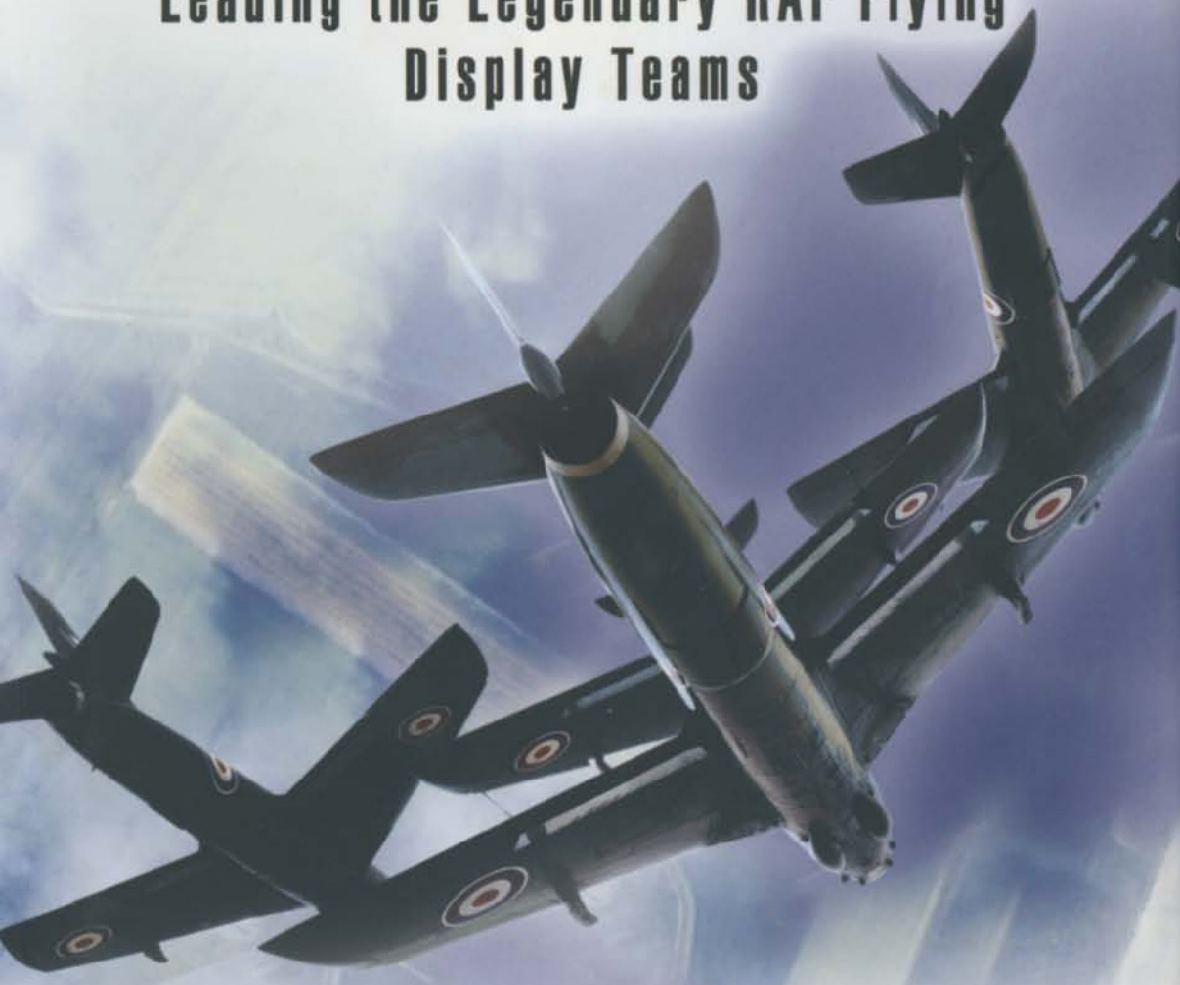
BLACK ARROW BLUE DIAMOND

Leading the Legendary RAF Flying Display Teams



Squadron Leader Brian Mercer, AFC*

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Contents

Explanation of Terms and Abbreviations

ADF (Automatic Direction Finder)
A cockpit instrument that gives the bearing to a radio beacon or broadcast station. Also called a Radio Compass.

