First published in Great Britain in 2015 by PEN & SWORD AVIATION
An imprint of Pen & Sword Books Ltd
47 Church Street Barnsley South Yorkshire S70 2AS

print ISBN 9781473860032
epub ISBN 9781473858107
mobi ISBN 9781473858091
pdf ISBN 9781473858114

A CIP catalogue record for this book is available from the British Library

Pen & Sword Books Ltd incorporates the Imprints of Pen & Sword Fiction, Pen & Sword Aviation, Pen & Sword Family History, Pen & Sword Maritime, Pen & Sword Military, Wharncliffe Local History, Pen & Sword Select, Pen & Sword Military Classics, Leo Cooper, Remember When, Seaforth Publishing and Frontline Publishing

For a complete list of Pen & Sword titles please contact PEN & SWORD BOOKS LIMITED 47 Church Street, Barnsley, South Yorkshire, S70 2AS, England E-mail: enquiries@pen-and-sword.co.uk Website: www.pen-and-sword.co.uk

This book is dedicated to:

Everyone who fought and won the Battle of Britain, but particularly to

“The Few.”

and especially the fifteen pilots from Nos. 501 and 66(F) Squadrons who lost their young lives flying from RAF Gravesend during the Battle of Britain. Only by keeping alive the memory of their sacrifice can we begin to repay

“The debt we owe”.

Finally, I would also like to dedicate this book with much love, to someone special: Parce que elle a ete mon ami, mon amour et mon vie;

Ma belle, Jane.

CONTENTS

Acknowledgements

I would particularly like to acknowledge the tremendous willing help, information, use of photographs and the enthusiastic support for this project that was freely afforded me by the following persons and institutions:

Frank Tilley, Chairman of the Royal Observer Corps Association (Maidstone branch). Danny Martin (General Manager) and Stuart Goynes of the Romney, Hythe & Dymchurch Railway. Roy and Sharon Paskell: past owners of Slough Fort, Allhallows. Richard Haigh of Rolls-Royce Ltd. Kent County Library Services. Kent County Archives, Maidstone. Medway Archives and Local Studies dept., Strood. The RAF Museum, Hendon, London. BBC Research Central. BBC Radio Kent. London Transport Museum, Covent Garden, London. Esmie; of the Brenzett Aeronautical Museum, who in turn put me in touch with Bernie Killick. The Royal Air Forces Association (Dartford). The paraMedway Queen Preservation Society. Tim Long, owner of Marshgate Farm, Cooling. Model-maker John Prentice. Christian Laurin of parawww.world-war-2-planes.com and Johan, of the website parawww.hitlerpages.com.

On a much more personal level, I would greatly like to thank: As ever, my very good friend Steve Jones. Pat Clarke and the members of “The Monday Club” at Cobham Village Hall. My eldest daughter, Katie, for searching out the material relating to Al Bowlly, and my youngest daughter, Maddie. My sincere thanks go to Geoff Nutkins of the Shoreham Aircraft Museum, for his considerable input in terms of time, co-operation and continuing support. Thanks to Ron Neudegg of the Gravesend Airport Research Group, and Nigel J. Clarke.

A very special acknowledgement goes to Vic Mitchell of Middleton Press; for one or two marketing suggestions. (Thanks Vic!). I must also mention the delightful Dawn Jackson of the Daily Telegraph . Brian Merifield of the 66(F) Squadron Association. Frances Sweeny from the Local Studies dept of Bexley Borough Council. Graham Matthews of The Pillbox Study Group. Chris Bull, Manager of Gravesend Library, (who is no mean local historian himself!). Also, Nicola at Gravesend Library, who knew exactly where to find the type of documents I was looking for, despite the whole Library being in temporary accommodation. John Gray. Mine of information and dedicated Battle of Britain enthusiast, Jack Wise. J Andrews, for kindly visiting and photographing the Carrefour de l’Armistice for me. Misti Jonkers, a lovely South African girl who got the best out of one or two bad photographs for me, just because she was interested in them. My sincere thanks also go to Allan Turner, for the photos of the nose art on his late father’s Lancaster bomber, depicting the cartoon legend Jane.

Now a few very, very special acknowledgements: For kindly recalling and sharing their good (and sometimes not so good) memories of the summer of 1940: My maternal Grandmother, Jane Fisher. My paternal Grandfather, “Diddy”. My entirely lovable “out-laws”, Fred and Joyce. Dr James Jenman MRCS, LRCP, MRCGP. Ennis Smith (nee Mowe), Ted Perrin, Dick Bottley and Bill Reed. I’d also like to thank Mike Hearne, a family friend who just happens to be the grandson of Police Constable Jack Matthews, for providing details about his Grandfather’s involvement with the Messerschmitt crash at Broom Hill, and Odette Buchanan; retired schoolteacher and Secretary of the Friends of Broom Hill, who apart from helping me with information, also told me of her contact with Ernst Poschenrieder. Finally, my very special thanks go to a former RAF fighter pilot’s wife, 'Faith'; for kindly sharing her fond memories of Daniel’s Den at The White Hart, in Chalk near Gravesend with me.

Sadly, all but four of the above mentioned persons, including those members of my family

mentioned above, have passed away since they were first interviewed. I'm so glad I got the chance to hear their stories at first-hand. Once again, my sincere thanks to all of you.

Author's Introduction

This book is about the two historic battles that were fought during the spring and summer of 1940; a glorious period not only in terms of the weather, but also in terms of modern history. In the course of fighting the Germans that summer, the Battle of France was swiftly fought and ignominiously lost, but the Battle of Britain, the first and only major battle to be fought entirely in the air, was hard fought and famously won. Although the Battle of Britain has been covered in many books, television programmes and one or two rather good films and has remained a story that until fairly recently perhaps, the British never quite seemed to tire of, it is largely thought of as being totally separate from the Battle of France, which is wrong. It was because of the way the Battle of France ended, with the Dunkerque evacuation, and the Armistice, that there had to be a Battle of Britain. The two battles are therefore inextricably linked in history. But this unique and historic period of time is now rapidly slipping away from us, which is primarily why I decided to write this book.

The first time I ever encountered these two historic Battles was at primary school in London. Even at that time, just twenty-eight years removal, the Battle of France was seen as less important, so it was usually skimmed over. But the Battle of Britain was somehow more real, and back then certainly, it was more recent history to us, possibly because it was still fairly fresh in most people's, and our teachers' minds. This made it quite an exciting topic for a history lesson of course, and didn't we six-year-olds all love to run around the playground for days afterwards with our arms outstretched pretending to be Spitfires and Messerschmitts, jumping off the benches to get "the height advantage"! In those days, purely because the Second World War was still recent history, our families still talked about some aspects of it at home, so discussing the history lesson we'd just had, often resulted in referral to our Grandparents, whose involvement had been direct of course. For example, my paternal Grandfather was a serving London Fireman throughout the summer of 1940 and for the duration of the Blitz period, after which he joined the RAF. My maternal Grandfather was serving at sea in the Royal Navy, on vital convoy escort duty, whilst my maternal Grandmother was living, working and looking after her eldest daughter in South London throughout the period. (Her eldest was of course my Aunt. My mother wasn't born till 1942, nine months after one of the times my Grandfather was home on leave!). By contrast, my paternal Grandmother ultimately went with her two children when they were evacuated out of London as the Blitz started. She'd refused point blank to split her family up initially, but she had no choice after their house took a direct hit one night, so it was a little different for her as she and both her children spent the main of the Blitz period in the West Country. But it is easy to see how it was very much a living history for my classmates and me at that time, as we were all still living in the war's elongated shadow.

A year later, two Americans; Neil Armstrong and Buzz Aldrin, put a temporary end to those dogfighting games of ours, as we all wanted to become playground Astronauts for a while, but later that same year the people responsible for the hugely popular James Bond films brought us that epic movie The Battle of Britain . Game on again!

As the 1960's became the 1970's, the public interest in the Battle of Britain was still very much alive and reading about it at that time was still full of the "Wow!" factor, but the Battle of France was rapidly being treated with even less importance than it previously had been, and it was given scant regard then!

Sadly as time passed into the 1980's however, that earlier fervency started to wane in the public eye. During these years, some new books were being written were by younger authors,

some of whom tried to be revisionist in their approach, whilst others just seemed to want to be controversial for the sake of it, under the guise of “debunking the myths”.

There were one or two notable exceptions, but on the whole I felt as though most of the more sane books on the subject then in circulation were just a bit too clinical, heavily based upon the purely historical facts which, though important in their own right, were not quite what I was looking for. By the time the Battle was forty-five years in the past, the earlier public fervour I’d experienced as a youngster was almost gone; largely I think because time had begun to take its inevitable toll on those who could actually recall the event. It began to feel as if the story was becoming rather removed, certainly from the younger people, and that consequently they’d not be able to get a feeling for what it was like, to have been living through that momentous time, and to have been “waiting for Hitler”. Therefore, it would get progressively harder for each subsequent generation to be interested in the summer of 1940.

Then in 1990 came the fiftieth anniversary of both battles. Once again, some good television programmes and one or two good books, and joy of joys; Kent’s oldest brewer, Shepherd Neame, gave us Spitfire Ale in celebration. Still only half-hearted mentions at best of the French battle, though. Then, it all went deathly quiet again; for the next twenty years. Apart from little flurries of interest such as when Geoff Wellum’s book First Light and Patrick Bishop’s book Fighter Boys came out, there wasn’t much else to speak of. In any case, the Tony Blair years seemed to be a time devoted solely to apologising for Britain’s history, rather than celebrating it. The slave trade was apparently all Britain’s fault; Bomber Harris was declared a mass murderer and Montgomery nothing more than an egomaniac. Anyway, the Blairites seemed to think it best if the country actively forgot its past and pressed on with trendy, modernist policies, aimed at uniting us all in a new multi-cultural Utopia. All British history was therefore bunk, or blameworthy.

Unfortunately, the Blairites attempt at Utopia simply created a state that specifically highlighted the many uniquely different qualities we all have, and then pitted them all against us, so that everyone was afraid to voice their opinion for fear of offending someone else. Hitherto innocent or patriotic symbols, such as the English flag, were being taken down for fear of imagined sinister interpretations by minority groups. This was history going mad in the making. It wasn’t “cool” for anyone to be proud of being British!

Question: Was parathis what my now dead Grandparents, our allies the French and The Few had fought Hitler for? A land where sixty-odd years later, their selfless sacrifices and efforts were being actively dismissed and intentionally forgotten, just so that we don’t cause any possible or imagined offence? Logical progression: How then, would paramy two teenage daughters come to learn of this momentous period in their homeland’s history? Would they learn of it from a passionate teacher who would cover it accurately and make sure they understood it, or would they be taught a sanitised, “quickie” version, probably shot full of inaccuracies and watered down with political correctness? Worst case scenario: paraWould they actually be taught about it at all? As it transpired, they weren’t taught about it at all. Not good in my opinion.

Accordingly, I sat down and made some notes. Could the story be made of interest to today’s internet/mobile phone/Xbox-obsessed generation, as well as the expected wider audience? I hoped so! I wanted to bring something of everything into the one book, but I especially wanted to re-inject the fervency from my own younger days back into the story. I felt this was crucial, so I therefore decided to take a far wider selection of incidents from many different backgrounds, whilst still remaining true to the main thread. I knew that I’d have to keep some

events that are now well known and include them for their familiarity, as way-finding points in the story, and I have even been able to expand upon some of these now, as a result of tracking down eye witnesses, but in the main, I wanted these bigger incidents kept to a minimum. The overriding factor of course, is that paraall of the incidents covered by this book, be they large or small, air or ground based, remain absolutely typical of what was happening on a daily and nightly basis at the time.

Even if a lot of the incidents I ultimately chose are all but unheard of, they are nonetheless still packed full of human interest, because whether that interest is in the tragic, or the comic aspects in some of them, or whether it is just the plain fascination of the incidents in their own right, they were experienced by real people. Also, consider for one moment the largely overlooked fact that the public transport system, always taken for granted, was just as much in the front line as everyone else was, yet their stories are usually confined to specialist publications these days, if they are aired at all. Consequently, the wider audience is largely unaware of this. I suspect this may be due to the fact that Hurricanes and Spitfires are perhaps far more glamorous to many than Steam Trains, Trams and Buses; but the trains, trams and buses were every bit as vital to the country at that time as the fighter aircraft were. The more I looked into the less immediately obvious involvement of the railways and the buses, the more I realised that they actually played a huge part within the overall story and I soon developed a deep admiration for those people too. The deeper I looked into these fringe stories, the more I wanted to. It became intensely personal, and that is the nub of this book.

As mine probably is the last generation who, this far down the timeline, still retain something of the true passion for this period in British history, I decided that it was time and possibly even the last chance, for somebody to write a book that would take a more personal approach. This is because the recollections of those people who experienced the events at first-hand add a touching poignancy all of their own and just like The Few, the ranks of these ordinary people also grow steadily fewer in number with each passing year.

So it is this passionate and personal angle that I hope makes this book so different, indeed perhaps even unique. I make no apology for this because for those who lived through it, the summer of 1940 was personal, and the people I interviewed were ordinary people, as I said, real people, who happily gave me their own personal accounts and recollections of that time. I then added some of the experiences of my own family members, whose ranks have also dwindled over those same years, and finally topped them up with my own later, personal interest plus the results of my many, many researches.

Having woven all these threads into the main story, I've then further punctuated the book's historical narrative with ephemeral things, such as the popular music, the songs and films of the period, the wireless broadcasts (even those of Lord Haw-Haw), the newspaper headlines or articles plus a legendary, morale-boosting cartoon strip. As Churchill himself once famously said: para"History with its flickering lamp stumbles along the trail of the past, trying to reconstruct its scenes, to revive its echoes and kindle with pale gleams the passion of former days." Well, it was precisely the reconstruction of those scenes and with very much a passion for those former days, which I had in mind for this book. Also, by taking that somewhat broader view in many respects, but sometimes using an intensely localised spotlight to illuminate specific incidents, this book will hopefully bring to light more than a few things that were either previously not publicly realised, or that have perhaps long been forgotten.

Given all that, it is therefore my ultimate hope that this particular book will appeal to just about everyone; from the serious historian who seeks good supplementary knowledge, through those

who just love the main story or the aircraft, (or trains, trams and buses!) down to the romantic daydreamer; such as the young boy who, for example, finds he is the victim of an uninteresting school lesson (usually maths!) and sooner rather than later, stares up at the summer sky out of his classroom window, wistfully dreaming that he is flying a Spitfire through ethereous canyons in the sunlit clouds; for I can assure you that I have been all of those in my time. So just before we embark on this voyage of rediscovery of the summer of 1940, let me first tell you how it all began for me.

By the time I was just nine, I'd already fallen in love with aeroplanes in general and the Spitfire in particular. When I was aged ten, my family had moved out from central London to Sidcup in Kent and at my secondary school, there were five teachers who had a special interest for me. One such teacher was a history master; he had been wounded at the Battle of El Alamein. One of the school's English masters had flown Sunderland Flying Boats on Anti-Submarine patrols with RAF Coastal Command, whilst his charming wife, also a teacher at my school, had been in the WAAF and served as a plotter in the 11 Group Operations Room during the Battle of Britain. (In fact, she can clearly be seen in that very famous and oft-used photo of the 11 Group Ops Room that the Imperial War Museum have). I was also most fortunate in having an excellent English master; a Canadian man who constantly pushed me into writing and taught me the value of sound research, whilst my Science master encouraged me to base a large part of my coursework on something I actually knew about: the development and applications of Radar.

Meanwhile, during some of my leisure time, Dad and I used to go out exploring. It took us a while, (three years in fact), but one day we discovered that there was a small privately run air museum just across the Footscray meadows from where we all lived, though it was only open on Sundays. Oh, how I used to look forward to Sundays! This museum was like no other I'd been to. The history in there came alive. Tony and John, the two men who ran paraThe London Air Museum as it was called, were dedicated Battle of Britain enthusiasts who spent their leisure time like the paraTime Team, digging up the past (literally!) and putting it tastefully on public display. After talking with my Dad, they graciously allowed me to help out at their museum on a purely voluntary basis. Frankly, I would gladly have paid them my pocket money each week for the privilege, though somehow I never got around to telling them that!

Each Sunday morning, before the museum opened for the day, my first job was to help with coating the displayed recovered aircraft parts with Diesel oil, to keep corrosion at bay. With practice, a crash-damaged Rolls-Royce Merlin engine from either a Spitfire or a Hurricane, or a Daimler-Benz 601 engine from a Messerschmitt 109, would each take us fractionally less than ten minutes to coat using a household paintbrush, but the Diesel fumes could be quite nauseating. A Bramo-Fafnir radial engine from a Dornier 17 took rather longer to coat, thanks to all its nooks and crannies.

I also helped to keep the place generally clean and tidy and of course made the tea, but I kept my eyes and ears open all the time. It was at this time that I had my first encounter with the uniquely ubiquitous Jane. You too will get to know something of her later, I promise.

All in all, my time at The London Air Museum was a fantastic learning experience for me and after a while, I tentatively began answering the odd visitor question or two, once I'd gained sufficient knowledge and the confidence to be able to follow small, unaccompanied parties around the museum, just to be on hand for them.

As well as the general public visiting the museum, the visitor's book showed that there had been more than the occasional visit from ex-Battle of Britain aircrew, from both sides. They

always took the trouble to put the most charming comments in the book. I remember being totally amazed at how this little private museum, tucked away in a former stable in a field belonging to a large house in North Cray Road, Bexley, was able to draw so many visitors through its barely-advertised door. In the high summer we could often find ourselves in the situation of having Tony and John conducting two tours of the museum at the same time, in opposite directions, while I stood at the door taking admission fees and organising the next two rounds of visitor parties.

It was then I realised that it wasn't just me who was in the grip of this seemingly insatiable fervency. I saw just how intrinsic a part of the English character the events of the summer of 1940 had become, thirty-five years after the battle. Fathers taking their children round the museum quickly found that they had to answer their offspring's eager questions on a rapid-fire basis. They also found themselves seeking quiet confirmation of the answers they'd just given, from either Tony or John, though occasionally from myself, as their youngsters took in the various displays of artefacts, ephemeral items, photographs, model aircraft and of course the recovered remains of crashed aircraft. The museum even had a large bin of assorted and barely recognisable oddments; debris from these wrecked aircraft, which could be purchased for around fifty to seventy-five pence per piece. That bin, containing little fragments of aviation history, took a lot of pocket money from a lot of youngsters, but all proceeds went toward the upkeep of the museum.

Sadly, The London Air Museum, which was among the first of its kind; a museum that had based its presentations on the marriage of aviation history to keen amateur archaeology, closed in 1977, when the owner of the land it occupied wanted the stable back. The museum's collection was then dispersed, and whilst some of the items went to other, similar museums, the majority went into storage somewhere and I was now "redundant".

