises could be met and Churchill was returned as Prime Minister at the next election in 1951.

With the end of the war in 1945 and now aged 18, having survived the war my priority was to decide how best to survive the peace. I still had three years of my apprenticeship to complete and was beginning to wonder about my future. During the war we had a common goal and now that the war had ended it was up to me to decide my personal goal, but the memory of having to live for the day was far too recent to forget.

Although the London blitz had more or less finished in 1941 we were still subjected to German raids in the form of fighter bomber attacks, flying bombs and rockets. One of the last V2 rockets landed on the 27th March 1944 in Stepney killing 134 and seriously injuring many more, another landed in Orpington on the same day, with the final one landing in Swanscombe the next day. Unfortunately we did not know that this was to be the end of the raids and each day we expected more. It's a funny thing but after surviving a few near misses you began to, in a way, get used to them. The siren went and you proceeded to the nearest air raid shelter and waited for the all clear.

If on the streets the main problem was falling shrapnel from our own anti- aircraft guns. On several occasions I saw the bombs actually dropping from an aircraft, one from a Junkers 52 and another from a Heinkel 111. The bombs did not tumble altogether but fell separately in the line of flight. When we heard the first bomb explode we counted to see if the bomb's explosions were getting louder, if so we knew we were in the line of flight. There was a saying that you never heard the bomb that hits you, and I certainly had no warning of the bomb that demolished our house.

After a raid and going to work you could see the damage and hear first hand of any casualties, hoping it was somebody you didn't know. Again this was to be expected and you felt lucky that you were still alive and uninjured. I believe we all felt we had to do our bit and somehow always managed to get to work. I cannot remember being so ill that I couldn't get to work, despite the long hours and difficult journeys. The war certainly taught us clearly to see the things that really mattered and possibly set the standard of behaviour that the modern generation finds so difficult to understand.

In 1946 a de Havilland photographer (private cameras were not allowed) took a photograph of some students, I believe it was for the DH magazine



I am standing top left next to Peter Hazlegrove and Colin Doe and on the bottom row, John Campbell, and there my memory fails me; however the aircraft is an Avro Lincoln.

By the end of the war I had enjoyed very little social life. I had experienced contact with factory girls and was not impressed. In May 1944 there were nearly two million American service men over here, plus Canadians and other nationalities. Most were seen in the company of our British girls, some of the girls having husbands in the forces overseas. It was obvious that the main attraction of the Americans was that they had plenty of money to spend. The ordinary GIs earned five times more than a British private. They had a smart uniform and their accent reminded us of the glamour of Hollywood films. They had gum and candy, silk stockings, plenty of cigarettes and were generally very polite. What else did a lonely girl need?

Unfortunately these friendships produced a lot of "Dear John" letters written to their husbands and fiancés overseas. After the war many of our returning soldiers (over 265,000 had been killed) did not find the expected welcoming homecoming. By the end of 1945 the number of divorces had reached 25,000, compared with less than 8,500 in 1938. By the end of the war over 100,000 British girls had married American and Dominion servicemen. The number of illegitimate births had reached 64,000 by the end of 1945 and venereal disease had become a major problem. Also there were many disappointed girls when suddenly their loved ones had to return overseas, many to their wives. The end of the war certainly raised many problems.

Shortly after the end of the war my brother returned from South Africa having to leave his wife behind. He made several attempts to get her a passage on a returning troopship but eventually we learnt that she was leaving on a merchant ship. I remember that actual details were vague and we just had to wait for further news. This came in the form of a telegram indicating that she had become ill during the voyage and had died and was buried at sea. I remember accompanying my brother to Southampton to collect her things, which included presents which she had intended for us. I don't think we ever knew the actual details of her sudden death, 1945 was not a very happy year for my family!

During the war the radio featured a lot of very good dance bands and small groups, with some of the best musicians from America and Britain. Where possible I saw these bands at various dance halls and began to realise that girls were somebody you danced with!

Musicians who had served in the war were returning to form civilian bands, although some service bands like the Squadronaires and Skyrockets still continued. Late in 1945, Ted Heath, who had played trombone with Geraldo, decided to form a big band. This wasn't going to be any big band, it was going to be the best! To achieve this he had to have the very best musicians and these included some of his fellow musicians in the Geraldo orchestra including Stan Roderick, who had already impressed me with his exceptional tone on trumpet. The first time I heard the band I thought it was better than some of my favourite American bands, like Benny Goodman, Harry James, Artie Shaw, Glen Miller and others, the Ted Heath story is now legend.