AOC
Air Officer Commanding

AI (Airborne Interception)
Radar set fitted to night fighters, eg A1 Mark 10, A1 Mark 21.

ASV (Air/Surface Vessel)
Radar set carried by Coastal Command aircraft to search for ships.

AVPIN (ISO-Propyl-Nitrate)
Used in the starting system on some military jet engines. This liquid is squirted into a combustion chamber and ignited. The resulting explosion then spins the engine

Balbo
A large formation named after the Italian General Balbo, famous for leading large formations of aircraft in the 1930s.

Battle Formation
A loose formation used by fighters in a combat area. Amazingly in the 1960s we still used the tactics first developed by the Luftwaffe Condor Legion during the Spanish Civil War. Hard lessons learned during the Battle of Britain caused the RAF to adopt the German system.

Bought The Farm
An american expression meaning to have crashed or met with disaster.

CRDF (Cathode Ray Direction Finder)
An instrument like a TV screen situated in the air traffic control tower which gives an instant bearing to an aircraft transmitting on VHF (very high frequency).

DME (Distance Measuring Equipment)
A cockpit instrument which gives the distance in nautical miles to which ever beacon is tuned in. It had line of sight range and was reasonably reliable.

Dutch Roll
A combination of roll and yaw to which swept-wing aircraft are susceptible, particularly at high altitude. This phenomenon can become uncomfortable or even dangerous if allowed to persist. The corrective action is either to descend to a lower altitude or to apply a sharp aileron input against the rising wing. All modern swept-wing aircraft are fitted with a yaw damper which stops this from happening.

Forward Radar Control Post
Mobile radar station which could tell an aircraft flying at a known height and airspeed, when to release its bombs to hit a target.

Finger Four
Tactical formation flown by four fighters, positioned like the fingertips of an outstretched hand.

GCA (Ground Controlled Approach)
Airfield radar which enables the controller to give radio instructions to a pilot to keep him lined-up with the runway

and on the glideslope. The effectiveness of this aid was dependent on the skill of the controller and the pilot. It was out standard method of recovering fighters in bad weather and its use had proved vital during the Berlin Airlift.

GCI (Ground Controlled Interception)
The air defence radars were called GCI stations.

GEE
A navigation aid developed for Bomber Command during World War Two. Parabolic position line are superimposed on a chart and a navigator could determine his position by interpreting the signals from a master and two slave transmitting stations on a cathode-ray tube installed in the aircraft.

Hap Arnold Scheme
Name given to the scheme for training RAF pilots in the USA before America entered World War Two. Named after the commander of the US Army Air Corps.

ILS (Instrument Landing System)
Airfield radar that transmitted signals to an aircraft on the approach and allowed the pilot to make corrections to his flight path to stay on the glideslope and lined-up with the runway. The information was given to the pilot usually by a flight director instrument and a skilled pilot could follow the flight director commands down to about 100 ft. above the ground. It could be a demanding task on a wet and windy night at Kai Tak airport, Hong Kong, in conditions of bad turbulence and constantly changing drift.

Mach Number
Aircraft speed expressed as a percentage of the speed of sound. For example a Mach number of 0.85 equals eighty five per cent of the speed of sound.

QFI (Qualified Flying Instructor).

SBAC (Society of British Aircraft Constructors).

SSB (Single Side Board)
Efficient type of HF (high frequency) radar for long-range radio communications.

Telescramble
A direct land line from the radar station to the pilot in his cockpit. This line disconnects when the aircraft moves forward. A hunter pilot sitting in his cockpit on the operational readiness platform at the end of the runway with his engine off, could be airbourne sixty seconds after the order to scramble.