Fortunately for me, I'd already discovered the Air Training Corps with its opportunities for powered flying and I'd also joined the Kent Gliding Club at the behest of one of my Squadron-mates. The act of flying was well and truly in my blood now. I then went on to further discover Rock music, various Japanese, British, Italian and American motorcycles and of course, girls. (And pretty much in that order actually, though the girls were mixed in with, and probably due to, some of the motorcycles!).

Thirteen years later, I was also privileged to be working within the aviation world at West Malling aerodrome, at a time when it was still in use as such. I will always remember how two of the fighters from the RAF's Battle of Britain Memorial Flight "beat up the airfield" (an old RAF custom) as they arrived on the Friday morning prior to the last ever "paraWarbirds" air display. Seeing the full underside of a Hurricane as it banked steeply to port past my office window, (which by the way, was on the paraground floor, near to one end of the hangar and facing the Control Tower) closely followed by a Spitfire, as both aircraft flew parabetween the hangar and the rear of the tower, is not something that I am ever likely to forget!

I have been fortunate to have lived and worked in various parts of the glorious county of Kent since my family moved out of south London in the early seventies. I have previously lived near Chatham; also on the Weald just outside of Maidstone, I've lived in Dartford and I now live by the sea (just!) at Allhallows, on the northern edge of the Hoo Peninsula, in North Kent. Living in such places, someone of my generation and curiosity soon becomes acutely aware of the history of them and the parts they played, crucial and small, during the epic summer of 1940. One simply cannot help it, for the inescapable fact is that this whole region is quite literally right under that eternally ethereal battlefield.

To get an idea, you've only to take the Maidstone area as an example. Due to its central position within the county, this area bore witness to most of the aerial fighting that took place over Kent from August onwards. The countryside around Kent's county town literally became littered with aircraft wrecks. Then of course there is Chatham; home to the vitally important and often targeted Royal Navy dockyard. Go to the BBC Radio Kent studio in Chatham and you will see a marked reminder of the Luftwaffe's many visits, for there is a de-fused 500lb German bomb propped up against the wall of the building opposite. It was unearthed some time ago from where it had lain dormant. Now made safe and painted bright blue, it strangely often goes un-noticed! Dartford was on the Luftwaffe's main approach routes to London and had its share of bombs and aircraft crashes, whilst the Hoo Peninsula; situated as it is between the Rivers Thames and Medway and facing the North Sea, was certainly no quiet backwater during that long hot summer either. It was in fact a place of great strategic importance, as you will see.

So not for nothing was this whole south east region of England nicknamed "Hellfire Corner" in the summer of 1940 and the fact that all of the abovementioned places bounded the now virtually forgotten RAF fighter station at Gravesend, is the reason why this book is largely centred in Hellfire Corner. The book is also casually tempered with the local knowledge I have accumulated whilst living in these places over the past forty-odd years. That, plus the great personal admiration that I have for "paraThe Few"; particularly the fifteen young pilots of Nos. 501 and 66(F) Squadrons who lost their lives in the aerial battle whilst flying from RAF Gravesend during the summer of 1940 and whose stories have largely remained scattered among the fringe elements, till now.

In fact, I first got the idea for this book early one sunny July morning, whilst out walking our two dogs along the wonderfully intact remains of the former 1940 Anti-Invasion defence line here at Allhallows. As Baloo and Mitzi happily ran along the dusty track beside the wheat fields, I stood for a few moments, watching the Swallows swooping low, skimming over the farm crops in their airborne quest for insects. I was beholding the same panorama that the Swallows were flying through: The summer sun was suspended in a beautiful blue sky with a few early cumulus clouds, looking down onto the ripening cereal crops swaying in a wave-like manner in the gentle south-westerly breeze opposite the old Fort. A little further on was the Pillbox line with the sea in front of it, which was at near high tide. For a fleeting moment, it all seemed so wonderfully evocative that for no reason I could possibly explain then or now, I actually expected the whole scene to be punctuated suddenly by the flash of an elliptical wing low overhead, accompanied by the superbly distinctive sound of a Rolls-Royce Merlin engine. It was that conjured vision; largely real but partly imagined, that inspired this book.

Even though my happy Sundays at the London Air Museum are now but a distant memory for me, it is fortunate that there are still a good number of very similar museums dotted around the south of England. Museums that are still being run by real enthusiasts who remain dedicated to their aim of educating, enthralling and above all, tastefully keeping the memory of "The Few" and the momentous summer of 1940 alive for everyone. I hope that by writing this book, I too will be continuing to do my bit to further such noble aims, as the epic summer of 1940 inevitably slips from the reality of living memory; for it is a sad but inescapable fact that any future authors writing accounts of these battles simply won't have the benefit of anyone's first-hand memories at their disposal. Consequently, their work will be the colder, more distant and all the more impersonal for it.

So as we've reached such a milestone as the 75th Anniversary of both the Battles of France and Britain, and begin our voyage of the rediscovery of this time, it is a good moment to realise that this number of years is enough to have been a lifetime in many cases. Today, we are indeed the

fortunate ones; because we've been given that lifetime, thanks to the selflessness of The Few.

Now I'm nobody's paraDoctor Who, but through the media of words, pictures and your own imagination, let me begin to take you back seventy-five years in time, whilst there's still some warmth left in the story. To get a little taste of the pungent atmosphere that's in store for you; sit back and metaphorically "strap yourself in". Imagine if you will, the combined aromas of high-octane petrol, oil, metal, canvas webbing and leather in your nostrils. Now: paraFuel cocks on, throttle lever a half inch forward, set mixture to rich. Propeller control to Fine Pitch, radiator shutter open, magnetos on. Two strokes on the priming lever, hold the starter switch down, and…….

The starter whines; your 24-litre, V-12 Merlin engine stutters, crackles, and then roars into life; spitting flames from the six paired exhaust stubs, as the propeller blades some eight feet in front of you, spin into sudden invisibility. Hear those superb bass tones, feel those powerful, though not intrusive vibrations and as the incredible 1,030 horsepower Merlin settles down evenly to a fast idle, prepare yourself; for you are about to relive the summer of 1940!

Mitch Peeke, Allhallows-on-Sea, Kent.

Chapter One

Prelude To War: The Heady But Ominous Years

For people in England, the Second World War officially started at 11:00 on Sunday 3rd September 1939, with almost the entire population of the British Isles gathered around any nearby wireless set, in order to hear a speech by the Prime Minister, Neville Chamberlain. It was a time of great foreboding, but the British public, though dreading the inevitability of the Prime Minister's announcement, were at least almost prepared for it.

Yet just five years earlier, in 1934, Britain and her people would have been totally unprepared for any such event. In fact, if war with Nazi Germany had come just three years sooner than it did, the Royal Air Force would have had to do battle with the new German Luftwaffe in very pretty, but totally obsolete, biplanes. Biplanes like the Hawker Fury, the Gloster Gauntlet, or the Bristol Bulldog. Even as late as 1939, there were still front-line fighter squadrons in the RAF operating the Gloster Gladiator. Although the Gladiator sported an enclosed cockpit, it was still a biplane, with a fixed undercarriage and a radial engine. In short, it was a front line fighter aircraft that would not have seemed at all out of place leading a dawn patrol over the trenches of the Western Front, twenty-one years previously.

The Royal Navy in the mid-to-late thirties was still using capital ships that had been in service during The Great War. Although these ships had been "modernised" over successive refits, they were by no means modern warships and the subsequent losses in World War Two of HMS *Royal Oak* and *HMS Barham*, to name just two such vessels, would graphically prove this point to the Admiralty.

The British Army was of course thoroughly trained in the art of warfare, but sadly, just like the great army of our main ally, France, it was still the 1914-18, trenches and attrition type; the "Over the top my lucky lads, and advance toward the enemy!" style of warfare that was being practised. Whichever way one looked at the situation, Britain's defences were in a parlous state in the mid 1930's, but this was seen by the government of the day as being a desirable situation, as they pursued the utopian dream of unilateral disarmament.

Indeed, there seemed to be no reason to feel otherwise at the time, for if Britain's defences in the mid-thirties were in a parlous state, then certainly throughout the twenties and into the first four years of the thirties, those of Britain's former enemy, Germany, were far worse; and it was Germany that Britain kept her eye on regarding potential foreign aggression.

After The Great War, the Treaty of Versailles had reduced Germany's military forces to the level of having nothing much more than a token existence. Germany was expressly forbidden to have an Air Force, and after the grand scuttling of the German battleships interned at Scapa Flow in 1919, what little remained of the German Navy was no more of a threat to England than an armada of square-rig sailing ships. Even the huge pre-war luxury liners that were once the pride of the German merchant marine had now been confiscated, to replace such British war casualties as the Lusitania and the Britannic. Furthermore, the once feared German Army was now limited to a mere 20, 000 men.

Whilst the rest of the world was largely happy with a de-militarised, down-at-heel Germany, many Germans at that time felt that the 1918 Armistice and later the Treaty of Versailles, though negotiated at the time in a sincere attempt to end the slaughter and resolve the Great War, had now effectively emasculated their once proud nation. By late 1929, those officers who had negotiated the 1918 armistice on behalf of the Fatherland were increasingly being referred

to in their native Germany as “The November Criminals”.

Throughout the 1920’s, the decadent Jazz age was booming. For those in England, this was “The Modern Age”: It was the time of Art Deco, the Bright Young Things and the Charleston, Howard Carter’s discovery of Tutankhamen’s tomb; Charles Lindbergh’s solo flight across the Atlantic, and the record-breaking exploits that made famous such British and American aviatrixes as Amy Johnson, Lady Mary Bailey, Amelia Earhart and Elinor Smith. A crack British ocean liner, the Cunard Line’s RMS Mauretania, still held the coveted Blue Riband for the fastest crossing of the Atlantic and Commander Byrd became the first man to fly over the South Pole. Heady times indeed, it seemed.

But at the same time that Bix Beiderbecke and his Jazz band were merrily playing the Tiger Jive and cinema audiences in France were flocking to see Renée Jeanne Falconetti in the film La Passion de Jeanne d'Arc, things in Germany were far from rosy. The final straw was the stock market crash of 1929. By then currency devaluation and the crippling war reparation payments that the Germans had been forced to make to the Allies, had inevitably led to runaway inflation and massive unemployment in the Fatherland. With the crash, the German Mark, already more than struggling to hold its own on the currency market, became a totally valueless currency and incredible as it may seem at this remove, many German pensioners actually had their life savings returned to them by their bank at this time, as the years of soaring inflation had by then put the cost of the postage stamp on the envelope far in excess of the amounts deposited in their savings accounts. In short, the German economy imploded, then it totally collapsed.

Many in Germany at that time had regarded Adolf Hitler and his National Socialist German Workers Party (Nazi Party) as being nothing more than a collection of upstarts, especially since their disastrous “Beer-Hall Putsch” in Munich in 1923. The attempted coup was supposed to have put Hitler firmly in power, but it had only succeeded in putting him firmly in prison for a while. Still, if nothing else, his incarceration in Landsberg Prison at least gave him the time to write his turgid and violently anti-Semitic book, Mein Kampf, which later of course became the Nazis’ bible.

As Hitler whiled away his time in prison, things had of course gone from extremely bad to far, far worse in Germany, so as soon as Hitler was released, he resurrected his Nazi party and went on the campaign trail. Whatever else he may have been, Hitler was a gifted orator and it wasn’t long before his speeches and rallies gradually started to appeal to a growing number of German citizens. The constant food shortages and hyperinflation-driven poverty meant that the German people were absolutely desperate for some sort of change; to them, this man Hitler now seemed to be holding at least some of the answers. At worst, it seemed to the German people that Hitler could scarcely do more harm than the no doubt sincere, but nonetheless vague and rather weak governments of the Weimar Republic had apparently done to the country since 1919. With German unemployment at a record six million in 1932, clearly something different had to be done.

By the end of 1932, thanks to Hitler’s fast growing support, the Nazi Party then held the largest number of seats in the Reichstag, the German Parliament. The ageing Paul von Hindenburg, the German President and ex Commander-in-Chief of the German Army, realised the potential dangers of the extremist Nazi Party, but thought he could control them by way of the old adage “keep your friends close and your enemies closer”. Hindenburg now invited Hitler to become the Chancellor of Germany, under his aegis. Thus ten years after his failed attempt to forcibly seize power, Adolf Hitler, the former Great War Army Corporal, failed artist and recently incarcerated author of Mein Kampf, was finally, warily, but this time democratically, given a

chance.

Hitler had of course become the Chancellor of a bitterly disillusioned and utterly broken country, which meant that the social and economic conditions were absolutely ideal for a radical “New Order”. This situation enabled Hitler to quickly establish his brand. By late 1934, after the death of President Paul von Hindenburg, the Third Reich stood firm with Hitler as dictator, the sole head of state, Der Fuhrer; and from that point onward, the stature of Hitler’s new totalitarian state seemed to grow daily.

Just about the first thing that Hitler had done on coming fully to power, was to audaciously stop making the crippling war reparation payments. Incredibly, neither the British nor the French governments blocked him, so he then set about breaking just about every other onerous term of the Treaty of Versailles, one by one. The Third Reich, Hitler proudly and publicly proclaimed, would become known as “the thousand-year Reich”.

His iconic flag, the black Swastika set in a white circle reversed out of a blood-red background, was everywhere in Germany. Impressive government buildings, each with prominent stone spread-eagles clutching a Swastika in their talons on the edifice, sprang up in all major towns and cities throughout the Fatherland. The Autobahns were built and the trains ran meticulously to time. In the skies above all of this, the mighty airships Graf Zeppelin and Hindenburg became symbols of Nazi German pride as they ran a regular transatlantic service and in March of 1936, Hitler felt sufficiently emboldened to audaciously order his troops to re-occupy the German Rhineland, very much against the advice of his senior Army officers. The Rhineland had hitherto been declared a buffer zone by the French and the German Army chiefs greatly feared that this would be seen by the French and the British as a deliberate act of aggression, which is exactly how the French did see it.

Lamentably, instead of supporting our French ally, Britain chose the non-interventionist approach. Without Britain’s support, the French were reluctant to risk a diplomatic rift, or starting a purely Franco-German fight, even though the French Army was widely regarded as the mightiest in the world at that time. So they chose not to do anything about it either. But from the French military point of view, this meant that any future war would now start on French soil, driving towards Paris; not on German soil driving towards Berlin, as previously planned. Advantage: Hitler.

Another feather in Hitler’s cap was that Berlin played host to the 1936 summer Olympic Games. On the surface of it, the German people, as well as things in general, were indeed looking up in Germany. Organisation and discipline were apparently all around, but there was a darker, much more foreboding side to this rebirth of German Kultur, lurking just beneath the surface.

Under Hitler’s regime, the German people were constantly manipulated and controlled by the careful use of propaganda and the secretive power of the state. A much dreaded secret police force called the GeheimeStaatsPolizei, or “Gestapo” for short, ensured that anyone who spoke publicly against the new state, would be quickly arrested and would then swiftly disappear into der Nacht und Nebel, never to be seen again; though not before the suspect had been extensively tortured to reveal the identities of his co-dissenters. The front doors of Gestapo Headquarters in Prinz Albrecht Strasse , Berlin, were never designed for two-way operation. They led directly to the building’s infamous cellars.

Under his totalitarian directorship, Hitler gave priority to the expansion and modernisation of Germany’s armed forces; though this was done secretly and gradually at first, then more rapidly

and overtly later. It was this military expansionism that was driving the German economy along the road toward its recovery, providing much needed jobs. German businessmen, thankful for the impetus, backed the Nazi Party with financial as well as moral support. The problem of German unemployment now seemed to have been eradicated as factories and shipyards sprang to life again, and as all three of the armed services also now needed new recruits by the thousands, conscription would soon provide the necessary manpower.

The German Navy, or "Kriegsmarine" as it was now called, soon got "Pocket Battleships" like the Admiral Graf Spee, which on paper anyway, appeared to comply with more recent German arms limitation agreements such as the Locarno Treaty. Later, once the veil of secrecy was completely discarded, powerful full-sized Battleships like Bismarck and Tirpitz, as well as a growing fleet of modern U-boats, entered service.

The German Army soon shed their limit of just 20,000 men and thanks to manufacturers like the mighty Krupp's of Essen, they got modern weapons like Panzers and the extremely versatile 88mm field gun. There were also the elite Waffen SS divisions too; whose smart black uniforms and sinister "Death's Head" insignia attracted many a zealous young Aryan idealist.

Herman Goring, a former Great War "ace" fighter pilot who had flown with the legendary Manfred von Richtofen, ("The Red Baron"), headed the new German Air Force, the "Luftwaffe". His first job had been as the head of the Gestapo, but he'd been only too pleased to hand that one over to the distinctly sinister Reichsfuhrer SS, Heinrich Himmler, in order to take up this more personally fitting role.

Many of the personnel for Goring's new Luftwaffe were at first covertly trained in Russia, whilst those wishing to be trained as fighter pilots temporarily took up the outwardly harmless sport of gliding during the secret years. Meanwhile new, modern aircraft types were developed by the German aircraft industry as fast mail planes, or civilian airliners, or "communications planes". One such communications plane, the four-seater Messerschmitt 108 "Taifun" (Typhoon), would soon shed three of its seats and be developed into the formidable single-seat Messerschmitt 109 fighter aircraft, an aircraft later so beloved of many a former German gliding enthusiast.

In the meantime, the larger German aircraft types such as the twin-engined Dornier 17 and the Heinkel 111, operated by Germany's national airline, Deutsche Lufthansa, would soon become familiar sights at London's Croydon Airport. A few years further on would see the later marks of those very same aircraft dropping bombs on England, as these fast airliners required only minimal conversion work to militarise them.

Lufthansa pilots and navigators also took detailed photographs of any RAF aerodromes that their scheduled routes took them near and it certainly wasn't unheard of for a new pilot serving with the airline to stray, quite by accident of course, from his allotted route, only to suddenly find himself near an RAF base such as Kenley or Biggin Hill. After a few minutes of circling, purely in the course of getting his bearings, the new pilot miraculously pointed his aircraft in the right direction for Croydon Airport, whilst his navigator secured the "scenic snapshots" he'd been taking with his Leica camera: Snapshots that would later be pasted onto sheets headed G.B. 10 --Flugplatz: the Luftwaffe's target identification sheets.

By early 1935, the British Government was only just reluctantly waking up to the fact that it wasn't merely annual events such as the passion play at Oberammergau, or the Munich Bierfest that were taking place in Germany. But the Government's previous indifference had been

shared by other, well-connected sections of British society, who had also taken purely at face value the impressive changes in Hitler's New Germany. Having seen the turnaround in Germany under Hitler, there were some members of British society who actually wanted the same for Britain. Oswald Mosley, a former officer of the Royal Flying Corps, was one such person.