The first Sunday concerts at the London Palladium began in late 1945 and then continued fortnightly for well over a hundred concerts. I went to the third concert and then regularly to most of them, including their hundredth! Paul Carpenter was the compare and vocalist. Previously Paul had been a Canadian war correspondent when he first came to England in 1941 and was also featured vocalist with the Canadian Band of the A.E.F. If nothing else I thoroughly enjoyed my music!

On the 27th April 1946 the Propeller Division was formed into a separate company. It was situated in a new building built on the northern side of the Hatfield aerodrome and eventually separated from the main company by a 6,000 foot concrete runway, completed on the 12th May 1947. I commenced work in the new propeller building soon after it was completed, with George Brown as the Chief Engineer and Blazeby as the Chief Draughtsman. The Chief Test Pilot was Desmond "Dizzy" DeVilliers although the company's chief test pilot, Geoffrey's son, Geoffrey de Havilland Junior, John (cat's eyes) Cunningham and John Derry were frequently seen assisting with the test flying. When I arrived at Hatfield the air resounded with the sound of Halford's new jet engines.

Frank Halford's jet engine first ran on the 13th April 1942, and first flew on 5th March 1943 in

the Gloster Meteor and on the 20th of September in the new de Havilland Vampire.

It was around this time that de Havilland purchased Halford's company and he became chairman of the de Havilland Engine Ltd. At the same time Frank Halford's engines became known as the Goblin and the more powerful engine the Ghost. There was plenty of production aircraft for me to see at Hatfield, including various marks of Mosquito and the Vampire jet which first flew on the 20th of September 1943. It was the first British aircraft to exceed 500 mph in level flight. At this time de Havilland was still designing propeller driven aircraft and the twin engine Hornet became the fastest piston engine fighter to enter production, with a speed of over 470 mph in level flight, it remained in service until 1955.

I was pleased to leave the production shops behind me and looked forward to my future training as a student. At last, I thought, here was my chance of fulfilling my dreams of becoming an aircraft designer; however my time spent in their aerodynamics and stress departments came as a disappointment. It was all calculations and filling in forms and seemed very remote from my idea of practical design. My colleagues were all experts in their particular fields and I soon realised that I was not equipped mentally to be able to understand and enjoy the theoretical aspect of this work. Most of the time I was simply doing as I was told without much of an understanding as to how I had arrived at the end result!

However I found the vibration department much more to my liking. This was a blend of theoretical and practical and I didn't feel out of my depth. I was looking forward to my future training in flight testing and the drawing offices.

By November 1946 my teenage years had come to an end and this should be the end of this particular article, but I still had two years in which to complete my de Havilland apprenticeship. By 1947 I was still commuting to Hatfield and doing my Higher National Certificate at evening classes, which left little time for other things, however I now wanted to meet girls and decided to learn ballroom dancing, so together with some of my friends I enrolled at the local "George Holden School of Ballroom Dancing" and soon afterwards met a girl who was both interesting and a good dancer, she later became my wife.

De Havilland's had always been in the forefront of civil aviation and during the latter part of the war was working on a new twin engine feeder aircraft. This became the Dove, a six seat aircraft which first flew on the 25th September 1945. A total of 544 were built and many are still flying today. In the meantime work was progressing on a new jet airliner, which was to become the first jet airliner in the world, the Comet. There was certainly a lot happening at Hatfield to keep me interested.

One incidence I particularly remember which occurred in 1947 when I was in the flight test department. This turned out to be an exceptional cold winter with deep snow everywhere. It was a pity because I was especially looking forward to this part of my training; instead I remember trying to keep warm with the hanger doors wide open and only a small stove to keep us warm.

While working on a Lancaster I remember sliding off the wing and luckily falling, unhurt, into deep snow. I also remember getting to Edgware only to find that the buses were not running. I was not alone and with several of my colleagues decided to attempt to walk to Hatfield, a distance of about 13 miles, eventually arriving about lunchtime. Walking up the A1 we saw some Land Army girls waving to us, we investigated and were offered some welcoming coffee which was much appreciated. We then continued with our walk and eventually arrived about noon. Having eaten lunch it was suggested we take the offer of a ride back to Stag Lane in their inter-office van, an offer we couldn't refuse*. See page 17.

Pre-war as a young boy I had admired the de Havilland aircraft and I was sure that I wanted a career in the aircraft industry, but never thought that one day I would be part of his team and to be in the company of some of the best aviation engineers in the world. However having completed my time as a de Havilland apprentice I realised how complex the industry had become. As a trade apprentice I felt that I was learning a useful trade but somewhat remote from my dream of actually designing aircraft. Then when I was promoted to student I found that aircraft design had become a

team effort, nothing like my picture of one man sitting at a drawing board designing a complete aircraft. The closest I could get towards achieving my ambition would be in the drawing office, working on a particular component. The design of a modern aircraft had become very much a combined specialist effort requiring a great deal of financial support.