VOR (VHF Omni Range)
A radio beacon on very high frequency that gives the pilot a bearing to the beacon. Line-of-sight range and more accurate and reliable than ADF.

Wet Lease
The leasing of an aircraft complete with cockpit crew is a wet lease. A lease of an aircraft only, is a dry lease.

Foreword

This eminently readable book will appeal to all those with a real interest in aviation. The author, Brian Mercer, has spent a lifetime flying both military and civil aircraft, and in the following pages he recounts his experiences in a style that transports the reader into the exciting and exhilarating environment of the air; appealing to young and old alike and reflecting the author's passion for flying and his innate sense of humour.

The book is essentially divided into two parts: the first focuses on Mercer's 18 years with the Royal Air Force, whilst the second covers his 30 years as an airline pilot. I knew him well during the first period when we served together three times, notably with the RAF's famous Hunter formation aerobatic teams of Nos 111 and 92 Squadrons (the Black Arrows and the Blue Diamonds). Brian was an outstanding fighter pilot and squadron commander, leading by example and with a flair that earned both respect and admiration. It is not surprising, therefore, that he sees the highlight of his aviation career as his time in command of No 92 Squadron.

The author gives a vivid and accurate account of life in the RAF in the early post World War 2 period. He describes how it took some time for the rather gung-ho, live-for-today wartime fighter pilot culture, which was partially to blame for the RAF's relatively high accident rate of the 1950s, to evolve into one that was more measured and responsible, and, in my

view, more effective. A further reason for the RAF's poor flight safety record at that time was the lack of experience on jet aircraft of many of the more senior pilots and flying instructors; some indeed finding it difficult to transition from high-performance piston-engined fighters such as the Spitfire and Tempest to the jet-engined Meteor and Vampire.

Mercer explains why formation aerobatics is an inherently risky flying activity requiring skill, aptitude and a highly professional approach by pilots involved. They must have self-belief and total trust in their fellow team members; they take pride in their corporate achievements, and they enjoy the accolades and camaraderie. In essence, their "esprit de corps" is strong and tangible. The author successfully conveys all of this and, through a liberal smattering of amusing anecdotes, that life in such a tight-knit unit is above all fun.

The author's view that the RAF rather lost its edge after WW2 by lagging behind the Americans in swept-wing fighter development – the RAF's Hunter entered service some 4 years later than the American F-86 Sabre – is fair. He is also right to be highly critical of the UK Defence Minister's assumption in 1957 (the kernel of Duncan Sandys' Defence White Paper of that year) that manned fighter aircraft would soon give way to guided missiles. As a result, the Mach 2 Hunter replacement (the Hawker P1121) and other advanced aircraft programmes (the P1154 and TSR2) were cancelled. This macro policy change proved to be a disaster – manned fighters and fighter bombers are still indispensable today, viz the two recent Gulf Wars - and set the RAF back many years; indeed, some would argue that it has not yet fully recovered.

The reader can almost sense the agonizing that Brian Mercer must have gone through in making his decision to leave the RAF when a brilliant career still stretched before him. Like many other RAF officers at the time, and since, he clearly felt unable to come to terms with spending more time as a staff officer than in the cockpit and in command. He thus chose to swap a "mahogany bomber" (a staff desk) for an airline flight deck, which presented a different set of challenges but which, from a fighter pilot's point of view, could reasonably be described as driving a bus rather than a Formula One racing car! That the author was able to adjust very well is clear from his narrative, for he rose from junior First Officer to be Manager of Cathay Pacific's 747 fleet. While the adrenalin may have flowed less often, the money and lifestyle were good, and most important, the buzz of performing to the highest standards in the air was still there. As this excellent book relates so well, I suspect that for Brian Mercer it always will be so; he is one of aviation's "elite".

Air Chief Marshall Sir Patrick Hine GCB, GBE, FRAeS

Introduction

My life in aviation spanned the years from 1946 to 1996 and this book is about what happened to me and my friends during that period. We are the forgotten generation; just too young for World War Two and just too old for the Falklands. We were the Cold War warriors and whilst most never had to shoot guns in anger, some of us did have moments of drama in such places as Malaya, Suez, Aden, the Oman and of course the big one – Korea. Significantly, Korea is now referred to as the forgotten war.