Mosley had been born into a family of English landed gentry. The product of Sandhurst Military Academy, Mosley ended his war career thoroughly jaded with "The Old Guard" and he desperately sought to end the authority of those he felt had caused the slaughter and carnage of the Great War. Mosley wanted a Brave New Britain. He became MP for Harrow in 1918 but despite his classically Tory background, he ended up joining the new Labour party, who were at best tolerantly suspicious of him in any case.

With the Stock Market crash of 1929, Mosley realised that drastic measures were going to be needed if Britain's economic problems were going to be tackled successfully. He came up with a radical national plan that would galvanise the British economy through a programme of public works and government spending. However, Prime Minister Ramsay MacDonald thought Mosley's plan was far too radical and the cabinet rejected it. On May 21st 1930, Mosley resigned and stood as an independent from then on. He and his wife fought the 1931 election as independents but ended up losing their seats. Undeterred, Mosley looked to the fascist regimes that were springing up in Italy and Germany for inspiration. In 1932, he formed the BUF, the British Union of Fascists and in 1933, he pursued his dreams in much the same manner as Hitler was doing at that time, by holding public rallies.

The fact that the British government were slowly waking up to such political changes at all at that time was only due to the constant, though largely unwanted efforts, of a then rather unpopular politician named Winston Churchill. As the reality of German rearmament that Churchill was desperately trying to show to them, slowly began to dawn on the seemingly inert British government, there was a growing feeling that "something must be done", though it was rather unwillingly considered.

On the Continent though, there was a sense of urgency. Ever since the German re-militarisation of the Rhineland, the French government was waking up to the situation as well. The problem in France was that there were deep political divisions at work. The political right and left were never more extreme than at this time. Indeed, there had been serious anti-Republican riots in Paris in February of 1934. As the Republican police had crushed the riots, those whose sympathies were right wing, began to look favourably to the Fascism that was gripping Italy and the new Germany. Just as was the case in England, there were those in French politics and society who wanted a similar state for France, too.

In both countries, despite the internal political tensions, new specifications for fast, modern fighter aircraft were issued, though in England this was almost grudgingly done at first. Fast, modern Battleships like HMS King George V and HMS Rodney also began to be reluctantly designed for the Royal Navy and attention was eventually turned toward the aerial defence of Great Britain; as Churchill had taken great pains to illustrate for those in power that England could no longer rely purely on her traditional defences.

Winston Churchill had accurately foreseen that the traditional idea of "Fortress England" protected by her natural moat, the English Channel, and the warships of her most Britannic and invincible Royal Navy, had one inescapable flaw: the seemingly impregnable fortress had no roof. The development in Germany of long-range aircraft that could carry hundreds of pounds in weight of bombs had rendered such established British views obsolete, just as the U-boat

had earlier rendered the Royal Navy's all-Big-Gun Battlecruisers obsolete. Events were to prove Churchill, still at that time the very unpopular and oft-called "warmonger", entirely correct in his analysis.

With the perceived horrors of aerial attack now slowly becoming uppermost in British minds, the old ring-zone system called ADGB (Air Defence of Great Britain) gave way to a new organisation in 1936, as the new-look RAF, divided itself into four groups. Fighter, Bomber, Coastal and Training Commands, each with its own Commander in Chief, came into being.

The Commander in Chief of what was now RAF Fighter Command was the man who had been in charge of the old ADGB zone that was called the "Fighting Area". He was an Air Force officer by the name of Hugh Caswell Tremenheere Dowding, who was known affectionately throughout the RAF by the nickname of "Stuffy".

Dowding was a former Army officer who'd learned to fly during the First World War and then transferred to the RFC (Royal Flying Corps). The RFC and the RNAS (Royal Naval Air Service) were merged on 1st April 1918 to become the Royal Air Force. Dowding finished the Great War with the rank of Brigadier-General, having commanded the RFC's Wireless School. It was his involvement with early wireless communications that had got Dowding hooked on the pursuit of science and technology.

In 1930, he had been given command of the ADGB "Fighting Area" and he quickly set about devising a fighter control network for home defence. Nobody had previously attempted anything remotely like the task that Dowding now set for himself. It was his remarkable foresight and sagacity that would ultimately create the system of ground control that was needed to put defending fighters in the right place at the right time to intercept inbound enemy raiders; a system which, though greatly refined, in essence still works today.

By late 1936, Dowding had the manpower his system required. He had already ensured that the appropriate telephone network was in place to link the various component parts of his so far rudimentary system together, into something like a cohesive whole. It was early warning capability that was posing him a considerable problem.

Experiments during the late 1920's and early 1930's with huge, 30-feet diameter, concrete acoustic mirror bowls or curved acoustic mirror walls, all located high on coastal cliffs, had shown a number of deficiencies. The microphone in the bowl or in front of the mirror wall could certainly detect the sound of approaching aircraft, but only if those aircraft were flying directly toward it. As the first concrete bowls or sound mirrors were totally fixed and unable to swivel, they could only be sited facing the most likely direction that any enemy aircraft would come from, though the microphone's angle of incidence to the sound mirror could be altered to a certain degree.

Later bowls were able to swivel through almost a 35-degree arc and some level of success was therefore attainable in more or less calculating the inbound enemy's range and position, by taking information from two of the later, swivelling type of acoustic stations, but it certainly was not an accurate science. In any case, neither the bowl nor the mirror wall could gauge the altitude, speed, or the number and type of aircraft that were coming. Nor could they give the true heading of the raiders. Worse still; their effective range was less than five miles.

Observer posts could of course give the heading, type, approximate number of aircraft and by using an instrument not unlike a sextant, a reasonably good idea of the raiders' altitude could also be achieved and as we shall see, the Royal Observer Corps were later to do exactly that in

splendid form, thus greatly augmenting the system; but by the time an enemy formation was seen by even the most vigilant of observer posts, there would simply be insufficient time to get the defending fighters into a suitable position to intercept. For that reason, observer posts could not be a first-line measure of defence against incoming enemy aircraft. What Dowding's system sorely needed was a reliable means to "see" further, in all weathers.

Meanwhile, a Scottish scientist named Robert Watson-Watt, who had been working on Radiolocation methods as a means of detecting thunderstorms, was asked to come up with a "Radio Death-Ray" for destroying enemy aircraft. Realising the total impracticality of such a suggestion, he quickly turned his research toward the problem of detecting, rather than destroying, inbound enemy aircraft. He concluded a pioneering experiment in Northamptonshire on 26th February 1935 by successfully "tracking" an RAF Heyford bomber flying at 100mph, using the powerful BBC short wave Radio transmitter at Daventry and receiving equipment strung across a farm field at Weedon. Parked in that muddy field were Watson-Watt and his team, all of whom were crammed into the back of an old Morris ex-ambulance vehicle, anxiously watching a Cathode Ray Oscilloscope that was connected to the makeshift receiving aerials in the field. As the lumbering bomber neared, the screen of the Oscilloscope came to life.

Watson-Watt had discovered that the metal parts of an aircraft would reflect Radio waves. All that had to be done was to send out regular continuous pulses of Radio waves on a stable frequency and wait for the incoming aircraft to reflect them. The Cathode Ray Oscilloscope could measure that reflection in a visually discernible way, by leaving a trace image of light on its screen. That trace of light would, in time, be able to give a fairly accurate range, a good idea of altitude, but most importantly of all, about twenty-five minutes clear warning of any incoming aircraft. Radio Direction Finding (RDF, later called RADAR; RAdio Direction And Ranging) was born on that damp February morning. Over the next five years, Robert Watson-Watt worked tirelessly to iron out the kinks in his creation. He had a massive stroke of good fortune when two other scientists by the name of J.H. Randall and J.T. Boot who worked together in partnership, produced what was then RDF's missing vital component; the cavity magnetron, which turned the basic "trace" on the oscilloscope's screen into something defined and readable. The final piece in the RDF jigsaw-puzzle was a government scientific advisor named Sir Henry Tizard. His input greatly helped develop this rudimentary RDF system into an almost exact science, and in the nick of time.

Once Dowding had a fully working model of this RDF, he began to set up a chain of Radio Direction Finding stations along the eastern and southern coasts of the British Isles, which became known as the Chain Home stations. As the stations were fixed, they would only be able to "see" forward, over the sea, so therefore each planned station overlapped its peripheral coverage with its neighbours, thus ensuring that there were no gaps in the chain. To overcome this "forward only" view, a network of coastal and inland observer posts would plot the progress of incoming raiders once they had crossed the coast. One very important bonus, as we shall see later, was that the almost 120-mile range of the Chain Home RDF stations meant that Britain's RDF covered many parts of northern France too.

Although the exact nature of these RDF stations could be concealed from unwanted attention, there could be no disguising of the 350-feet tall masts of the twenty-one high-level Chain Home stations that eventually appeared on the eastern and southern British coastline. As the first stations neared completion, the public were told that the masts belonged to the "Ionospheric Research Establishment", which was simply a nom de plume for the Air Ministry, of course. It didn't take the Germans long to spot the masts either, especially the four towers of Swingate

Chain Home station standing sentinel atop the chalk cliffs to the east of Dover Castle. The lone mast atop the hill at Dunkirk near Canterbury also stood out like a sore thumb. The Germans didn't quite buy the idea of these stations being for the researching of thunderstorms and made a careful note to investigate these strange towers further.

Meanwhile, Dowding organised RAF Fighter Command into three groups, numbered 11, 12 and 13 Groups. No. 11 Group was the largest and covered the west, south and southeast of England. No. 12 Group covered the industrial midlands and No. 13 Group covered the north and Scotland. Shortly after the outbreak of war in 1939, it was realised that No. 11 Group was far too large, so a new Group, No. 10, was formed to take over responsibility for the west of England's fighter defence. Each of these groups had its own Group Operations room and each group was sub-divided into sectors, with each sector having a sector command airfield with its own Sector Operations Room, and a number of satellite airfields. The Group Operations Room was a large-scale version of the Sector Operations Room.

Inside a Sector Operations Room, or "Ops Room" as it was more commonly referred to, was a very large map pertinent to the sector's area of operations, which was permanently fixed to the top of an equally large table. Around the table sat women "plotters" of the Women's Auxiliary Air Force (WAAF). Each "WAAF" wore a set of headphones through which she received information on the individual enemy formation that she was plotting. Her job was to put "her" raid on the map and update its progress, by means of magnetic arrows and a sort of croupier's rake, so that the controller, sitting on a raised dais overlooking the map table, could see events as they happened. Other plotters placed and updated the markers representing friendly aircraft on the map table.

On the wall opposite the controller's dais was the "Tote Board" which showed the dispositions of each of the defending squadrons by a system of lights in colour-coded bands that gradually progressed down vertical columns, from "readiness" through various states such as "in position" and "enemy sighted" to "engaged" and lastly, "detailed to land" and "landed and refuelling" on the board. The whole concept was wonderfully simple and yet remarkably efficient in operation; but then the best ideas often are.

The RDF stations and the Observer posts were all linked by telephone to a central filter room where all incoming information was first gathered and assessed. The filter room assigned each raid a number and then passed on the verified information to the appropriate RAF Group Operations Rooms, which in turn plotted it on their map table and passed it on to the relevant RAF Sector command stations, and scrambled the necessary squadrons of fighters. The Sector controller guided the fighters under his control, to the interception. All Dowding now needed to complete his revolutionary defence system was the modern fighter aircraft earlier specified by the Air Ministry, flown by highly trained pilots, who for the first time, would now be accurately controlled from the ground.

At the Hawker Aircraft Company, Chief Designer Sydney Camm was busily designing just such an aircraft in response to that earlier Air Ministry specification. He had accepted that his biplane designs could go no further, but he also had the question of tools and jigs to consider and above all, time. He therefore envisaged keeping his new design quite close to that of the existing Hawker Fury biplane aircraft, thus saving valuable time and the not inconsiderable expense of completely re-tooling the Hawker factory.

He started on the drawing board by taking the top wing and inter-plane struts off the Fury. The bottom wing was then enlarged and modified to take the extra loading. A retractable

undercarriage and an enclosed cockpit were then added to the design, but one considerable problem continually dogged his efforts. Early prototypes, though promising, had proven to be markedly underpowered by the 650 horsepower Rolls-Royce Goshawk engine, then the most powerful engine generally available.

Of course Sydney Camm wasn't the only designer working to produce a fast monoplane fighter for the RAF. Reginald Joseph Mitchell ("Mitch" to his close friends and colleagues) was the Chief Designer at Supermarine Aviation in Southampton. It was Mitchell's bright blue-and-silver S5 and S6 seaplanes that had captured the public imagination by representing Great Britain at the 1927 and 1929 Schneider Trophy contests, both of which they had won.

The S5 and the S6 seaplanes had been powered by the Napier Lion engine, which though giving an impressive 870 horsepower, was in 1929 at the end of its development. A more powerful engine would be required if Great Britain were to win the Schneider trophy outright at the forthcoming 1931 event on the Solent.

With British national prestige thus hanging in the balance, the seemingly unthinkable then happened. The Labour government of Prime Minister Ramsay MacDonald suddenly pulled the rug from under the national team, by withdrawing their government funding. It was felt in Downing Street that the competition had become an unnecessary burden on state funds. However, a private source in the shape of Lady Houston stepped forward and guaranteed the sum of £100,000 and so thanks to that last minute patriotic support for the team, the British entry for the 1931 Schneider meeting went ahead. There was a new engine being developed by Rolls-Royce that, it was hoped, would help ensure a British success at the 1931 meeting.

As Ray Noble's New Mayfair Dance Orchestra, accompanied by their legendary vocalist Al Bowlly crooning I've got a date with an Angel, entertained the still light-hearted British public; Reginald Mitchell was perhaps unaware at the time that he was himself on the brink of a date: with destiny.

Thankfully, Rolls-Royce lived up to their reputation and Mitchell's 1931 Supermarine S6b was powered by an all-new, 36-litre, sprint engine. Called simply the Rolls-Royce "R", this revolutionary engine ran on a highly volatile cocktail of Benzol and leaded aviation fuel. The aircraft's hollow metal floats were also its fuel tanks, thus making for an extremely streamlined machine. Flown by Flight Lieutenant Boothman of the RAF's High Speed Flight, the formidable bright blue-and-silver S6b simply swept away the competition. Just two weeks later, the same S6b in the hands of Flight Lieutenant Stainforth set an airspeed record of 407.6 mph. These remarkable race-winning Supermarine seaplanes had all been sleek-looking monoplanes, not the more traditional biplane type.

It was on the strength of those racing successes that Mitchell had turned his attention to the task of designing a fast monoplane fighter for the RAF. After a semi-disastrous attempt with an ungainly Gull-winged monoplane simply called the Type 224, Mitchell greatly refined his design and incorporated the clean lines and the all-metal, stressed-skin construction of the S6b, with a retractable undercarriage in place of the seaplane's floats. The projected aircraft, the Supermarine Type 300, still had traditional, straight wings with rounded ends and very little in the way of dihedral angle at this stage of its development, but it was most definitely the shape of things to come.

The Type 300 was duly submitted to the Air Ministry for approval, but it got a lukewarm reception because like the Hawker prototype, it too was still vastly underpowered. Camm and

Mitchell, both of whom were champing at the bit, had no choice. They both just had to patiently await developments at Rolls-Royce before their designs could proceed.

Rolls-Royce was frantically working on the production of a scaled down version of their race-winning “R” sprint engine, as a private venture. In its original form, the formidable 36-litre, 2,350 horsepower “R” engine wasn’t at all practical, as it had to be completely stripped down and thoroughly overhauled after less than ten hours of running. Provisionally called the PV-12, the projected new engine was to be a V-12, 24-litre powerplant that was designed to produce a minimum of 1, 000 horsepower. Initially though, the project was giving the Rolls-Royce technicians nothing but trouble.

The “R” engine was very much at the cutting edge of aero engine technology and trying to scale it down to produce a practical, but above all, reliable version of it had produced a wealth of technical problems which had to be ironed out first. In fact, Rolls-Royce even had to develop a new alloy to make the engine from. This caused the development work to go on for much longer than had originally been envisaged, but it was felt that it was worth the necessary perseverance to attain the magical minimum output figure of 1,000 horsepower. In the latter half of 1934 their determination succeeded and the PV12, happily minus most of its earlier problems, at last became the 1, 025 horsepower Rolls-Royce “Merlin” and was duly made available.

Incredibly, the British government of the day, no doubt in the spirit of reconciliation between former enemies and to encourage free trade with Hitler’s New Germany, also made this revolutionary new aero engine available to the Germans. The fact that a Rolls-Royce engine initially powered the prototype Messerschmitt 109 when it first flew will therefore come as no great surprise.

Once they’d got their hands on a Merlin, the Germans were greatly impressed with the new engine and the Research and Development department of Daimler-Benz were able to incorporate a lot of its innovative features, as well as their own refinements such as direct fuel injection, into their all-new DB601 engine; which subsequently powered all of the Luftwaffe’s fighter aircraft. It is of course no coincidence that the finished DB601 engine bore an uncanny resemblance to an upside-down, fuel-injected Merlin!

Meanwhile, the Air Ministry issued specification F36/34, to the Hawker Aircraft Company, which stated that their new “High Speed Fury Monoplane” should be capable of attaining 320mph in level flight and carry eight .303-inch calibre machine guns. Specification F37/34 issued to Supermarine Aviation, called for the same armament and a speed of 330mph in level flight for their Type 300.

Finished in bright silver, bearing RAF Roundels and the serial number K5083, the now Merlin-powered Hawker prototype first flew on 6th November 1935. The test flight wasn’t perfect, however. There were still teething troubles with the new Merlin engine, and K5083’s wings had to be ballasted with the weight equivalent to the eight Browning guns she was supposed to fly with, as the new guns were not ready in time.

Taking off from Brooklands aerodrome near Weybridge in Surrey, Flight Lieutenant George Bulman put K5083 through some basic manoeuvres and despite the engine’s unsettled state, he achieved a top speed of 315mph in level flight in what was now a promisingly fast and highly manoeuvrable aircraft, which the Air Ministry duly accepted for full RAF evaluation trials. Almost as soon as Bulman landed, Rolls-Royce went to work to iron out the Merlin’s troubles,

quickly developing it over the next three months into the improved Merlin II.