Now that the war was over our Government did not feel the need to support its aircraft industry, feeling that any money available would better gain them votes if instead they were seen to support education and the new National Health Service. Consequently many promising designs were cancelled and jobs for skilled engineers dried up.

By the end of the war it was acknowledged that our engineers had ensured that we had the best equipment with which to fight the war and were generally ahead of our competitors, including the Americans. Our aircraft engineers were highly thought of and reckoned to be among the best in the world. We ended the war with the best bomber, the Lancaster, the best fighter, the Spitfire and the best all round aircraft, the de Havilland Mosquito. The best American fighter, the Mustang, was powered by a British Rolls Royce Merlin engine! We were also ahead in the design of jet engines and the first to produce a production jet airliner, the Comet, de Havilland was still in the forefront of aviation! The Comet first flew on the 27th July 1949 powered by four Ghost jet engines. It remained in service until the 14th March 1977.



The de Havilland Comet Airliner

Unfortunately in 1953 a fault in the design of a window resulted in metal fatigue and caused several fatal crashes. The subsequent delay in discovering the cause allowed the Americans an advantage from which the British aviation has never recovered. Lack of government support did not help the situation.

Without government support it was impossible to fund the aircraft industry and highly competent design teams were disbanded, with many engineers accepting jobs abroad. Despite the lengthy training necessary to be recognised as an engineer, like a lot of others I served a seven year apprenticeship and studied at evening classes for five years in order to reach the required theoretical standard, I never felt valued in the same way as others, such as teachers, doctors and bank managers for example.

Despite long hours, short holidays and lack of pay I am thankful for the opportunity to pursue my chosen career in engineering. At least I had a career in which I enjoyed working and not one where holidays and the thought of early retirement was the main interest.

I finished my apprenticeship in the de Havilland propeller drawing office in June 1948 and was offered a position as a junior draughtsman, but decided that either I had to find accommodation in Hatfield or seek a job closer to home. I started to look for vacancies closer to home and later in June 1948 accepted a position with a London firm of civil engineers as a junior draughtsman.

I began looking for a better paid and more interesting job and left Humphreys and Glasgow to join a firm of consulting engineers, Saben Hart and Partners in 1951 as a Senior Draughtsman. The company had a contract with Saunders Roe and my first job found me working on their SR

53 fighter and Princess flying boat, both were later cancelled. I was then transferred to work on the new Aden aircraft gun. I had enjoyed the work and was disappointed when the company closed in 1954, due to lack of orders, leaving me unemployed.

Fortunately I found out that de Havilland had recently opened a London Office and so I applied to see if they had any suitable vacancies, After about six weeks without employment I rejoined the de Havilland Propeller Company as a Section Leader in their newly formed Alternator Section, responsible to Alan Thomas at Hatfield.

About a year later, after rejoining de Havilland in 1954, I was asked to attend a meeting with George Brown and Geoffrey Purdue at Hatfield to be offered a job, within the Blue Streak's new design team, as a Group Leader. I would be responsible for the re-entry head, the part which was going to carry an atom bomb. I explained that I knew nothing about missiles or atom bombs but was informed that I would be given the necessary experienced staff and my job would be to coordinate their efforts. The fact that I could work in London clinched any doubts that I may have had and so I accepted and remained in that position until the government cancelled the contract in 1960.

As George Brown had promised my team consisted of engineers experienced in stress, aerodynamics and detail design. As a team we apparently got on well as there were no changes to staff during the five years we worked together.



**The 17 strong DH Blue Streak Re-entry Group in 1960
I am on the far right. DH official photographer.**

The purpose of the Blue Streak was to carry a nuclear warhead to targets within the Soviet Union and to counter threats of a sudden attack by nuclear missiles coming from Russia.

With the de Havilland Propeller Company proceeding with the design and build of the rocket everything appeared to be going to schedule and several examples of the completed rocket became ready for testing. But then, suddenly on the April 13th 1960, the British Government decided to cancel the Blue Streak project, much to the amazement of all concerned, especially those working overtime to ensure the project remained on schedule. Immediately five years of very successful design and detail work was lost, as well as all the taxpayers' money that had been spent on the project.



The de Havilland's Blue Streak Missile

A year later in 1961 de Havilland's ceased to exist, becoming part of the Hawker-Siddeley organisation. Geoffrey de Havilland had remained active in his company until the take over. He died in 1965, Frank Halford having died earlier in 1956.