The RAF's involvement in Korea was small, but useful lessons were learned by those who flew on attachment to the American squadrons and No 77(F) Squadron of the Royal Australian Air Force, because only they had experience of Jet v Jet combat. Nevertheless, the F86s shot down the Mig 15s at the rate of twelve to one and their task did not compare with that of Johnny in his Spitfire or Hank in his Thunderbolt up against Fritz and Heinz in their Messerschmitts and FW190s. The German pilots were very good indeed, as were the Italians, despite what we were told at the time. But history is full of examples of brave and gallant men fighting for rotten causes.

Our main task in the fifties and sixties was to confront the projected mass assault on the United Kingdom by large numbers of Soviet bombers, some of which would be carrying atomic bombs. To counter this nightmare we would have to

scramble a mass of fighters as rapidly as possible irrespective of the weather conditions. Training for this scenario in our jet fighters, which had very limited endurance and carried no worthwhile navigation aids, led to some very interesting moments. We had plenty of accidents and I find it amazing that we did not have more.

I thought that the life on a fighter squadron was wonderful. The squadron was like our family, it meant everything to us. The mess parties could get a bit wild particularly in the fifties but it should be noted that all our Station Commanders, Wing Leaders, Squadron Commanders and most Flight Commanders, were veterans of World War Two, so the wartime attitudes were still in vogue. The same attitude prevailed on the night fighter squadrons despite their "lone wolf" type of operation.

So for year after year we practised and trained; honing our skills at air combat and gunnery and took our turn at sitting in cold cockpits at the end of a runway, ready to scramble at the first sign of a mystery blip on the air defence radar. Scrambles were quite frequent but thankfully it was never the real thing.

For some time I was involved in international display flying as a leader or a member of a formation aerobatic team and that added considerable spice to life at the cost of extra stress. Display flying meant that we saw interesting places and now and again met exalted personages. I was glad that my parents were able to attend one of my investitures at Buckingham Palace to make up for the problems I gave them as a rather unhappy schoolboy. I was amazed by the Queen Mother when she gave me my first "gong". Despite the fact that I was about number three hundred in the queue, she knew

exactly who I was and what I had done and she did not seem to have received any prior briefing.

There was a bit of fear now and then. When you are running out of fuel in bad weather and unsure of where the hell you are, those icy fingers start to dance up your spine. My periods of greatest tension used to occur just before a big air display. I remember at Furstenfeldbruck having to steady my right hand with my left to push the starter button. The funny thing was that as soon as the engine was running, all the tension vanished and I felt completely calm and in control.

Originally I intended to write only about the Air Force but then decided that Civil Aviation, particularly Cathay Pacific, deserved a chapter. Flying airliners is a job but flying fighters is more of a vocation and I hardly ever met anyone I did not like in the fighter world. Alas, I cannot say the same about the civil flying game where life is governed by the two S's: Seniority and Salary. But at least Cathay Pacific was more like the Air Force than any other airline I can think of.

I would like to thank my old friend and colleague Air Chief Marshall Sir Patrick (Paddy) Hine for writing the Foreword to this book. My thanks also to David Watkins for his help and encouragement and finally, to Sheila Moss for her typing and patience.

Brian P.W. Mercer
Araluen, Western Australia
2006

CHAPTER ONE

Early Years

I think it all started about 1935 when as a small child I was taken to an airshow by my father. It was probably in the Manchester area and very likely Alan Cobham's flying circus. I must have been five or six years old and remember little except for the noise, but one memory stayed with me. A small red biplane taxied very close to us and when the pilot climbed out of the cockpit, his leather jacket, white scarf and goggled helmet left a lasting impression.