On 5th March 1936, just before Hitler's troops marched into the Rhineland and four months after the success of the Hawker prototype, the prototype Supermarine Type 300, serial numbered K5054, painted in a pale blue colour and polished to a high gloss finish, took off from Eastleigh airfield just outside Southampton, with Supermarine's chief test pilot, "Mutt" Summers, at the controls. Whilst he'd waited for the new Merlin II engine, Mitchell had further refined the design of the Type 300's wings and K5054 now bore that distinctive elliptical wing form with a pronounced dihedral angle. During a fifteen-minute display, attended by no less a person than the new King, Edward VIII; Summers showed His Majesty, R J Mitchell and the other assembled officials, exactly what this sleek and highly agile little aircraft was capable of. Thanks to the Merlin II, Mutt Summers was able to achieve a top speed of 349mph during the brief demonstration. Greatly impressed, the Air Ministry accepted the Supermarine Type 300 for service evaluation.

There was a third monoplane fighter design that the Air Ministry also accepted. The new Rolls-Royce Merlin engine also powered the Boulton-Paul Defiant. It too, had an enclosed cockpit and a retractable undercarriage, but unlike either the Hawker or the Supermarine prototypes, the Defiant was a two-seater aircraft. It was not unlike a "stretched" version of the Hawker monoplane in its overall appearance, but it differed from the other two aircraft in one crucial respect. Its armament of only four machine guns was carried as a sort of "power-pack" in a turret behind the pilot. It was a latter-day attempt to recreate the once highly successful Bristol F2B Fighter of World War One, but quite why such a retrograde step should have been taken remains a mystery. One important omission was the absence of any kind of forward-firing armament for the Defiant. The Defiant flew forwards but shot backwards. It was an omission that was nothing short of disastrous, as we shall see later.

On 3rd June 1936, after the main two prototypes had undergone RAF evaluation trials, the Air Ministry initially ordered 310 of the new aircraft from Supermarine and 300 from Hawker's of their new design. Later that same month, after further modifications had been made to K5083 and flight tested, the Hawker aircraft was officially named "Hurricane" and the initial order quantity doubled. This was because the Hurricane was seen to be more robust and as its construction principles were still very similar to those of the old Fury biplane, RAF ground crews would not find it hard to come to terms with the type quickly.

Originally, the Supermarine aircraft was to have been named "Shrew" due to its compactness and speed. However, a member of the Vickers-Supermarine Board of Directors decided it was to be named "Spitfire", which was his pet name for his somewhat feisty daughter. When told of this, R. J. Mitchell reputedly commented: "that's just the sort of bloody silly name they would come up with!" Despite Mitchell's misgivings about the name, (he would always detest it!), the aircraft went into production and an enduring aviation legend was born. For now though, the initial order quantity remained unaltered, as the more technologically advanced Spitfire took longer to manufacture, cost more, and the RAF's ground crews would need to be thoroughly trained on the new type.

The long hot summer of 1940 would ultimately see the deaths of a large number of forgotten heroes, but the summer of 1937 saw the death of the first of them. All through the latter stages of the development of the Type 300, Reginald J. "Mitch" Mitchell had been privately battling with Cancer. One year after that epic first flight from Eastleigh of what was now, whether he liked the name or not, officially the Supermarine Spitfire, his doctors told him that his condition had now reached the stage of being terminal. R. J. Mitchell, the legendary designer of a

supremely legendary fighter aircraft, died on 11th June 1937, aged just forty-two.

Undeterred by his illness, Mitchell was still designing aircraft up to the time of his death, apparently at work on a promising new bomber type. However, the working prototypes, and not a few of the drawings of this design, were completely destroyed when the Luftwaffe finally found, bombed, and totally wrecked the Supermarine works at Southampton on September 26th 1940.

Although he died three years before the Battle of Britain, R. J. Mitchell's legacy was an absolutely classic fighter aircraft. It was an aircraft whose contribution to that coming battle could never be understated, for the Spitfire represented a quantum leap forward in the design of fighter aircraft. It is fair to say that the Hawker Hurricane marked the end of the traditional wood-and-canvas era of aeroplane design and construction. It is equally fair to say that the Supermarine Spitfire marked the dawn of the next generation of fighter aircraft. These two aircraft, maintained by stalwart ground crews and flown by determined pilots as integral parts of Dowding's own uniquely brilliant system of air defence, which itself was backed by the innovation of RDF and the dedicated personnel of the Observer Corps, would ensure that the quantum leap forward that RAF Fighter Command had made over the preceding six years, would be a totally insurmountable obstacle to the would-be German invaders.

The pilots who would ultimately fly these fast, new generation fighter aircraft for the RAF, came from all walks of life. Candidates for pilot training had to be at least seventeen and a half years of age and medically fit. Some were university graduates, or others who had won scholarships. Quite a number came from within the peacetime RAF itself, from apprentices who transferred to the aircrew branch. Others were volunteer reservists or else they came from countries within the British Empire, under the Empire Training scheme. All of them however, had to be trained to fly these new aircraft and to be fully familiar with the innovative technology of RDF and the RAF's unique system of ground control. Each pilot would ultimately have to be equally at home with his aircraft and the revolutionary network that supported it. Therefore, pilot training could not be just a matter of flying training.

Each pilot had to understand the systems that kept him and his aircraft in the air; from the engine and airframe to the Oxygen supply, guns, radio communications, electrical systems, instruments, hydraulics, navigation and of course the vast subject of aerodynamics, or why his aircraft flew, so that he could equally comprehend why it wouldn't fly if it sustained critical battle damage or a mechanical failure. The theoretical ran alongside the practical training and pilot candidates would spend as much time in a classroom or an engineering workshop as they would in the air during their training period.

A primitive sort of flight simulator called the Link Trainer meant that much of what they needed to know in the air could be taught in safety on the ground first. Then came hours of dual flying instruction in a two-seater biplane such as the De Havilland Tiger Moth, during which the principles of flying, both by visual means and then solely on instruments (with a hood over the cockpit), navigation and aerobatics would be taught. Eventually, if the candidate's all round progress proved satisfactory, he would fly his first solo. If all went well, he progressed onto dual instruction on the Harvard, a more modern, American monoplane training aircraft with a powerful engine, an enclosed cockpit, wing flaps and a retractable undercarriage.

Once he'd soloed in the Harvard, cross-country flights and navigation exercises in all but the very foulest weather conditions followed. Finally, the fledgling fighter pilot was posted to an Operational Training Unit. It was there that he would have his first encounter with either a

Hurricane or a Spitfire. Now, in theory, he would be taught how to fly and fight, prior to his joining an operational fighter squadron.

There were no two-seater training versions of either the Hurricane or the Spitfire, so once each pilot was settled in, what amounted to the "owner's manual" to the aircraft was given to him to study. Once familiar with the manual, he was allowed to take to the air in what was a vastly more powerful and a totally different kind of aircraft to anything he'd previously flown, without any kind of a "safety net"; a daunting prospect indeed for any pilot.

Once the pilot had gained sufficient hours "on type", he was taught gunnery and formation flying. Gunnery training involved shooting at a towed target that obligingly flew in a straight line and was even courteous enough not to fire back. There were ground targets too, all stationary, all placid. No simulated return fire and no "enemy" fighter escorts to deal with. What they were not taught, was dogfighting; or how to "mix it" in true aerial combat, and how to stand a chance of emerging from the fray alive. Rather a strange oversight, considering what they would be expected to do later.

For it wasn't combat flying, but formation flying that the RAF took the greatest pride in. The two biggest dates on the RAF's calendar were the annual Hendon Air Display and Empire Air Day, both of which would see startling displays of formation aerobatic flying, sometimes with the aircraft physically tied together, by the RAF's top pilots. Rigid station-keeping with every manoeuvre timed to perfection; that was the hallmark of an RAF fighter pilot then, and is in fact the very foundation upon which the RAF's internationally famous aerobatics team of today, the Red Arrows, is based. However, come May 1940, this doctrine would also prove to be the death of many of the RAF's fighter boys: for beautiful precision flying displays, requiring intense pilot concentration, were totally unsuited to real, life or death combat flying, but this fact had yet to be realised.

Across the Channel, the French had not been idle during this period either. Despite the recent discovery in Paris of a certain twenty-one year-old singer named Edith Piaf, they had also looked at Nazi Germany and decided not to sit idly by. Impressed by the Hurricane, the French government had issued specifications for modern fighter aircraft for their Air Force, the Armee de l'Air. The firm of Morane-Saulnier answered that call with an aircraft they called the MS 406. It looked a little like a shortened version of the American Curtiss P 36, but it was built very much in the style of the Hurricane. Like the Hurricane, it was a halfway-house between the old biplanes and the modern all metal, stressed skin type of aeroplane such as the Spitfire. Its chief problem was that it was somewhat underpowered. However, like its British counterpart the Hurricane, the MS 406 could also be quickly produced, quickly repaired and could take a lot of battle punishment. Meanwhile, another French aircraft producer, Dewoitine, had taken a look at the Spitfire and they were similarly impressed. Their new aircraft, the D 520, would ultimately resemble a cross between Mitchell's original Type 300 design, and the Curtiss P 40. The D 520, like the Spitfire, took longer to build and was more costly to produce than the MS 406, which is why the Armee de l'Air only had two squadrons equipped with D 520's by the time the Battle of France broke out. As a stop-gap, the French purchased a number of Curtiss Hawks from America with which they equipped some of their squadrons till the MS406's arrived. Crucially, although the French had a form of Radar which the British then helped them to develop; they had nothing like Dowding's intricate defence system to back it up with. This meant that the French now had early warning, but not rapid response.

Meanwhile, the German involvement in the Spanish Civil War as they supported the fascist Spanish General Franco during the summer of 1936, proved to be an ideal training exercise for

the Luftwaffe's bomber crews and fighter pilots. The Luftwaffe's "Kondor Legion" learned many valuable lessons, including the use of loose, open and totally flexible fighter formations, as they developed the tactics of "Blitzkrieg" (Lightning War) in that theatre. If the rest of the still rather complacent world needed a shocking demonstration of awesome German military power, the Luftwaffe's devastating attack on Guernica provided it.

After the Luftwaffe had flattened Guernica, nobody in Britain or France was left in any doubt at all about the nature of Germany's "New Order." British rearmament efforts, though almost unbelievably still encountering government qualms over spending, continued apace, spurred ever onwards by that event. The jolt of Guernica happened just in time for the British and one or two other hitherto complacent countries.

There were other jolts for the British people as 1936 began drawing to a close; more socio-political ones this time, which happened much closer to home. On Sunday 4 October 1936, in Cable Street in the East End of London, there was a violent street clash. The Metropolitan Police were overseeing a planned march by Oswald Mosley's British Union of Fascists. Anti-Fascist demonstrators, including local Jewish, socialist, anarchist, Irish and communist groups, had turned out in vast numbers, intent upon preventing the march. Mosley had planned to send thousands of marchers dressed in the uniforms of his Blackshirts through this particular part of the East End of London, which had a large Jewish population.

The anti-fascist groups erected roadblocks in an attempt to prevent the march from taking place. Barricades were erected near the junction with Christian Street, towards the western end of this long thoroughfare. The Police estimated that some 300,000 anti-fascist demonstrators had turned out. Over 10,000 Police officers, including nearly 4,000 on horseback, attempted to clear the road of protesters so that the march could proceed. The anti-fascist demonstrators fought back with sticks, rocks, chair legs and other improvised weapons. Rubbish, rotten vegetables and the contents of chamber pots were thrown at the Police from the upstairs windows by women in houses along the street. After a series of running battles, in which William Joyce actively wanted to participate, Mosley agreed to a police request to abandon the march, to prevent the bloodshed that Joyce for one, was certainly hoping for. The BUF marchers were dispersed westwards while the Anti-fascist demonstrators rioted with the Police. One hundred and fifty demonstrators were arrested, though some escaped with the help of other demonstrators. Several Police officers were kidnapped by demonstrators. Around 100 people were injured, including police, women and children. The event became known as The Battle of Cable Street. It was a battle that ultimately saw the BUF fall into decline and Mosley fall from grace; at least for now.

The second jolt was actually something of a blessing in disguise. Throughout the summer of 1936, pretty much the sole topic of conversation and speculation for the British public was not the changing worldwide political situation. Nor was it the spread of Fascism, the Spanish Civil war, Oswald Mosley, Mussolini's totalitarian state of Italy or even Hitler and Nazi Germany. It was the new King, Edward VIII and his relationship with an American divorcee, Mrs Wallis Simpson.

The King had first met Mrs Simpson back in 1930 whilst he was then Prince of Wales. By 1932 he knew her well enough for her to become a guest at his house, Fort Belvedere. By 1934, the fact of their relationship was well-known to insiders but was kept from the public at large for quite some time. When Edward's father, King George V died on 20th January 1936, Mrs Simpson was already in the throws of divorcing her second husband. As soon as her divorce came through on 27th October 1936, just three weeks after the Battle of Cable Street, Edward

declared his intention of marrying her.

The problem for the couple was that the established church in England censured the entire concept of divorce. For the King to marry a divorced woman would therefore bring into question his relationship with the church. The status of divorce in 1936 still carried a stigma that was strong enough to ruin the career of lesser public officials, so how could the King of England even contemplate such action? After tense negotiations at very high levels, Edward's choice was made simple for him: he could either abandon the throne, or abandon Mrs Simpson. The burning issue for the British public was; which would he choose?

The suspenseful situation dragged on for another six weeks, till on 11th December King Edward made a radio broadcast from the Palace. He told the nation over the BBC's airwaves that he had abdicated the throne after a reign of just 325 days, in order to marry Mrs Simpson. His brother Albert succeeded him, becoming King George VI. Edward and Mrs Simpson left England the next day aboard HMS Fury, to start their new life, exiled in France, as the Duke and Duchess of Windsor.

At the time, the British public were shocked that their monarch would chose personal love over God-given patriotic duty in such a way. For many in the Royal household though, it had come as no surprise. Edward had always been something of a playboy prince to say the least, preferring to pursue his own pleasures rather than learning how to become a King. His sympathies were entirely pro-Nazi as well. His own father, King George V, had once stated his personal opinion that: "I fear that boy will ruin himself within a year of becoming King!" Prophetic words indeed. When news of the abdication reached Germany, Hitler said that he felt as though he'd lost an ally, which was probably not far from the truth. Although the British people didn't perhaps realise it at the time, the shock abdication meant that they'd actually just got the King this country really needed.

By the summer of 1937, Mosley's BUF was but a memory and William Joyce had fled to Nazi Germany. Edward and Mrs Simpson had not only married, but had controversially visited Hitler in Germany, an event put to great propaganda use by the Germans. With their ex-king's pro-Nazi sympathies now abundantly clear to them, the British public finally woke up to the threat of those who sought the establishment of a "New Order". In December of 1937, with the national mood thus changed and set, the first Hurricanes entered squadron service, with No. 111 Squadron.

The next year, 1938, Hitler brazenly annexed Austria to his Reich and then came a crisis that was only settled by the Munich agreement, a painful treaty made at a conference allegedly brokered by Mussolini, between the British Prime Minister, Neville Chamberlain, and his ally the French Prime Minister, Edouard Daladier, on the one side; and Hitler with his fascist ally Benito Mussolini, the Italian dictator, on the other. The agreement, signed and sealed in Munich at the end of the conference on September 29th, ceded one last territorial gain to Hitler, after which he purportedly had no more demands to make and his signature on the agreement supposedly confirmed this fact. After all four statesmen signed the pact, the British and French Prime Ministers went home.

Chamberlain returned to England and waved a copy of the Munich agreement at press reporters as he stepped off the Imperial Airways airliner at London's Croydon airport, saying that he believed that Hitler's signature on that historic document guaranteed "Peace for our time". He finished his speech by telling the public to "Go home, and have a nice sleep".

Daladier returned to France, where he and Chamberlain were hailed as heroes for their efforts in securing a Europe-wide peace. In Strasbourg, the City Council re-named the Avenue de la Paix the Avenue Neville Chamberlain overnight. The spirits of the French people were noticeably lifted by the news. The French were greatly relieved that war had been avoided, at a fairly minimal, non-interventionist cost; albeit of effectively reneging on the terms of their military assistance treaty with Czechoslovakia. As if in celebration, the popular French singer/songwriter Charles Trenet released a song called Boum! With its light, bouncy Jazz rhythm and irreverent lyrics, Trenet's song seemed to express the very joie de vivre that the French public were feeling at the time.

Outwardly, the awful crisis had passed and the French newspaper Le Figaro, stated that Chamberlain should be invited to Paris immediately, so that the French people as a whole could acclaim him. In Scandinavia, it was widely suggested, and indeed widely expected, that Chamberlain would be awarded the Nobel Peace Prize for his efforts. Even the Prime Minister of Egypt, Mahmond Pasha, sent a telegram to Chamberlain, conveying the sincere thanks of the Egyptian people. The Telegram concluded with the accolade: "Your name will go down in history as the statesman who saved civilisation from destruction".

But Chamberlain did not receive quite the same acclaim in the Houses of Parliament as he enjoyed from the press and the public upon his return from Munich. Chamberlain's "Peace for our time" had its critics in Parliament, none more so than Winston Churchill, who told Chamberlain during a speech in the house:

"*We have suffered a total and unmitigated defeat...you will find that in a period of time which may be measured by years, but may be measured by months, Czechoslovakia will be engulfed in the Nazi régime. We are in the presence of a disaster of the first magnitude...we have sustained a defeat without a war,.....we have passed an awful milestone in our history, when the whole equilibrium of Europe has been deranged, and that the terrible words have for the time being been pronounced against the Western democracies: "Thou art weighed in the balance and found wanting". And do not suppose that this is the end…. This is only the first sip, the first foretaste of a bitter cup which will be proffered to us year by year unless by a supreme recovery of moral health and martial vigour, we arise again and take our stand for freedom as in the olden time.*"

Meanwhile, Benito Mussolini, the Fascist Italian dictator, basked in the glory reflected on him from being at Hitler's side throughout the Munich negotiations. Hitler, as if fulfilling Churchill's warning already, rubbed his hands together and gleefully declared to the German media that: "Czechoslovakia has now ceased to exist." Hitler and Churchill were both right; the formerly independent country would officially become Third Reich territory early in 1939.

In England, the passing of the Munich crisis and Chamberlain's promise of peace, gave dance band leader Jack Hylton a popular hit with an optimistic song called Blue Skies are round the corner; but the ominous clouds of war were nonetheless gathering just over the horizon. Within a year those clouds would arrive to spoil Jack Hylton's illusory skies.

In August of 1938, the Supermarine Spitfire Mark I entered squadron service with the RAF. The original versions of both main fighter types had a massive, wooden, two-bladed, fixed-pitch propeller. Although these propellers were a carpenter's work of art, they did not permit the venerable Merlin engine, (already by then at its Mark III variant in the Spitfire I) to show anything like its full potential. Furthermore, the propeller itself began to cause accidents to occur during take-off.