It is sad that today few remember the importance of the last war and lacking in the knowledge that things would have been very different if we had lost. To those who experienced the war it was a defining moment and little that has happened since seems as important.

I cannot find any interest in listening to youngsters extolling the virtues of their current pop idols or their latest holiday exploits. For them anything to do with the war is ancient history and to talk about it confirms that you are still living in the past.

Fortunately I am still able to meet some of those senior citizens who have interesting stories to tell. Most can remember that de Havilland made aircraft and some that they also made engines but are surprised when I tell them they also made propellers; especially that the de Havilland Propeller Company made a vital contribution towards winning the Battle of Britain.

At this stage I must acknowledge the very interesting book "De Havilland" by an ex Hatfield employee Philip Birtles, which has helped me with some of the dates and detailed information used in this article.

During the war de Havilland manufactured 100,349 propellers and assembled a further 37,801 from American built components, in addition to this effort a vast number of propellers were repaired and returned to service, surely a considerable contribution to Britain's war effort. If this facility had not existed I am certain that our aircraft designers would have been faced with a very serious problem.

De Havilland's propellers also provided the means for our Hurricanes and Spitfires to match the German fighters during the Battle of Britain. The following is an extract from Birtles's Book:

"After France had surrendered there followed a period of inactivity which allowed the R.A.F. to re-equip and to prepare for the next phase of the war, which was the inevitable invasion of our shores. Initially the Hurricanes and Spitfires, both mark one's, were delivered to the squadrons with fixed pitch, wooden two bladed propellers, designed for best performance at high speed, but barely giving sufficient power for take-off. Various types of propellers were subsequently tried, included a fixed pitch three bladed propeller, which was not much better and then a three bladed propeller with two pitch settings, fine for take-off and coarse for high speeds. Unfortunately this proved very dangerous as some pilots become confused, trying to take-off with the propeller in coarse pitch and stalling through insufficient power. The answer came with the de Havilland constant speed propeller, which automatically gave the correct setting.

On the 22nd June 1940 de Havilland received instructions to convert all Hurricanes and Spitfires to constant speed propellers. Within a week one thousand conversion sets had been manufactured, governor units, oil feed pipes and cockpit controls. Just as soon as the first sets were ready, twelve de Havilland engineers set out for the fighter stations.

Mr. S.G.Bentley arrived at Biggin Hill on the evening of the 25th June expecting to find the Spitfires of 610 squadron, but they were still at Gravesend. Next morning Bentley explained the idea and urgency of the conversions to his RAF assistants, a Flight Sergeant and two fitters, adding that he had no intention of sleeping until the first modified Spitfire was airborne. It was a matter of personal pride to be the first to put an operational constant-speed fighter into the air.

Bentley and his team worked all through the day and night, snatching only ten minute breaks for refreshments. At 9 am next morning he rang de Havilland to ask for a test pilot. He had beaten his colleagues by a margin of several hours. After spending three days more at Gravesend Bentley returned to Biggin Hill to tackle the Hurricanes of 32 squadron. By the end of the week he was a very tired man, but the job was done. Next day, in broad daylight and with both eyes wide open, he unseeingly walked into a wing and knocked himself out!"

In reading a recent book on the Spitfire the author incorrectly stated that the "performance of the Spitfire was greatly improved by the fitting of the constant speed Rotal propeller in 1940".

I have also read a book about the Comet's history where scientists at the RAF's establishment at Farnborough apparently first discovered the design fault, although this isn't my recollection.

I remember being aware of a large compression chamber in which sections of the Comet's pressurised fuselage were being subjected to high altitude flight conditions, then seeing a large water tank apparently capable of taking the entire pressurised part of the Comet's fuselage being built on the Propeller's side of the runway at Hatfield. This was apparently to enable the whole pressurised section to be subjected to a series of pressurising and depressurising cycles, equivalent to about 40,000 hours of actual airline service. I have understood that it was during these tests at Hatfield that a forward window section failed due to metal fatigue, although passing all the initial high pressure tests.

Unfortunately historians don't always get their facts right, viewing history as they see it at the time of writing. Hopefully my memory of events, supported by information obtained from elsewhere, has not been too distorted by age.

Alan Mann
November 2006

* Note added in April 2010

In Easter, April 2010, I attended one of my usual weekend Big Band and Jazz breaks and with 500 guests present managed to sit with a lady who was a Land Army Girl. She said that she had worked on a farm close to the A1 during the exceptionally cold winter of 1947. After hearing my story she was convinced she was one of the girls who had offered me coffee! She did not think there were any other land girls working on farms in the vicinity and could still recall the incident.