I grew up during the depression of the 1930s in a small town in north-east Lancashire, Great Harwood. The town had been the abode of John Mercer, the inventor of mercerised cotton, a process which gave to cotton some of the qualities of silk. Consequently the town meeting place was the Mercer Hall and the central square contained a clock tower called the Mercer Clock. However, neither fame nor fortune had filtered down to my father's branch of the family from this distant relative.

My father was one of nine children. They were English Protestant stock with some Huguenot blood. They were also very poor. My paternal grandmother was a remarkable woman, for in addition to bringing up nine children, she was, by all accounts, a very accomplished cotton weaver.

Apparently she used to go to the mill at 6 a.m. and set up her looms; return home to give the children their breakfast, then return to the mill for a full day's work. I remember her as a large, kind woman with a very commanding presence and my father thought the world of her. He was the second youngest of the nine and the only one who went to university. My mother was an Irish Catholic from a town called Swinford in County Mayo. She came to England following the Great War, together with her sister, Cissie. They were both teachers. Mother was apparently something of a beauty in her younger years, with startling green eyes and jet black hair. Perhaps a distant ancestor had been a survivor of the Spanish Armada.

The mixed marriage meant that I was sent to a Catholic college and my sister, Aileen, to a girls' convent school. Mother was a staunch Catholic but father had a much more relaxed attitude towards religion and in general outlook was a true liberal. It seems that during the 'troubles' following the Great War, my Uncle Willie on my mother's side was a fringe member of the IRA whilst my Uncle Leonard, on my father's side, served for a while in Ireland as an auxiliary policeman, a 'Black and Tan'. Leonard had fought in Palestine as a trooper in the 11th Hussars and, unable to get a job after the war, had gone over to Ireland. Neither uncle seemed in the least bloodthirsty to me. Willie farmed in County Mayo and Leonard, after a variety of jobs, married a wealthy widow. Both of them lived to a ripe old age.

Father went to France in 1916 as a private in the Royal Engineers just in time for the Somme battles. He eventually became a staff sergeant and was the chief despatch rider at one of the army headquarters, I think General Plumer's

Second Army. Father was pretty lucky. He was never wounded but was gassed near Ypres and had to be invalided home for a while. He was talked out of joining the Royal Flying Corps by his mother, if she had not done so, the chances are that I would never have been born. He told me that he became so sick of the squalor of the ground war that the thought of a comfortable bed every night and escape from the never-ending bully beef and plum jam made the risk worthwhile. However, becoming a pilot in 1916/17 was only just short of committing suicide. Father had a lot of his old maps from the war and I have clear memories of his stories of that awful conflict. At the age of eight or nine, I knew about places like Ypres, Messines Ridge, the Menin Road and Passchendaele.

After the war my father obtained a BSc in Chemistry from Liverpool University and no doubt enjoyed a few years of batcherlorhood in the 'roaring twenties'. He had a rich friend, the scion of a cotton family, who owned an Hispano Suiza car. He told me that the two of them once averaged a speed of 60 mph from Blackpool to home, a distance of some 40 miles, and a remarkable feat in the early 1920s.

Our part of Lancashire was a pretty good place to grow up. We lived right on the edge of town just beyond the really affluent street, naturally called Park Lane. This was the area of the cotton barons and the successful businessmen and professionals. Between our home and my elementary school there were areas of terrible poverty during the years of the Depression and I remember one night watching a large gathering of unemployed men holding a meeting in the town square. We were in my Uncle Claud's flat over his insurance

broker's office. There were speeches and banners, a lot of noise, but no violence, and when they dispersed the sound of the clogs which most of them wore made a deafening noise. Martin Cruz Smith, accurately described this sound as 'like a river of stones'.