To be fair, the larger Hurricane wasn't really affected by the problem, but the smaller Spitfire certainly was. At the point during the take off run when the Spitfire's tail came up, the tips of the huge propeller spun dangerously close to the ground. Unless the pilot was extremely careful in holding the fighter's tail just fractionally down, the tips of his prop would come into contact with the ground and the aircraft would then, to borrow an RAF phrase of the time, "plough the fields and scatter", often with disastrous consequences. At best, a replacement propeller would be required. If not so lucky, replacement engine parts were also needed. If the Spitfire was just on the point of "coming unstuck" (leaving the runway) when the prop struck the ground, a replacement aircraft and possibly a replacement pilot, might also be required.

As a matter of urgency therefore, all of Fighter Command's Spitfires were soon fitted with an all-new three-bladed, two-pitch type of propeller. The three blades were shorter than the old twin-blades and this arrangement meant that there was now sufficient ground clearance during a Spitfire's take-off run. Also, by now being able to select either "Coarse" or "Fine" pitch, the pilot was able to get a greater degree of control, altitude and power out of his aircraft. The new propeller was fitted to almost all other RAF aircraft, including of course the Hurricane, to improve performance.

Other necessary modifications made to the Mark I Spitfire included the replacement of the sliding part of the cockpit canopy. The original flush-top canopy had proved to be too small to accommodate the average squadron pilot's head. A slightly roomier, bulged one was fitted, which enabled the pilot to turn his head whilst searching for the enemy without constantly hitting it against the inside of the plexi-glass canopy!

The front windscreens of both Hurricanes and Spitfires were also modified. At Dowding's insistence, they were fitted with one-inch thick, bullet-proof glass. The Air Ministry were at first incredulous at this stipulation and called upon Dowding to answer for it. He told them flatly: "If Chicago gangsters can have bullet-proof glass in their cars, I see no good reason why my pilots cannot have the same." The Air Ministry still shook their heads disbelievingly and quibbled about this latest "extravagance", but Dowding's obstinacy got him his armoured glass. Later, the back of the pilot's seat was also lightly armoured and these two measures were to save the life of more than one fighter pilot in combat.

1938 was also the year that Dowding's system of air defence underwent its first trial as the first five completed stations in the RDF chain went live. Initial results were better than expected but it was noted that some of the "enemy" aircraft had been able to avoid RDF detection by the use of low-flying tactics during the exercises. A solution to this loophole in the RDF system was quickly found by adapting an early form of gun-laying radar, set to work on a different wavelength to the main stations.

If the high-level Chain Home RDF could be said to emit a pattern like a fixed floodlight, then the shorter masts of this new Chain Home Low RDF operated in a similar way to a lighthouse, but with a shorter range of just fifty miles. The Chain Home Low masts were erected on sites alongside their much taller counterparts and the remaining RDF stations were completed sooner than originally planned. The whole RDF chain went live early in 1939, which frankly, was not a moment too soon.

1938 also saw the advent of the reflector gun sight for the RAF's fighters. Mounted above the instrument panel and directly in the pilot's line of sight, this ingenious device contained a lamp that projected a graticule image onto a small, angled glass screen. A hand-adjustable metal ring bearing markings calibrated to the known wingspan of bomber or fighter aircraft types was

situated underneath the screen and this enabled the size of the projected image to be adjusted. All the pilot had to do was to set the adjuster ring to his intended target's wingspan and when the target's wings filled the projected image, he was theoretically at the correct range and opened fire with his eight machine guns.

Similar devices were later found in crashed German fighters and it seems likely that they got the idea during an overly friendly courtesy visit made that same year by leading Luftwaffe officers, which took place at RAF Hornchurch, in Essex. Somebody during that visit had showed the Luftwaffe delegation over one of 65 Squadron's shiny new Spitfires, in far greater detail than he should have in the interests of foreign relations.

An interesting sub-point at this juncture concerns RAF fighter aircraft markings. Prior to the advent of the Gloster Gladiator, most RAF fighters and light bombers were bright silver with colourful squadron markings; all very pretty, and no doubt they added greatly to the spectacle of the Hendon and Empire Air Day displays. Then somewhere around 1937 the far more functional green-and-brown camouflage scheme, (which is so familiar to latter-day plastic model kit builders) was adopted, but the undersides of the aircraft had a most bizarre "day and night" paint scheme which one hesitates to refer to as being camouflage of any kind. All the port side under-surfaces were painted black, whilst all the starboard side under-surfaces were ivory.

Around the early part of 1940, this "sore-thumb" scheme was mercifully beginning to be phased out; the black was removed and the port side under-surfaces were painted the same ivory colour as the starboard side. Toward the end of the Battle of Britain, duck-egg blue became the standard colour for the undersides of day-fighting RAF aircraft, just like the Luftwaffe's aircraft, as it was realised that the German colour worked much better, making their top-cover Messerschmitt 109 fighters much harder for British pilots to see if the 109's were above them prior to attack, which they usually were.

In May of 1939, just four months before the outbreak of war, the RDF stations reported their real first intruder: the huge German airship LZ130, better known to one and all as the Graf Zeppelin. The mighty German airships hadn't been seen much since the Hindenburg disaster of 1937, but now here was Graf Zeppelin, packed full of radio receiving equipment, cruising majestically up and down the eastern coastline of the British Isles, trying to discover the purpose of the towering latticework masts. The Germans too had developed a sort of radar, but it was nothing like that which the British had and it was not being used for the same purpose.

Whereas the German system worked on the UHF waveband, the British system, unbeknownst to those aboard LZ130, used VHF. Therefore, the only thing that the Luftwaffe's signals branch men aboard the Graf Zeppelin heard emanating from Britain, was the loud (and no doubt intensely irksome!) crackling and buzzing of static in their earphones. Concluding that the British masts were obviously not operational and therefore whatever purpose they were intended for was apparently not yet worthy of the Luftwaffe's technical concern, LZ130 departed, none the wiser.

If only the German experts aboard the Graf Zeppelin had scanned the VHF frequencies, they would have found the steady and continuous radio pulses that they so keenly sought, and Britain's secret would have been out. But the Germans were of the considered opinion that the VHF wavebands were totally unsuitable for radar type purposes, so they didn't bother scanning them. The British had just nonchalantly won the first round of the coming air battle, without either side realising the fact. It was the first strategic error that the Germans had made, but as

events were subsequently to reveal, it was a huge one.

RDF wasn't the only application that the British had found for VHF radio. Every RAF aircraft now carried a VHF radio set and in the case of the RAF fighters, it was for ground-to-air and fighter-to-fighter communication. The Luftwaffe's fighters also had fighter-to-fighter communication, but crucially, they had no established system of ground control. Nor could the fighters of the German escort groups communicate with the bomber crews they were protecting. This meant that the Germans, as a rule, could not change their battle plans once their formations were airborne, whereas the British could, and in fact did, easily.

Ultimately, the VHF band proved unsuitable for reliable ground to air communication, but this problem had already been discovered prior to the Battle of Britain. The answer was to use UHF sets. By the time the battle was well and truly being fought, the Hurricanes and Spitfires that were engaged in the fighting all had UHF sets installed.

Also fitted to every British fighter in time for the battle was a device called IFF, which stood for "Identification Friend from Foe." It was a small transmitter that continually sent the same signal all the time the aircraft was in flight. A lack of any IFF signals on an incoming RDF plot immediately identified that plot as being potentially hostile.

As war neared, a system called HF/DF (High Frequency Direction Finding or "Huff-Duff", as it was nicknamed) was installed at most of Fighter Command's sector airfields. This enabled the sector controller to plot the position of the fighters under his control by means of an individual radio signal. The transmitter in the aircraft (called a "Pipsqueak") automatically sent a signal every 15 seconds, though a pilot could override this manually if he wanted to. This device meant that a pilot returning from combat could call his controller and upon being told: "flash your weapon," (manually transmit his HF/DF signal continuously for three to five seconds) he would be given his range and a suitable compass direction for home. The codename for this system was "Cockerel" and if a pilot had turned off his Pipsqueak during combat and forgot to reset it afterward, he would often receive a radio call from his Sector Controller asking: "Is your Cockerel crowing?" Thus as well as developing and adding a multitude of technical applications to its arsenal over the preceding five years, the RAF had also been developing a multitude of new phrases to add to its already uniquely idiomatic language.

The balloon, as they say, finally went up on 1st September 1939, when on the flimsiest of pretexts, Hitler's forces invaded neighbouring Poland. With total disregard for the Munich Agreement which he himself had set the seal on, Adolf Hitler, the self-styled German "Fuhrer", now planned to add Poland to his growing Reich, by force.

Foreseeing that possibility after Hitler fully incorporated Czechoslovakia, and in the hope that it might possibly deter Hitler, the British government had made no secret of the fact that in partnership with France, they had signed a treaty with the Polish government in April of 1939, guaranteeing assistance in the event of foreign aggression. Now, as the Luftwaffe's Gull-winged "Stuka" dive-bombers screamed down on Poland ahead of the rapidly advancing German Panzer columns, it finally became painfully clear to the British and the French governments that their earlier appeasement of Hitler had not been the answer. The British and the French were now duty bound by the terms of their treaty with Poland to intervene, which in the end hadn't deterred Der Fuhrer in the slightest. So, bang went the comfortable, if not naïve, pre-war theory. The Munich agreement and "Peace for our time" now lay in utter ruin and the war that had been so dreaded for so long had finally come.

Chapter Two

War is Declared

So it was that on the morning of Sunday 3rd September 1939, the British people gathered round their wireless sets and listened intently, as Prime Minister Neville Chamberlain, with a heavy heart, made the following sombre-toned announcement over the crackling airwaves of the BBC Home Service:

"*I am speaking to you from the Cabinet Room at Ten Downing Street. This morning, the British Ambassador in Berlin handed the German Government a final note, stating that unless we heard from them by eleven o'clock, that they were prepared at once to withdraw their troops from Poland, a state of war would exist between us. I have to tell you now, that no such undertaking has been received, and that consequently, this county is at war with Germany.*

It is a sad day for all of us. Every aim for which I have worked, everything I had hoped for, all the principles in which I believed, have fallen down in ruin. I hope to live long enough to see the day when Hitlerism will be destroyed, and a free Europe will exist again. You can imagine what a bitter blow it is to me that my long struggle to win peace has failed...

We, and France, are today, in fulfilment of our obligations, going to the aid of Poland, who is so bravely resisting this wicked and unprovoked attack.... We have a clear conscience. We have done all that any country could do to establish peace. The situation in which no word given by Germany's ruler could be trusted and no people or country could feel safe, has become intolerable. Now we have resolved to finish it... may God bless you all, and may he defend the right. For it is evil things that we shall be fighting against: brute force, bad faith, injustice, oppression and persecution, and against them, I am certain that the right will prevail".

Within minutes of the conclusion of Chamberlain's leaden broadcast, air-raid sirens were wailing all over the British Isles. It was of course a false alarm on that occasion, but there were to be many more occasions later when it was all too real.

Public reactions to Chamberlain's momentous Radio broadcast were mixed. Although it was what most people in Britain had half-expected it to be anyway, many were nonetheless stunned by what they had just heard. Those who could still recall the horrors of the last war angrily thought "God, no! Not again!" Only twenty-one years had passed since the end of the Great War, the so-called "war to end all wars". Now it seemed to many as though the overwhelming sacrifice made by the generation of 1914 had been wholly in vain. Britain and France stood together and were at war with Germany again, with France officially declaring war on Germany six hours after the British declaration, at 17:00 hours that Sunday.

In the end, it was purely the time, and not the illusory peace within it, that had been bought by the 1938 Munich agreement; but if nothing else it had been time well spent. It had been a tense, fraught time in which Britain had made titanic efforts to reverse the swingeing defence cuts that had been made by successive British governments, chasing that holy grail of unilateral disarmament since the end of the last war.

Given the picture that Winston Churchill had so eloquently painted in the House of Commons over the past five years, there was a widespread public belief that the Germans would attempt a knockout blow from the air as soon as any war broke out. At Regent's Park Zoo in the centre of London, all animals deemed to be dangerous such as Lions, Tigers, Leopards and poisonous Snakes, Spiders or Reptiles were either sent off to other zoos in remote areas, or euthanased;

just in case the zoo was hit during an air raid and these animals escaped. Another immediate air raid precaution was that the BBC shut down all its regional transmitters, so that the expected German bombers could not use them as homing beacons. From now until the end of the war, the official choice of listening for residents of the British Isles would be the BBC Home Service, whilst for those living abroad in the countries of the Empire, it would be the BBC World Service. Suddenly, official censorship was everywhere. Even the Newspapers were now prohibited from publishing weekly weather forecasts and for the first time, the Police were openly armed, with their patrol cars now carrying two army rifles strapped between the front seats.

A programme for the mass evacuation of children from major towns and cities was put into action as soon as war was declared. Many were the heart-rending separations at mainline rail termini, as beloved children were marshalled at the stations then labelled with details such as their name, address and school number. Each batch of children was then issued with blank train tickets bearing no destination before finally boarding special trains, to be whisked away to far flung places in the countryside. Many siblings would find themselves parted from one another upon their arrival at whichever village was taking them in. Those who were evacuated on any of the Southern Railway's "Evacuation Specials" to Kent would almost find that they'd been flung out of the perceived frying pan and into the actual fire within a year. To some of these city children, evacuation would be a great big adventure. To others, it would be nothing short of traumatic. Luckily for him, the three year-old boy who would grow up to become my Dad, fell into the first group. Though his mother resisted the idea at first, when his turn did come, (it took a German bomb that seemingly had her name on it to shift my Nan!) he was evacuated to a farm in Leigh, Dorset, and the next four years of his life were among the happiest.

The German assault on Poland lasted barely a week before the bravely determined Poles were forced to capitulate, though resistance in Warsaw continued until 25th September. The British Expeditionary Force (BEF) was despatched to France and placed at the disposal of the senior French commander: 67 year-old General Maurice Gamelin, but for the time being, the Germans never ventured beyond their conquest of Polish territories.

Gamelin preferred to do nothing for the moment. He thought it best to sit still and await developments. So the French Army, joined by their British colleagues, dug itself into trenches, 1914-style, and put their faith in their defences; forgetting Napoleon's own dictum: "The army that stays within its own fortifications is doomed".

Though September of 1939 did see the first enemy air raid of this war on Britain, it was a small scale affair and the RAF then bombed the German Navy yard at Kiel in return. The Russians mobilised and teamed-up with their German allies to consolidate the conquest of Poland and the Warsaw Pact, made between the two antagonists, was signed at the end of the month, setting out who was to have what parts of the new territorial gains.

In England, the National Service Act meant the introduction of conscription, but this was done selectively so as to avoid a repeat of the skills shortage at home that had occurred during the Great War, when the population flocked to the colours. This was a lesson that the French had not learned and as Frenchmen now patriotically answered their country's call, the skills shortage this left would soon be acutely felt in France. The British government drew up a list of "reserved occupations", exempting certain skilled workers from service in the armed forces. However, voluntary service was permitted, which meant that those in a reserved occupation could still serve in organisations such as the Auxiliary Fire Service, Observer Corps, Police War Reserve, Coastguard, Women's Land Army or some other such organisation, but outside of their normal working hours.

Self-assembly corrugated iron air raid shelters, called “Anderson Shelters” (named after the then Home Secretary, Sir John Anderson) were fast becoming something that “every home should have”, though only if that home had a garden. Gas masks in their carrying cases also became a de rigueur item and public air raid shelters began to appear almost everywhere, be they properly constructed subterranean bunkers or hastily dug trenches with sandbagged parapets.

In October 1939, National Registration Identity Cards were issued to every man, woman and child in Great Britain. All foreigners with possible German origins or connections were first registered and then shipped off to internment camps, in the interests of national security. Butlin’s it certainly wasn’t, and many of those who found themselves interned had fled to Britain to escape Nazi persecution in the first place.

Meanwhile, Kapitan-Leutnant Günter Prien, Commander of the German U-boat U47, sank HMS Royal Oak in a most daring attack at the Fleet anchorage in Scapa Flow, Scotland, with the loss of 810 lives. Later that month, German troops began massing threateningly along the Belgian and Dutch frontiers. Militarily, things were rather uneasy for Britain and France at this juncture, though the British naval success in the Battle of the River Plate in December, which saw the self-destruction of the much-feared German pocket battleship Admiral Graf Spee, helped to boost morale somewhat.

Another great national morale booster for the British was a certain cartoon strip in the Daily Mirror newspaper, drawn by artist Norman Pett. Called Jane, it featured the almost unbelievable exploits of the tall, gorgeous, leggy blonde that I promised somewhat earlier you would hear more of, and her little Dachshund dog, Fritzi. The internment of foreigners had even crept into these cartoon strips as little Fritzi was sent to the kennels, where he was called “our little Nazi”. One strip featured Jane retrieving her dog from there while the thought bubbles above her head said: “Fancy that Policeman thinking Fritzi was a German! He was born here!” Jane was of course intensely patriotic though she was apt to be charmingly dizzy in her many sincere attempts to do her bit for the war effort. The thing with Jane was that she invariably seemed to lose most, though not quite all, of her clothes as a result of her many mis-adventures. So popular was she that her image was increasingly being painted onto bomber aircraft as well as tanks and other assorted military vehicles. Jane did her bit for the war effort superbly well, just by being Jane!

When the initially expected knockout blow failed to materialise, the British public lapsed into complacency; then came the wintertime. The winter of 1939/40 was an unusually harsh one, the worst at that time for twenty-five years. Heavy snowfalls tended to put a stop to most things and as the British public grew accustomed to this lull, they and the soldiers themselves, began to refer to the conflict thus far as the “phoney war” or the “bore war”. Even the German troops tired of it; they called it Sitzkrieg. After all, no knockout blow had been delivered, no major air raids had occurred and the German Army hadn’t actually moved much at all since Poland fell, so no real fighting involving Allied troops had yet taken place on the continent. The biggest job the British Army at home had thus far had to do was the digging out of snowbound trains! In the meantime, the soldiers of the BEF and the French Army endured the bitter winter in their trenches, largely ignored by their commanders, 1914 style. Morale in those trenches was soon to hit an all-time low.

As 1939 gave way to 1940 and northern Europe began to thaw, some of the children who’d been hastily evacuated to the English countryside even returned to their families. This was a time when the British public’s mood lightened a little, in spite of the gloomily intended wireless

broadcasts from Germany made by Lord Haw-Haw, which though officially discouraged, could be tuned in to after the BBC's main evening news, at about 9:15pm. The Government censors were powerless to stop these German transmissions.

Initially, the public tended to at least partly believe in what Lord Haw-Haw said. The official British censorship was rather heavy-handed at that time and nothing if not blatant, so people tended to listen to Lord Haw-Haw just to get an alternative version, after which they would make up their own minds about the news!

Lord Haw-Haw was none other than the scar-faced former BUF propagandist, William Joyce, who'd moved to Germany after Oswald Mosley's Fascist movement was finally disbanded in 1937. Joyce had been responsible for turning a number of the BUF's rallies into riots, a self-appointed task that he'd performed with a relish. The insidious Joyce had deliberately hijacked, and then re-fashioned Mosley's idea of the BUF's public image. The BUF's Blackshirts, thanks to Joyce, were not unlike Hitler's SA, The Brownshirts, and in Britain, they had rapidly gained the reputation of being just as Thuggish as their German counterparts.

As Lord Haw-Haw, Joyce would open his broadcasts by uttering the immortal words: "Germany calling! Germany calling!" with his supposedly upper class and rather nasal English accent. (He was in fact American by birth and had spent most of his formative years in Ireland. The nasal tone to his voice was the result of his having sustained a badly broken nose in one of the many street brawls he'd been involved in, during his time with The Blackshirts).

During his broadcasts, Lord Haw-Haw would pontificate greatly on the might and prowess of the German military, whilst brushing off or discrediting any British successes, most notably at the time of the Battle of the River Plate. His aim was to convince his British listeners that this was a war Britain had been falsely led into by her Government and one she could never hope to win. Initially, due to the rather heavy-handed censorship that the British media was subject to, he had some degree of success, but this was short-lived. For now though, Lord Haw-Haw's "news" broadcasts were listened to as much as those of the BBC.

The songs people heard on the wireless in Britain all seemed to reflect this lightened feeling among the nation, also. Joe Loss and his Orchestra would have had everyone believe that everything was more or less Tiggerty Boo militarily; this hit song of his being subtitled The Forces Thumbs-Up song. With such a pronounced trend of complacent optimism, it was hardly surprising that the more romantic songs such as Somewhere in France with you, sung by Chick Henderson, or even more especially, the comedy songs such as We're gonna hang out the washing on the Siegfried Line sung by Arthur Askey, or Flanagan and Allen's If a Grey-Haired Lady (Mademoiselle from Armentieres) became so immensely popular. Another of that comic duo's songs Run, Rabbit, Run, saw several alternative versions have new verses added to the end, parodying Hitler and his cohorts and in particular, Germany's then Foreign Minister, Von Ribbentrop. Another very popular "dig" at Hitler was the song Adolf performed by Billy Cotton and his Band, in which Herr Hitler was portrayed as nothing more than a naughty schoolboy, who was receiving the caning he evidently and richly deserved.

Meanwhile in dance halls up and down the country, the German Army's goose-step was often performed, with the right arm and hand fully extended forwards, just above shoulder-height, as a nationwide exercise in "Mickey-taking". In the cinemas, Charlie Chaplin's film The Great Dictator, in which he played a comically Hitler-esque figure called "Adenoid Heinkel," with Jack Oakie playing alongside him as "Benzino Napaloni", mocked Hitler's Third Reich and his Pact of Steel with Mussolini's fascist Italy to such an extent, that Chaplin's name was put onto a Nazi

“death list”: a list of those people who had been declared “enemies of the Third Reich” and who were to be executed without question as soon as the Germans had won the war. Such bombastical Teutonic optimism however, only served to further enhance Chaplin’s popularity at home. Indeed, it began to look more and more as though the whole “we are at war” thing might perhaps just blow over and in any case, there was a widespread public belief in both Britain and France, that the German Army was surely going to be held at bay by France’s impregnable Maginot Line.

The Maginot Line was an incredible feat of defensive infrastructure. It was an impressively strong, 87 mile-long line of fortresses that were connected by an underground railway. The whole line was a subterranean world peculiar to itself.

There were underground barracks, mess halls and even cinemas, built on several underground levels. The Maginot line initially ran along the Franco-German border, but in 1939 and the early part of 1940, it was still in the process of being hurriedly extended northwards, due to Belgium’s suddenly declared state of neutrality.

Meanwhile, as the early spring weather continued to improve, Jane dutifully boarded a Royal Navy Destroyer and in a strip called Behind the Front, set sail for France to open a canteen for the troops of the BEF. Oh yes, when viewed altogether, this war so far seemed to be very removed and most unreal to the majority of the British population.

But in the late spring of 1940, the “phoney war” and “sitzkrieg” suddenly came to an abrupt end. On 9th April 1940, German forces invaded Denmark and Norway, though Lord Haw-Haw was quick to point out that same evening, that Germany had no wish to seize sovereignty from the rightful governments of these countries, now or in the future; apparently. British forces were quickly sent from England to meet the threat, which in point of fact was exactly what the Germans wanted, as well as the Scandinavian Iron ore. After just seventeen days of fierce fighting, the British were forced to start pulling out of Norway, having discovered that they’d been totally unable to stop the Germans, though the Kriegsmarine had suffered heavily at the hands of the Royal Navy and ultimately they would not forget the name “Narvik” in a hurry. Anyway, Norway hardly mattered that much to the British public, or at least it didn’t seem to at the time; but far bigger things were waiting just around the corner.

Chapter Three

La Bataille De France, Phase Un: Blitzkrieg!

At dawn on 10th May came the sudden unleashing of Hitler's real, main objective, as German forces attacked Belgium, Holland and Luxembourg. The Germans advanced rapidly northwestwards, foiling all previous allied plans at a stroke, by simply going around the impregnable Maginot Line, though it was successfully breached later, and German paratroops were landed near Rotterdam. Despite Belgium's declared neutrality, British troops crossed the Belgian border to help the Belgians meet the German advance; and that was just about the last forward move that the BEF, under Gamelin's command anyway, was able to make.

Despite clear intelligence reports on April 30th via the Swiss Intelligence Service, which specifically advised him of the build-up of German forces, the inevitability of the Germans' attack and even their planned date (between the 8th and 10th of May), Maurice Gamelin had still done nothing; he had still preferred to stick with his purely defensive outlook and simply await events, even if those events were patently assured. When the German attacks came, Gamelin immediately insisted on moving 40 of his best divisions, including the BEF, northwards into the Low Countries, exactly as the Germans wished him to do. It was now that the skills shortage caused by the French mobilisation began to cause widespread disruption to vital French industries. Just when the skilled workers were needed most, French military supplies suddenly began to dwindle.

By the end of that same day, May 10th; the Dutch monarch, Queen Wilhelmina, had arrived in London; Neville Chamberlain's government had ignominiously fallen and King George VI had invited Winston Churchill to become Prime Minister. Churchill, recognised by the King as being the only man for the job, readily agreed, promising the nation in true Churchillian style, that he had "nothing to offer but blood, sweat, toil and tears". Oswald Mosley was also arrested and interned, having now been considered a potential threat to national security, which he actually wasn't.

On 11th May, the Germans used troop-carrying gliders and paratroops to successfully take the fortresses at Eban Emael, in another move that had been predicted and advised but subsequently over-ruled. In England, the situation on the Continent was deemed to be so bad that it was now decided to start evacuating the school children from the outer London area. Two days later, Rotterdam fell after intense bombing by the Luftwaffe and Holland ceased fighting. Three days after that, May 16th, saw the rapidly advancing German troops fighting near Brussels.

Late on 16th May, the BEF began their withdrawal from Belgium. The German tanks commanded by Erwin Rommel were already fifty miles into France and heading for Cambrai, whilst to the south, the tanks under the bold command of General Heinz Guderian were unexpectedly just sixty miles to the West of Sedan. The next day, the Germans entered Brussels and "Brave Belgium", despite her own valiant resistance to the German invasion, was officially put out of the fight when Antwerp was taken on 18th May, a day that would prove to be decisive for many reasons. By close of play that same day, the German panzers had reached Amiens. Nobody was interested in hanging any washing on the Siegfried Line now. Just one week after the Germans began their attacks, the situation on the Continent, far from being Tiggerty Boo, was becoming more and more desperate by the day.

Gamelin had been successfully wrong-footed by the Germans. The wing of the German attack

that occurred to the south was in fact the Germans' main thrust. Aided as it was by close support from the Luftwaffe, German forces were fortunate in being able to cross the River Meuse much faster than Gamelin and the French High Command had anticipated. Although almost all the crossings over the Meuse were tactically destroyed by the French, one weir 37 miles north of Sedan had been left intact and worse, it was only lightly defended. It was quickly captured and then utilised as a crossing point by the Germans. In order to speed up the crossing, pontoons and rafts were also used by the Germans to great effect.

On this southerly front, the daring German Commander, General Heinz Guderian, had deliberately disobeyed his orders and forged ahead with his panzers, risking the overstretching of his own supply lines. The German panzers and heavy armoured cars had pushed directly through the supposedly impenetrable forest of the Ardennes to reach the Meuse, in a move that was in fact predicted by one of Gamelin's Staff officers, Alphonse Georges; but Gamelin had of course dismissed this possibility and over-ruled him.

Meanwhile, the French Army's tanks, though superior to the German panzers, had not been properly deployed. Instead of being a concentrated force, as advocated in a pre-war book written by a French Army officer, Charles de Gaulle; they'd been attached in penny-packets to various infantry and cavalry units and widely dispersed. As the Germans' concentrated tank columns punched their way through the allied defences, (a tactic the Germans called paraSchwerpunkt) the dispersed French armour was being driven hither and thither, frantically clocking up hundreds of totally un-necessary, hard-driven miles, as the confused Gamelin ordered them to dash from one area to another, up-country, down-country and back again.

By the time the situation was realised, the French tanks could offer only a token resistance to the German panzers. Most of the French tanks were by that time either suffering from mechanical failures induced by the hard-driving, or were simply short of fuel. To make matters worse, with their own supply problem driven by the skilled labour shortage, the French artillery units in the field were soon ordered to limit their firing, in case they ran out of ammunition.

The German tactics of "Blitzkrieg" (literally "Lightning War") had caught everybody out. It was painfully obvious that set piece battles, traditional troop deployments and the pre-war idea of using Holland, Belgium and France as "buffer zones" against the invasion of England had suddenly become antiquated designs of the past. The Germans had taken a British invention, the Tank, and perfected the tactical use of it far beyond anyone's expectations.

The Germans' highly mobile and flexible armoured columns moved rapidly forward, punching holes in the allied defences. Meanwhile, the Luftwaffe supported the German armour like flying artillery, blasting targets ahead of them, with pinpoint accuracy. The banshee-wail of the "Jericho-siren" fitted to the German Stuka dive-bomber was enough to strike fear into the heart of anyone on the ground. For the attackers, communication was vital and unlike the French tanks, the German Panzers all had radios. Rommel led from his own tank whilst Guderian led from his radio car. Both men were in contact with Hitler's advanced field headquarters via the telephone. This crucial intercommunication system was something that the French had not picked up on and it cost them dearly. Strangely enough, the Luftwaffe had also failed to appreciate the importance of it. The lack of it would soon cost them dearly too.

Looking at the way the German forces worked, it is hardly surprising that the British and the French troops were totally at a loss to comprehend just how they could even begin to counter these alien and devastating new tactics. As the French tank units, unlike the Germans', had no radio communications, the method they used was the old 1917-style preset battle plan that

was worked out, discussed, finalised and ultimately issued from main headquarters. The orders were then delivered to each individual unit by motorcycle despatch riders. Not exactly a rapid method for the issuing of vital filed communications, especially as the German panzer units with their instantaneous method of battlefield communications, could alter their plans at a moment's notice.

To make matters worse, the movements of the allied troops were increasingly hampered by long columns of civilian refugees. They clogged the roads in near constant processions, as they too tried to escape from the rapidly advancing Germans. There were Luftwaffe units that took to murderously strafing these columns. The carnage they inflicted further restricted the allies' use of the roads.

A now distinctly worried Gamelin, sitting many miles behind the battle lines in true Great War style in his Headquarters at Vincennes, decided to pull his forces back; well into the interior of France, so that they could defend Paris. Gamelin mistakenly thought that the French capital was the German's obvious objective, rather than the Germans' actual objective, which was to reach the Channel coast with all speed to the north then to wheel about, whilst the southern arm of their attack cut off the allied rear and closed the jaws of their pincer movement.

With the evident runaway success of the bold combined assault by Guderian and Rommel, Maurice Gamelin chose to believe that he was clearly the victim of a grand betrayal; rather than to blame his own initial defensive inertia and his distinctly outdated 1914-style of thinking and tactics. Accordingly, Gamelin now summarily dismissed no less than twenty of his front line field commanders.

In the air, the squadrons of RAF Hurricanes that were based in France fought desperate battles alongside their French colleagues of the Armee de l'Air. Day in, day out, the Hurricanes and MS 406's (plus a handful of the new Dewoitine D520's that had not long entered French service), took to the air in their attempts to stop the Luftwaffe's unceasing attacks. Though they certainly inflicted a great many losses on the Germans, they suffered grievous losses of their own, mainly through inexperience. Meanwhile, those of the RAF's and the Armee de l'Air's light bomber squadrons who bravely but vainly tried to attack the various German spearheads with obsolete aircraft like the British Fairey Battle, or unsuitable types such as the French Potez 633, were all but annihilated by the Luftwaffe's fighters.

The impeccable peacetime flying formations the RAF used, so lovely to behold at an air display, did indeed prove to be totally unsuited to the needs of air combat. Consequently, the RAF fighter squadrons also took a heavy beating, as with the pilots concentrating so hard on their precise station-keeping within the tight squadron formation, they often never saw the attacking German fighters swooping down on them until it was too late. It was a harsh lesson that needed to be quickly learnt, yet incredibly, it didn't seem to sink in till much, much later.

Finding himself under increasingly intense pressure from the French High Command, Churchill was busily to-ing and fro-ing between London and Paris, constantly trying to reassure his ally in this most desperate hour, and promising more and more British aid. It was at this point that Air Chief Marshal Hugh Dowding, Commander-in-Chief of RAF Fighter Command, intervened in his customarily quiet, but bombshell-like manner.

On 15th May, just two days before Belgium capitulated; Dowding had drafted a classic document from his desk at Fighter Command Headquarters, Bentley Priory. It was a simply stated letter in ten paragraphs, to the Under-Secretary of State for Air, but Dowding's letter

landed at the Air Ministry three days later like the shell from a Howitzer. It remains without doubt a masterpiece example of Dowding's capacity for foresight. The key passages of his letter read as follows:

"I have the honour to refer to the very serious calls that have been made upon the Home Defence Fighter Units in an attempt to stem the German invasion of the Continent.

I hope and believe that our Armies may yet be victorious in France... but we have to face the possibility that they may be defeated.

In this case, I presume that … England should fight on, even though the remainder of the Continent of Europe is dominated by the Germans.

For this purpose it is necessary to retain some minimum fighter strength in this country... I would remind the Air Council that the last estimate they made as to the force necessary to defend this country, was fifty-two squadrons, and my strength has now been reduced to the equivalent of thirty-six squadrons...

It will, of course, be remembered that the estimate of fifty-two squadrons was based on the assumption that the attack would come from the eastwards. We have now to face the possibility that attacks may come from the north coast of France... The result is that our line is very much extended at the same time as our reserves are reduced.

I must therefore request that as a matter of paramount urgency, the Air Ministry will... decide what level of strength is to be left for the defence of this country, and will assure me that when this level is reached, not one more fighter will be sent across the Channel.

I believe that if an adequate fighter force is kept in this country, if the fleet remains in being, and if Home Forces are suitably organized to resist invasion, we should be able to carry on the war single-handed for some time... But, if the Home Defence Force is drained away in desperate attempts to remedy the situation in France, defeat in France will involve the final, complete and irremediable defeat of this country.

I have the honour to be, Sir;

Your obedient servant.

(Signed) H.C.T. Dowding,

Air Chief Marshal".

Churchill, for some reason or other, had taken it into his head that paratwenty-five squadrons, not fifty-two; was the agreed minimum for home defence. Despite Dowding's timely warning however, Churchill was still determined to help the French as much as he could. Fatefully, although he had already approved the despatch of another ten squadrons to France, the German advance had been so swift that the number of French airfields remaining in allied hands could only accommodate another three squadrons at the most, and that situation was changing hourly. On his last visit to France, Churchill had witnessed for himself the officers of the French High Command hurriedly burning great piles of their archives, lest they fall into enemy hands.

Meanwhile, in England, the Chief of Air Staff Sir Cyril Newall, had also seen Dowding's letter and resolved to stop the War Cabinet's patently futile squandering of any more precious fighter

squadrons in France. He came up with a brilliant compromise: Three squadrons would be sent from England in the morning, to be relieved by three other squadrons in the afternoon, which would return home in the evening. This way, it could be said that six squadrons had been despatched, but as all of them would return to England each day, none of them would end up being cast into the bottomless pit of the impossibly demanding situation in France. The measure was approved, though it was not to Churchill's immediate liking, but henceforth, no additional British fighter squadrons were based on French soil.

On the decisive 18th May, General Gamelin was relieved of duty and replaced by another officer. Although he was even older than Gamelin, the 73 year-old General Maxime Weygand was a far more suitable commander. Weygand was appointed by Paul Reynaud, who had himself replaced Edouard Daladier as Prime Minister earlier that same month; but by then, the new French government was sadly just locking the stable door after their horse had already well and truly bolted. Reynaud may have suspected as much, but Weygand knew it for a fact.

Just one week after that decisive day of May 18th, and despite a determined two-day long, Franco-British counter-attack on 21st May at Arras that was cleverly masterminded by Weygand and that nearly succeeded, the British and French fell back to the French Channel coast as the Germans took Boulogne. The next day, Calais fell and Rommel's Panzers pushed the retreating British and French troops back to a ten-mile wide beachhead at the port of Dunkerque. The BEF and some remnants of the French Army were thus trapped, driven by the advancing German steamroller into a pocketed position, with their backs to the sea, totally overwhelmed and left utterly breathless by the sheer speed and ferocity of the unstoppable German Blitzkrieg. By that time, even Jane had already closed her canteen and had unostentatiously returned home to Blighty. All that remained now was to try and bring everybody else home, too.

Chapter Four

La Bataille De France, Phase Deux: Dunkerque

As the first of the Swallows that herald the English summer arrived, so began “Operation Dynamo”, on 26th May. The beleaguered BEF and surviving allied soldiers had now to be hurriedly evacuated from the beaches and port of Dunkerque and Vice Admiral Ramsay RN, based at Dover in Kent, was the man upon whose shoulders the task had been placed.

At first, the British public were not exactly kept informed of what was happening across the Channel. British newspapers had reported some of the reverses and setbacks suffered by the BEF and their allies during the German offensive of course; but the true picture of just how grave a situation it really was, had been carefully kept from the public, for fear of panic.