Uncle Claud was nicknamed Bogie, I never knew why but suspect it was because he could never manage a par on any golf hole. Father was a keen golfer and I often went around with him and his Scottish friend, George Robson, a local doctor. From my bedroom window I had an uninterrupted view of Pendle Hill, made famous by the Lancashire witches of the seventeenth century. The western foothills of the Pennines are really very beautiful, and in my view compare very well with the Yorkshire Dales. I have happy memories of cycling all over the area with my friends and swimming in the River Ribble at Mitton and Sawley. This is the area of Whalley Abbey, Clitheroe Castle, Stonyhurst College, Ribchester (a Roman cavalry outpost) and the Forest of Bowland, which stretches north up to the Lake District. I also remember bonfire nights; that old terrorist Guy Fawkes bequeathed a lot of fun to the boys of my generation, like raiding other bonfires to pinch their wood and ambushing rivals with little red firecrackers called demons. Great fun, but I suppose that is all forbidden now.

Six days after bonfire night was Remembrance Day. I well recall the sombre looks, the cripples, the men with missing limbs and disfigured faces in the crowd gathered around the war memorial. We lived in an area of the 'pals' battalions'. In the small town of Accrington, not far away, there was street after street with no young men left after the First World War.

The park in my home town of about 8,000 souls has a war memorial containing hundreds of names, most of them from the Great War. Every Australian knows about Anzac Cove in Gallipoli, but how many British people know of Lancashire Landing just a few miles further south, where the Lancashire Fusiliers suffered 53 per cent casualties before they even reached the beach. The survivors still drove the Turks from the beach and established themselves ashore. British reticence has done a great disservice to the memory of our soldiers. A few years ago I had a discussion with an Australian about Gallipoli. He had no idea that any British soldiers had been there. I told him that the British lost 21,000 men, the French 10,000, the Australians 9,000, the New Zealanders 3,000 and the Indian Army 3,000. I didn't think he believed me. The British 29th Division, a first-rate division of regulars with Lancashire, Hampshire and Irish battalions was mathematically wiped out twice in the ill fated Gallipoli campaign.

On 3rd September 1939 the world changed. At the age of ten I listened to Neville Chamberlain's speech with my parents and could not understand why they looked so worried. In my ignorance and innocence I thought it was all terribly exciting and no thought that we could possibly lose the war entered my mind. To the children of my age it was all the Empire, 'Land of Hope and Glory', 'Rule Britannia' and that ludicrous song, 'We're going to Hang Out the Washing on the Siegfried Line'. I never heard my father sing that song. He and his generation knew just how hard it was to beat the Germans.

Our politicians had done it again. The army was small and badly equipped. The navy had no effective way to counter the

inevitable U-boat offensive. Only in the air force was there a glimmer of hope, but even in the air we had a lot of catching up to do. But I was just a schoolboy trudging on foot and by bus to school every day. I did not really enjoy my schooldays. I was taught by Marist fathers some of whom did not spare the rod. They certainly did not generate any enthusiasm for learning. The only subject I really enjoyed was history which was taught by a Mr Earnshaw, our only lay teacher. The school's sporting facilities were poor; it was soccer or nothing. To my mind there was too much religion including an annual period of retreat; days of prayer and meditation – sheer torture for the average schoolboy. At the age of eleven I was told that to skip Mass on Sunday was a mortal sin and should I die before going to confession, then I would burn in hell forever. My mother actually believed this rubbish.

One day, amorous advances were made to me by a priest. He did not succeed, and he was not a member of the school faculty. I did not tell my parents; it would have devastated my mother. But my scepticism towards organized religion began to grow from that day. However, I am not anti-Catholic. The service padres I met later were mostly good men and the Catholic ones seemed more human and relaxed than their Protestant counterparts. In his autobiographical book on the Great War, *Goodbye To All That*, Robert Graves says that the only padres one saw where the bullets were flying, were the RCs.

School was accompanied by the blackout, sirens and air raids. We had great excitement one day. The siren sounded and off we jogged to the school air-raid shelter when right over our heads came a German bomber flying extremely low

– so low in fact that I could clearly see a helmeted German face in the nose, which seemed to be staring right at me. The next moment two Hurricanes came flashing over, and they shot him down in the Rossendale Valley just a few miles away. One night my mother stuck my sister and me under the heavy kitchen table when a stick of bombs went off fairly close. There was a factory that made Bristol aero engines not far away and if that was the target then they missed. This factory was surrounded by barrage balloons which were all destroyed in spectacular fashion one day by an electrical storm.