Time was now so obviously of the essence, but initially, only naval vessels were employed in ferrying the allied troops back to Britain. It was thought that the speed of the Royal Navy’s destroyers made them the ideal evacuation vessels. This was fine, except for three key points. Point one proved to be that the sleek destroyers simply couldn’t carry a worthwhile number of evacuated troops. Point two was that the destroyers could not get close enough to the beaches without running aground. The third point of course, was that the Germans were not about to sit quietly by, whilst the ships of the Royal Navy went about this herculean task.

It was at this point however that Hitler, in a roundabout way, could almost be said to have come to the aid of the British and French Allies. At first, the German artillery pounded the beaches mercilessly and German troops gradually closed the narrow corridor through which the allied soldiers were retreating to Dunkerque. After consulting with his field commanders, Hitler uncharacteristically allowed himself to be persuaded by the somewhat vainglorious leader of the Luftwaffe, Reichsmarschall Herman Goring, to order the German army to halt. Goring, in a monumental display of his own personal bombast, faithfully promised his Fuhrer that the Luftwaffe would be more than capable of destroying the remaining allied armies on the beaches and Hitler took him at his word. To their chagrin, the German army were virtually forced to stand by and watch, as the Luftwaffe went about their self-appointed task.

The respective tasks for both sides, was not easy. From Goring’s self-elected point of view, the Luftwaffe actually had too many important targets spread over too large an area. Should they concentrate on destroying the ships that were trying to evacuate the troops, the troops waiting on the beaches, the troops queuing in the water in lines to be ferried to the destroyers, or port installations and facilities that might enable more rescue ships to come in? The German army continued to close the corridor, thus cutting off the route to the beaches from within France and shrinking the pocket, but they would most certainly have been far better employed in taking the allied beachhead in the first place. But the rotund Reichsmarschall had got his way.

From the point of view of the British, the prospect of trying to evacuate more than half a million men under near constant air attack was proving to be difficult in the extreme. The waiting destroyers were being bombed and sunk because it simply took too long using small rowing boats ferrying a handful of troops out to them, to get anything like a full load. The stationary warships were of course sitting targets for the Luftwaffe’s Stukas, just as the lines of patiently waiting soldiers were sitting targets for the strafing actions of low-flying Me 109’s. Chaos, death and destruction reigned supreme.

RAF Fighter Command, seriously depleted in strength as they were, nevertheless flew countless sorties and patrols in their attempts to cover the evacuation, but despite flying an average of

more than 250 fighter sorties per day over the Dunkerque region, they simply couldn't be everywhere at once. Inevitably, there were sizeable gaps in the RAF's fighter cover and the Luftwaffe exploited them to the full.

From the point of view of the battle-weary Tommy waiting in the endless line of soldiers for a place in a boat and being constantly strafed by German fighters, the RAF should have been over the beaches at all times. From the point of view of the strained British fighter pilot, he wanted to prevent the German aircraft from reaching the beaches in the first place, so naturally their fighting, for the most part, started inland, behind the constantly changing lines, often at high altitude and out of sight of the troops on the beaches. Whilst a number of British soldiers later berated "the Brylcreem boys" for their perceived absence over the beaches, other soldiers saw in full the fierce dogfights taking place high above them and more than a few witnessed an RAF pilot making the supreme sacrifice on their behalf. In the end, which viewpoint a British soldier eventually took merely depended upon where in the confusion and chaos of the beachhead he was located at the time and what his individual experience of that time was.

On 29th May however, an RAF fighter unit, 264 Squadron, who were equipped with the Boulton-Paul Defiant, that curious retrospectively designed fighter aircraft mentioned somewhat earlier, had an unexpectedly successful day over Dunkerque. Believing the aircraft of 264 Squadron to be Hurricanes, a large formation of Messerschmitt 109's attacked them from above and behind. For the gunner in the Defiant, this was precisely the type of attack for which his aircraft had been designed and he'd been trained. In that one action, the Luftwaffe lost over thirty 109's. It was a costly mistake for the Germans, but it was one that they would not repeat. It did not take the Luftwaffe's fighter pilots long to find and exploit the Defiant's inherent weakness.

For the British, what was evidently needed if there was to be any hope at all of saving a worthwhile number of men, was a greater number of large ships and a faster means of getting the waiting men out to them; but larger ships could not even get as close to the beaches as the Navy's destroyers could without running aground.

There were two piers, or moles, at Dunkerque and of course it made sense to use them as boarding points for the troops being evacuated. Unfortunately, the Germans saw this too and repeatedly singled them out for strafing by low flying fighter aircraft. But amazingly, no determined attempt appeared to be made by the Luftwaffe toward bombing them, so the British suffered the innumerable German fighter attacks and continued to embark troops from the moles, but it was still a painfully slow and supremely hazardous operation.

As many of the port's bombed oil storage tanks discharged the thick, acrid, billowing pall of black smoke that came to symbolise Dunkerque into the sky, Churchill decided that it was time to trust the British public. The lid was lifted off the secrecy pot, the public were told more of the desperate situation in France, and were actively asked for their help in the rescue of the stranded troops from the very jaws of Hell. So was born the legend of the "little ships".

The Admiralty requested or requisitioned just about anything that would float. The response was immediate. The Southern Railway sent their cross-channel ferries, light cargo ships and their Isle of Wight ferries, as the Navy were of course, particularly interested in large, shallow-draught vessels. Other owners of smaller, shallow-draught vessels could either surrender them to the Royal Navy, or take them over to Dunkerque in person with their own crew and at least one naval rating. All crews who volunteered for the operation would receive naval pay at the appropriate grade, for the duration of the operation; or until said vessel was sunk, of course.

One such “other” vessel was a former Admiralty steam Pinnace. Though fairly small, this customised Bermudan-schooner rigged craft, named Sundowner, was the property of a former First World War naval officer, Commander Charles Herbert Lightoller. Prior to his naval service in the Great War, Lightoller had been a Merchant Navy officer and in 1912, he had in fact been the Second Officer aboard the ill-fated White Star liner RMS *Titanic*. He was the most senior officer to survive the *Titanic* disaster. Upon being told of the desperate situation and of the Admiralty’s intention to requisition his boat, Lightoller unhesitatingly volunteered his vessel, crewed by himself, his eldest son Roger, who was a Lieutenant in the Royal Naval Reserve, and a young Sea Scout named Gerald Ashcroft. Although she was now minus her original steam engine and rigged as a Schooner, Sundowner had a modern diesel engine. Also, her owner/skipper was no stranger to action; Lightoller sank a German U-Boat when he was in command of a destroyer during the First World War and he was certainly an expert navigator.

On the morning of 1st June, in company with 5 other little ships, Sundowner set out from Ramsgate across the Channel. Sundowner didn’t stay in company for long though. Being slightly faster than her consorts, she soon left them behind. The outward voyage looked likely to be uneventful at first, but as they gradually neared their objective, Charles spotted something sinister in the water. Realising what it was, he shouted to Roger to put the helm hard over, pointing to starboard. Sundowner’s response was quick because Roger’s had been. The floating mine that Charles had spotted, now bobbed away on Sundowner’s port side, barely a few feet away.

Soon afterwards, they came across a casualty, the small motor cruiser Westerly, which had stopped and was on fire. Moving swiftly alongside, Lightoller quickly took Westerly’s crew and the three naval ratings that Westerly had rescued, aboard his own boat and then proceeded on, toward Dunkerque.

Just as Sundowner left the scene, Westerly’s stock of petrol blew up. The huge fireball drew the attention of two of the Luftwaffe’s Stuka pilots, high above. Seeing Sundowner heading rapidly away from the burning wreckage, both dive-bombers came screaming down toward her. Once again that combination of Charles’ diligent observation and timing, coupled with Roger’s quick responses to his father’s orders, meant that they were able to dodge the bombs that were aimed at them. Sundowner had arrived at the scene of Operation Dynamo.

Lightoller had initially planned to take his vessel right up to the beach to pick up troops, but the chaotic scene presented to him upon his arrival at Dunkerque made it clear to him that to do so would be the utmost folly. The whole area was literally full of vessels of every description, busily to-ing and fro-ing, whilst the waters near the beach itself were strewn with the half-submerged wrecks of bombed warships, other loose wreckage and corpses. Lightoller headed for one of the moles and began embarking troops from there. Loading proved to be the easiest part of the whole trip.

Sundowner embarked 130 men, literally packing them in like sardines. On the way back, with his vessel dangerously low in the water, Lightoller found himself dodging more determined attacks, this time from enemy fighter planes. On arrival back at Ramsgate, paraSundowner was nearly capsized by the weight of the troops hurriedly moving to one side of her to disembark. Roger shouted to them all to lie down and not to move. He then organised a more stately disembarkation. Charles and Roger were eager to return to Dunkerque, but by then only ships capable of making 20 knots were permitted to go. However, in that one twelve-hour round trip Charles Lightoller, the 66-year old former Second Officer of the RMS *Titanic* had, with the help of his son and a sea scout to crew his sixty-foot paraSundowner, succeeded in rescuing a total

of 133 people under near constant fire. Lightollers it seemed, were born survivors.

The exploits of another of the Dunkerque ships also need to be singled out for attention here. Already serving with the Royal Navy since the Admiralty requisitioned her earlier in the war, was a former Thames and Medway paddle steamer, the Medway Queen. She was based at Dover as part of the Dover Patrol, and was then in service as a minesweeper, commanded by Lieutenant Cook RN. Gone from her now was the gay black, white and yellow paint scheme of the "New Medway Steam Packet Company". Now she was "battleship grey" all over and bore the number N48 on her bows. She was also armed.

On her first trip over to Dunkerque, her gunners had shot down a German aircraft that was intent upon sinking her. On her first return trip, the heavily laden Medway Queen encountered another former pleasure steamer, the equally overloaded Brighton Belle.

Unfortunately for those aboard the Brighton Belle, she was sinking, having sustained mortal damage in an earlier encounter with the Luftwaffe. Although his own ship was heavily laden with rescued troops, Lieutenant Cook brought Medway Queen alongside the foundering vessel and her entire compliment of rescued troops as well as Brighton Belle's crew, were swiftly transferred before the stricken steamer sank. Now dangerously low in the water, Medway Queen headed slowly back to Dover, where she arrived safely, offloaded her desperately weary human cargo, and was then refuelled and readied for another return trip to the evacuation scene.

Medway Queen, like Charles and Roger Lightoller, also seemed destined to be a born survivor. As the Germans closed in and the situation at Dunkerque grew more and more desperate, it was decided that 3rd June would be the last day of Operation Dynamo. Over the past few days, daylight evacuations had been curtailed, due to the high loss rate among the ships evacuating the beleaguered troops. The final evacuations were taking place under the cover of darkness.

The evening of 3rd June found Medway Queen moored at one of the moles in Dunkerque harbour, which itself was being subjected to a rather belated bombardment from German artillery. She was in the process of embarking French troops when a destroyer moored astern of her was hit by a shell and thrown forward. With a sickening crunch, the destroyer rammed Medway Queen , badly damaging her starboard paddle-box and the paddle wheel's outer bearing holder. The starboard paddle wheel was now apparently out of action and so Medway Queen appeared to be trapped.

Not to be defeated, Medway Queen continued with the embarkation whilst her engineering crew worked frantically into the night, cutting the twisted steel and splintered wood away in order to clear the starboard paddle wheel. They then had to make a temporary repair to the bearing holder.

At 01:00 on 4th June, Lieutenant Cook gingerly eased his battered ship away from the mole with just over 400 French soldiers aboard, and a somewhat battle-weary paraMedway Queen began limping slowly home across the Channel toward Dover, at a greatly reduced speed. On the way home, her crew heard the BBC Home Service list the paraMedway Queen as being one of the ships that had been lost in the previous day's action. When she finally limped safely into Dover harbour, it was to a tumultuous welcome from all the other ships in the port. Vice Admiral Ramsay sent her a signal that simply read: "paraWELL DONE MEDWAY QUEEN!" and the BBC were more than happy to correct their earlier news bulletin.

Thus did Medway Queen well and truly earn for herself the title "The Heroine of Dunkerque"

for of all the ships that had taken part in Operation Dynamo, she had in fact rescued the greatest number of allied troops all told; she brought back over 7,000 in her seven return trips, and she had shot down a German aircraft in the process. Bruised and battered from her Dunkerque ordeal, Medway Queen was duly dry-docked for repairs before eventually resuming her role as minesweeper N48 with the Dover Patrol.

Once the rescued troops were safely landed, it fell to the Southern Railway to transport them all away from the ports to whichever destinations the military authorities decided they were subsequently bound for. This inland exodus proved to be almost as monumental a task as the seaborne evacuation was.

Although the Southern Railway was quite used to laying on special services such as those required in peacetime for gala events like the Naval Review, the Schneider Trophy races, the Derby, or Ascot, etcetera; there was simply no precedent for the sheer scale of train services that the Dunkerque evacuation called for.

Anyone looking at such a mammoth logistical problem might well be forgiven for thinking the task would produce nothing but chaos. In the event, all was in fact quite calm and fairly orderly. Initially, organised improvisation seemed to be the way it was largely carried out. At first, Engine drivers were typically given such instructions as “Stop at Guildford (or Ashford, or Paddock Wood, or Tonbridge, or Haywards Heath, or Maidstone, or Strood) and ask where you go next.” This soon stopped as the organisation kicked in.

The managers at Southern had previously set up sub-control offices at all major rail junctions as soon as Operation Dynamo had started. They had to plan a non-stop rotation of trains, all of which had to be cleaned, coaled, lubricated and watered. The rotation was essentially a clockwise loop around the region to the London termini, stopping only at major junctions with other cross-country lines or actual destinations.

The first trains went straight to the major ports, places such as Ramsgate, Dover Marine, Folkestone, Portsmouth, Newhaven, Southampton etc. The other empty trains were held in North Kent at places such as Queenborough, Faversham, Margate and Ramsgate. As the first trains were loaded and began their clockwise journeys, the empty trains were fed into the loop behind them, to take their places at the port stations, whilst other empty trains moved into the holding stations. Eventually the first trains delivered their human traffic and then went back into the holding stations as empties, there to begin again the round the clock rotation that was to last twelve days.

The hub of this rotation was Redhill Junction on the London to Brighton Line, as a lot of the Southern Railway’s network could be easily accessed through there. In fact, an amazing eighty percent of all the Dunkerque evacuation trains from the south coast ports were routed through there. Being a major junction station, it had facilities for coaling, watering, lubrication and locomotive cleaning and changing. Over 300 tons of ashes were accumulated from locomotive cleaning at Redhill Junction alone over the Dynamo period!

It wasn’t just the engines that needed provisioning of course, as there was the human freight these trains were hauling as well as the train crews, station staff, military officials and the army of volunteers who’d turned out by the hundreds to help. Platforms were turned into Army field kitchens supplying thousands of cups of tea, sandwiches and cakes. There were nowhere near enough cups to go round so tea was served in tin cans. On the Mid-Kent main line, as each train came to a halt at Headcorn Junction, there was a four-minute break whilst teas and munchies

were quickly served to the soldiers, the Engine driver, fireman and Train Guard. Nobody got off the train during this time. Four minutes later, at the Guard's whistle, the platform staff shouted "Chuck 'em out!" and as the train slowly pulled out of the station, the tin cans (and any remaining tea contained therein!) were thrown out of the windows onto the platform, where the station staff and the volunteers quickly gathered them all, washed them up and refilled them, as the next train was due in eighteen minutes.

At Tonbridge (next brief stop after Headcorn), chocolate bars were provided. At Penge East, (not far from Crystal Palace in London), it was music that was provided, by the local Salvation Army Band, as well as further refreshments to help speed the troops on their way and to welcome them home. This same sort of routine was carried out at many of the other junction stations on the Southern's network. Everybody just wanted to let the returning troops know that they were with them in heart and mind. Such is the indomitable spirit of the British people!

So, after eight days, Goring's promise to his Fuhrer had proved utterly worthless. His "leave it to my Luftwaffe" stance had permitted a total of 338,226 allied soldiers to be successfully evacuated from the beaches and harbour of Dunkerque alone. For the British, it was nothing short of a miracle of deliverance, though Churchill quite rightly pointed out that whilst offering thanks for the success of the operation was in order, it should in no way be hailed as a victory. Wars, he said, were not won by evacuations.

With the conclusion of the main part of Operation Dynamo, the Allies abandoned Dunkerque. The BEF had also been forced to abandon most of their equipment and nearly all of their wounded. Having finally taken Dunkerque, the Germans pressed on with the Battle of France. Weygand certainly gave the Germans a run for their money, and what remained of the British and French armies on French soil gallantly fought on; but at best it was forlorn hope that kept them going during what inevitably remained a fighting retreat toward a "mini-Dunkerque" situation at other ports such as Cherbourg.

As Dunkerque itself was being abandoned, Winston Churchill made one of his momentous speeches to the British public. He rose in the House and told the nation:

We shall go on to the end. We shall fight in France, we shall fight on the seas and oceans. We shall fight with growing confidence and growing strength in the air. We shall defend our island, whatever the cost may be. We shall fight on the beaches, we shall fight on the landing grounds, we shall fight in the fields and in the streets, we shall fight in the hills; we shall never surrender!

For France however, despite Churchill's stirring words, the writing was clearly on the wall. Gamelin's earlier "sit and wait" policy, followed by his indecisive running around in all directions like a headless chicken, had cost his country; literally. It is to their credit that the French fought on in the face of such adversity and Weygand certainly made the Germans fight for every last kilometre of French soil. Their continued actions bought more in the way of extremely valuable time; time during which a further 220,000 British and French troops were ultimately successfully evacuated from the other northern French ports such as Cherbourg, Saint-Malo, Dieppe, Brest, and Saint-Nazaire. This brought the final total of Allied troops evacuated from France to just over 558,000; but the success of Operation Dynamo had come at a heavy price.

Throughout the whole of the evacuation, the Luftwaffe had attacked whenever the weather allowed. Luftwaffe bombs had all but reduced the town of Dunkerque to rubble. On the water the Luftwaffe had succeeded in destroying 235 British vessels. The Southern Railway alone had

lost seven of their twenty cross-channel ferries, three of their nine light cargo ships and two of their Isle of Wight ferries; twelve out of their fleet of forty-two vessels, to enemy action.

In the air, the German fighters had shot down 106 RAF fighters during the Dunkerque period alone. On the ground, at least 5,000 British and French soldiers had lost their lives on the various beaches and almost one million men were ultimately taken prisoner by the Germans, to face the next four years in captivity.

Chapter Five

La Bataille De France, Phase Trois: A Lull Before The Storm, Et l'Armistice

Nobody in England at that time could have been in the slightest doubt as to the gravity of the hour. With the now seemingly inevitable fall of France, Britain was facing the prospect of standing alone against the might of Hitler's so far unstoppable forces, though she was not quite as alone as it then seemed. Britain had the backing of her Empire and Commonwealth countries and though the British and French Armies may just have suffered a cataclysmic reversal on the continent, the Royal Navy had command of the seas and the RAF held the skies over Britain at that moment.