My father was teaching mathematics and science at a local grammar school during the war and also served as a special constable. Mother was doing some supply teaching and my sister was at her convent school. She did not enjoy it much but was more academically inclined that me and eventually obtained a degree from Leeds University.

I clearly remember standing on a hill one night with my father, listening to the sound of the German bomber engines and watching the glow of the fires from a raid on Liverpool. Cousin Donald was a fighter pilot, and flew Spitfires and other types over Europe and Burma. His brother Joe was in the Western Desert. He was an RAF radio apprentice and after a pretty exciting and uncomfortable war, ended up as a squadron leader signals officer. Cousin Arnie was in the USA learning to fly under the 'Hap' Arnold scheme. He ended up flying Mustangs and Spitfires but did not survive. Cousin Edna was a corporal in the WAAF at Biggin Hill and Uncle Arthur, who had been the radio officer on a White Star liner, was a radio instructor in the RAF. I could not wait to

join them. Arnie was like the big brother I never had. He gave me my first ride on a motor cycle, his Scott Flying Squirrel, and also my first drive at the wheel of a car, on Southport Sands in his ancient Talbot. His father, my Uncle Fred, was rather cross about that because I was only ten at the time.

One day the Americans arrived, to the delight of the young women in our locality. The John Schlesinger film *Yanks* caught the atmosphere perfectly: trucks, jeeps and soldiers with a seemingly inexhaustible supply of chocolate bars and chewing gum. I arrived home one day with an American soldier I had met on the bus from school. He was a big, polite young chap from Michigan. I hope he survived Omaha Beach and Normandy.

At about this time I realized that if I wanted to get anywhere in my life then I had better get cracking with my school work. In my final year, instead of hovering round the bottom of the class, I moved up to about second. At the school prizegiving following matriculation, the headmaster wore a rather bemused expression as he presented me with a prize. Out of ten subjects, I had done very well in nine but had failed Latin. I could never see the relevance of this subject. I objected to being rapped over the back of my fingers with the edge of a ruler by the Latin teacher – a very painful experience that came my way often. Nevertheless, I can still say in Latin, 'These things having been done, the legions of Caesar crossed the river'! *Julius Caesar* was our Shakespeare piece for the final English literature examination, and to this day I can rattle off great chunks of the speeches of Caesar, Mark Anthony, Brutus and Cassius.

With the war over, to everyone's surprise I was accepted at the School of Architecture at Manchester University, four months before my seventeenth birthday. I thought the freedom of University life was marvellous after the stultifying atmosphere of school. I was actually allowed to talk to girls and drink beer in the students' union. Two friends of mine were Dutch and in their room was a large swastika flag which one of them had pinched from the roof of the Gestapo Headquarters in Rotterdam. Meanwhile I was learning all about the finer points of classical Greek architecture: Doric, Ionic and Corinthian columns, and pseudo-peripheral temples. At this stage one learned about form and design; the engineering bits were to come later. Before too long however, it became clear to me that I was not a very good draughtsman. I had recently joined the University Air Squadron (UAS), passed the medical and aptitude tests and was attending lectures on navigation, meteorology and aerodynamics in the evenings. Then one morning in January 1946, when I had just turned seventeen, I had my first flying lesson in a Tiger Moth at Barton Airfield. By the time we had climbed above the purple industrial haze into the clear blue sky, I was hooked. It was magic. Never mind that I was extremely cold (the rear cockpit of a Tiger Moth in the English winter is definitely not hot), this was what I wanted to do. I could not have known that I was going to spend the next forty-seven years doing little else.

I spent two weeks at an RAF Flying School near Wolverhampton in 1946. It was the annual summer camp of the UAS but I was not allowed to fly solo because of my age, which was a great disappointment. Shortly thereafter,