To the British public though, it seemed, and indeed it was, a dark hour indeed, made worse by the fact that it seemed difficult to know just whom one could trust. The British suffered another body-blow on 8th June, when the aircraft carrier HMS Glorious was sunk by the German battleships Scharnhorst and Gneisnau, with heavy loss of life. This had been purposefully kept out of the media at home at the time, which ultimately only served in fuelling further public mistrust of Government censorship, particularly as Lord Haw-Haw of course had wasted no time at all in letting that particular cat out of the bag.

Meanwhile, the situation in France steadily worsened. Paris was declared an open city on 11th June 1940. Three days later, the first victorious Germans, the 9th Infantry Division, entered the French capital, deliberately marching past the paraArc de Triomphe. They were followed later that same day by 8th and the 28th Infantry Divisions, who also held a ceremonial march past the paraArc de Triomphe. Two days later, another, bigger ceremonial parade was organised for the 30th Infantry Division, who were led by General-Leutnant Kurt Von Briesen. Von Briesen reviewed his troops on horseback, taking the salute in front of German newsreel cameras in the paraAvenue Foch as they marched past his stationary horse. Incidentally, the film of this parade is often mistaken for that of the later parade that was put on for Hitler. The difference is that on Von Briesen's parade, the German troops did not march parathrough the central span of the paraArc de Triomphe, they right-wheeled past it, as the 30th Infantry Division's route into the city was down the paraAvenue de Wagram, from the north.

On 18th June, Churchill characteristically pulled no punches when he made another of his momentous speeches. It was perhaps fitting that he chose the 125th anniversary of the Battle of Waterloo to make one of his most famous orations, and it was this speech that was to give the coming struggle its name. He said:

What General Weygand called the Battle of France, is over. I expect that the Battle of Britain is about to begin.... The whole might and fury of the enemy must very soon be turned upon us. Hitler knows that he will have to break us in this island or lose the war. If we can stand up to him, all Europe may be free, and the life of the world may move forward, into broad, sunlit uplands. But if we fail, then the whole world – including the United States, including all that we have known and cared for – will sink into the abyss of a new dark age, made more sinister, and perhaps more protracted, by the lights of perverted science. Let us therefore brace ourselves to our duties, and so bear ourselves that, if the British Empire and its Commonwealth last for a thousand years, men will still say: this, was their finest hour!

The Battle of France was indeed over and the cost, even if purely in terms of the aircraft involved, had been high. In the air, the Germans had destroyed 1,029 RAF aircraft and 892 French aircraft. Of the French losses, 508 were fighters. But the mighty Luftwaffe's victory had

also come at a price to them. German aircraft losses for the battle totalled 1, 469.

However, despite the loss of her continental ally, Britain's position was far from being hopeless and home defence, grudgingly given some priority after being so long neglected, was now suddenly given paratop priority. The War Emergency Act was implemented alongside an even stricter enforcement of the existing Defence Of the Realm Act, or DORA as it became known. All sorts of anti-invasion measures were hurriedly being put into place. Road signs were removed so as not to aid invading German troops and it was also now an offence to leave a motor vehicle unattended without first immobilising it, by the removal of the rotor arm from the distributor, for the same reason. An official leaflet entitled para"If the invader comes" was circulated, telling the public how best to behave, chiefly by staying put. Columns of refugees clogging up the roads and hindering the actions of defending troops were to be avoided at all costs. It was hoped that by keeping the public informed this time, a continental-style rout could be avoided.

Barrage balloons soon became a familiar sight in England, and Anti-glider poles strung with wires were erected across many roads and in many meadows, whilst concealed trenches were dug across open fields. Barbed wire and checkpoints sprang up everywhere and the ARP (Air Raid Precautions) Wardens enforced a strict blackout at night.

People later said that the blackout injured almost as many people as German bombs did, though in true British style, the blackout inspired a host of popular songs, such as They can't black out the moon, or Till the lights of London shine again . Even Jane got in on the act too. An immensely popular poster was produced, showing a full-length, three-quarter-rear view of her wearing nothing but a totally see-through nightie, as she drew her blackout curtain across her window, while little Fritzi, up on his hind legs at the window ledge, has his head behind the curtain, still trying to see out. "Mustn't show too much", was the poster's less than subliminal message!

A month previously, on 14th May, the then new Secretary of State for War, Anthony Eden, had made a broadcast on the BBC Home Service after the morning nine o'clock news. Faced with a growing public desire to "do something", he used the broadcast to ask all able-bodied men who were not then eligible to enter the armed forces but wished to contribute to the defence of the nation, to register their details at their local Police station. Unprepared for the scale of the public's response to Eden's request, the Country's various Police forces had found themselves almost inundated with people, as nearly a quarter of a million men flocked to the Police and registered. The fact that the War Office had not told many of the Police forces of their intentions prior to the broadcast obviously hadn't helped matters either.

In the three weeks that had passed since taking the particulars of these men, nothing much had been done about using them. Meanwhile of course, the situation in France had gone from bad to worse and then had come the final ignominy of Dunkerque. Now Britain stood utterly alone and it seemed that a German invasion of the British Isles could not be long in coming. With what was left of the army now seriously short of everything, it was time to utilise the many men who had so enthusiastically registered with the Police. They were formed into a nationwide body of men known as the Local Defence Volunteers.

With equipment being in such short supply, these volunteers had no uniform other than a canvas armband bearing the stencilled initials "L.D.V." Initially, their duty was to be vigilant and report anything or anyone suspicious to either the Police or the army, depending upon the nature of their suspicions. This role, combined with the initials on their armbands, soon led to

them being referred to as the “Look, Duck and Vanish” brigade. However, with the threat of imminent invasion hanging over them, many LDV groups began improvising weapons and set themselves the task of devising means for fighting any invading troops.

But nobody seemed to know who was in charge of whom. Were the Police responsible for the LDV’s, or were the army? The LDV’s meanwhile apparently believed that they were virtually a law unto themselves and the vague instructions issued to them by the War Office only served to cloud the issue further.

Part of the problem was that a large number of ex-servicemen were in the ranks of the fledgling LDV; men who had seen service in the First World War, or even the Boer War. These were trained men and the thought of standing about waiting to be told what to do with a German invasion of their beloved homeland seemingly imminent, rankled with them. Lacking clear direction they, perhaps not un-naturally, found their own. Some units went out on patrol in their neighbourhoods almost immediately. Others set up unauthorised checkpoints or began an equally unauthorised stop-and-search policy. Clashes with the Police and the ARP service were inevitable. It wasn’t long before the actions of these utterly willing and well intentioned, but apparently directionless volunteers, came to the attention of Prime Minister Churchill.

On 22nd June, as the gloomy situation in France finally reached disaster point, Churchill’s office asked for a concise report on the current LDV situation. He received it remarkably quickly. On 26th June, after mulling the whole thing over, he came up with the idea of changing what he considered to be the uninspired title of these men, from the LDV to the “Home Guard”. Churchill, having read the report, had decided that it would simply be best, in the event of a German invasion, to make what these men were obviously highly likely to do anyway, their sworn duty.

Whether or not the men of the Home Guard would have been able to put up any real or worthwhile resistance in the face of highly trained and determined German invaders is a question that has often been asked, but it is largely an academic point at this remove. What mattered most at the time was that the men of the Home Guard would be able to take over the role of sentries at key installations and would act as observers and lookouts, keeping a watch for any foreign spies and most importantly, any signs of invasion, in particular; parachutists. Such duties would free-up men of the regular army whilst giving these eager ex-servicemen and members of the public something constructive to do. Also, the public determination of the Home Guard to fight any invader was very much in keeping with the “Bulldog spirit” of the British people, as well as Churchill’s own personal image, thus it provided a huge boost to public morale at a time when it was badly needed.

Equipment shortage was of course always going to be a problem, but a large quantity of Great War vintage Springfield rifles was purchased from America to help ease that problem. Meanwhile, Lord Beaverbrook, the head of the Ministry of Aircraft Production, came up with an idea for a light armoured car, built on a commercial chassis by the Standard Motor Company. The vehicle carried a Bren gun and was designed as a light reconnaissance and training vehicle. Quick and cheap to produce, it was issued to several Home Guard units, where it became known as the “paraBeaverette”. It also quickly gained a reputation for being difficult to handle, as although its armour was light, the oak cladding behind the armour plate made the vehicle distinctly top-heavy, which produced some more than interesting cornering traits!

Despite the initial resistance of Anthony Eden, the change from the name “LDV” to the more patriotic-sounding “Home Guard” proved to be immensely popular. Churchill also made the

matter of issuing a proper, Khaki-coloured, Battledress-style uniform to the Home Guard a priority.

The formation and consolidation of the Home Guard was obviously a large part of an even larger overall plan to meet the threat of invasion. Given the modus operandi of the Germans in their conquest of northern Europe, it didn't take a genius to realise that the RAF's airfields would be prime targets, not only for the Luftwaffe's bombers but also as key objectives to be taken by German paratroops preparatory to any beach landings. There had been a marked increase in the number of high-flying German reconnaissance aircraft over England since the time of Dunkerque, so it was obvious that something was afoot.

Soldiers were posted to a number of aerodromes to guard them and pillboxes were built around the perimeter many airfields. Modern Anti-Aircraft guns such as the Bofors were also installed at key points around the perimeter of many airfields. The Bofors was like a larger version of the 20mm cannon fitted to the Messerschmitt 109. Firing a 40mm diameter shell with an explosive cap, its high rate of fire meant that the Bofors was positively lethal to low-flying aircraft.

At other key points around some of the more important airfields, a device known as a PAC launcher was installed. PAC stood for Parachute And Cable. A rather novel device, the launchers were sited in batteries of four and each fired a rocket directly upward. They were designed for firing directly into the path of oncoming low-flying aircraft. Attached to the rocket was a long steel cable with a parachute at either end. The top parachute deployed at the end of the rocket's flight, leaving the hanging vertical cable to float slowly back to Earth. The parachute at the bottom of the cable only opened if for example, the wing of an enemy aircraft struck the cable and started to carry it off. If this happened, the parachutes combined to exert a drag force that was measured in tons and which was more than enough to bring down a German bomber, as we shall see.

Strengthening existing aerodrome defences wasn't the only option; straightforward deception was another. A wonderful example of this type of measure was the construction in June of 1940, of a completely fake airfield on barren marshland at Cliffe, on the western end of the Hoo Peninsula in North Kent. "RAF Cliffe" was just one example of many such airfields that were built to fool the Germans into bombing such sites rather than the real fighter stations. Cliffe was constructed to the northeast of and within aerial sight of, the real fighter station at nearby Gravesend, which in June of 1940 was home to the Spitfires of 610 (County of Chester) Squadron.

The fake airfield at Cliffe had an access track and two fake grass runways that, like Gravesend, were both nearly three quarters of a mile long. On the western side, next to the track, was a concrete bunker reminiscent of an aircraft marshalling and control point. The whole site was "protected" by light Anti-Aircraft guns, further adding to the overall deception, and the final touch was provided by the full-sized fake Hurricanes.

These fake fighter aircraft were made by the film set-makers from Elstree Studios. Each fake aircraft was in fact a flat-pack wooden kit supported on a lightweight tubular metal frame and a number of them were assembled and suitably dispersed around the site. By day from 12,000 feet, it looked just like an RAF fighter station, as many German reconnaissance photographs soon confirmed. RAF Cliffe was purposefully built to a similar basic shape as Gravesend but slightly oversized, in order to present a prime target by day that German bombers would hopefully find too tempting to miss.

At night, another fake airfield, a smaller one southeast of RAF Gravesend at nearby Luddesdown, protected the real fighter station by displaying what appeared to be badly blacked out runway lights, for the express purpose of attracting German bombers. By hopefully convincing the German night bomber crews that this was RAF Gravesend, the measure would also have caused them to make uncomfortable nocturnal navigational errors too.

Although the RAF's fighter stations had to be protected at all costs, it was just as important of course that the country's coastal defences were strengthened, and to that end many more miles of barbed wire sprang up. Some beaches were closed and land-mined whilst others had signs erected warning of mines that were not actually present.

Some of the country's existent coastal defences dated back to the last real threat of invasion, the Napoleonic wars. Each tower in the chain of Martello towers along the south Kent coast, originally built to repel any French attempt to invade the country, now had a battery of 3.5-inch Quick-Firing guns in place of their original cannon armament, to repel a German one. Other residual defences from the Napoleonic era were brought into play at this crucial time too, and not for the first time.

Built in 1867, Slough Fort at Allhallows-On-Sea, which still stands today on the Kent side of the Thames estuary, is a fine example of this further utilisation. In 1914, a pair of 6-inch Quick Firing guns and a pair of heavy 9.2-inch breech-loaders had been installed on new extensions that were built onto the fort's original wing batteries. After the end of the First World War, these guns were removed and subsequently scrapped whilst the fort passed into private ownership, eventually becoming a small zoo, complete with Lions. In late 1939, the British army again requisitioned their old fort as part of the coastal defence programme.

By the end of May 1940, the British army had lost most of its artillery pieces at Dunkerque of course, but fortunately when it came to coastal defence, the Royal Navy proved to be the saviour of the day. During the inter-war years, the Navy had put a lot of the more valuable larger guns that had been removed during the scrapping of surplus warships, into storage. Now, those guns were taken out of mothballs and re-distributed in coastal defence positions.

Originally developed in 1932 to compete with Southend-On-Sea on the opposite side of the Thames Estuary, Allhallows-On-Sea was, and has remained, a little known, peak-time only seaside resort, then situated at the end of the Southern Railway's branch line from Gravesend, and seemingly located at the very end of the road from the middle of nowhere; but it was very much a place of strategic importance in the summer of 1940, as indeed was the rest of the Hoo Peninsula. The fact that the Luftwaffe photographed the village at this time and correspondingly prepared a target information sheet for Allhallows-On-Sea, shows the degree of importance they evidently attached to the place too; because once more, thanks to the Royal Navy, there were four powerful coastal defence guns sited at Slough Fort, facing north to cover the Thames Estuary. These were not antiquated guns of 1914 vintage, but relatively modern, inter-war model, naval guns. By the end of the second week in June, Slough Fort bore two ex-Navy 9.2-inch Counter-Bombardment guns, two ex-Navy 6-inch Close Defence guns, the necessary range-finding and fire-control systems for co-ordinating the fort's firepower, and powerful searchlights for use with the guns in the event that the enemy tried to invade under the cover of darkness. And it didn't end there.

As soon as the Royal Navy had finished installing the guns and searchlights at Slough Fort, the army moved in and henceforth, the fort was garrisoned by the men of the Thames and Medway Heavy Regiment, Royal Artillery; which in general keeping with the coastal defence units of the

British army, was a Territorial Unit.

At the start of June, the men of 159 Battery, 53 (City of London) Heavy Anti-Aircraft Regiment of the Royal Artillery had also moved into the village of Allhallows. Their four modern 4.5-inch, Quick Firing guns were positioned about a quarter of a mile down the road from Slough Fort on a purpose-built emplacement in what is now Avery Way, facing east.

Furthermore, a chain of ten "type 24" concrete pillboxes, each capable of holding eight soldiers, was also constructed from the western side of Slough Fort extending across the open farmland toward St. Mary Hoo, as a subsidiary defence line to prevent any attempted enemy landings on the sands. (Of these ten pillboxes, seven remain today, though only six of them can be seen from public footpaths. The seventh surviving pillbox is now inside the confines of a private garden).

On the Allhallows seafront itself, a deep line of large, tapered, steel-reinforced concrete blocks, and wooden staves supporting barbed wire entanglements was laid just below the high water mark of the west beach. Long, angular, iron obstructions supporting scaffold poles; some of which still surface periodically and have to be removed, were emplaced on the main Allhallows beach.

Allhallows was also home to Observer Corps post 1/Bravo 1; a unique emplacement in that it was situated in the village Coastguard's residential cottage, just over half a mile back from the actual Coastguard station, atop a rise in the land at Parker's Corner, at the junction of what is now Homewards Road and Ratcliffe Highway. The location had originally been chosen for its commanding view of both the Thames and Medway Estuaries. The fact that the cottage itself was built in the late eighteen-hundreds, meant that it was also quite unobtrusive as an Observer Post.

One rather novel, but nonetheless valuable, coastal defence measure was found on a major Kent tourist attraction: The Romney, Hythe and Dymchurch Railway. Opened in July 1927, the railway was taken over by the army in the spring of 1940. Nothing untoward in that one might think, as the thirteen-and-a-half mile line from Hythe runs alongside the Royal Military Canal for a good part of its length and terminates at the remote headland of Dungeness.

What has always made the RH&DR unique however is that it is the only true miniature mainline railway in England. Using this latest acquisition, the army then constructed the world's first, and in fact only, miniature armoured train. Comprised of one of the RH&DR's two 4-8-2 'Mountain' class locomotives: engine No. 5, Hercules, and two old hopper wagons, the whole train was sheathed in armour plate and armed with Boyes Anti-Tank rifles and Lewis machine guns. The armoured train was a uniquely efficient means of patrolling that stretch of coastline, whilst the RH&DR's other engines and rolling stock were used to ferry troops to the various coastal defence posts along the route of the line.

Staying with the theme of coastal defence measures, many of England's well known seaside towns like Eastbourne, Brighton, Bognor Regis, Southend and Margate to name just a few, had long piers as tourist attractions. Excursion steamers used these Victorian pleasure piers in the summer months. Now it was feared that invading German troops, instead of eager excursionists and holidaymakers, might be tempted to utilise them, so they were all effectively cut in half by having a large section removed from the centre of them, thus apparently rendering them useless as troop landing points. It is highly unlikely that the Germans would have utilised the piers in this way had they invaded, but once again, something was at least

being seen by the public to be done, however ineffectual it may actually have been as an Anti-Invasion measure.

Yet for all this fervent military activity, daily life in Britain, at least to the casual observer, appeared to be carrying on almost as normal. The weather was pleasant to say the least and anyone watching the happily gambolling Swallows catching insects on the wing as they flew fast and low over the green fields of southern England, could scarcely believe that there was anything much to worry about.

So despite the disappearance of Park railings to be melted down and turned into guns, despite the wealth of government posters everywhere that cautioned the populace against careless talk, or the ones displayed at the railway stations that asked if one's journey was really necessary, or those that urged the public to support their district Spitfire Fund. Despite the pleas to housewives to deposit old cookware for recycling in great piles, under notices headed "paraOut of the Frying Pan, into the (Spit)fire!" Despite the widespread food and fuel rationing, and the attempted re-introduction of evacuation for city children to the countryside, and despite the piled-up sandbags and the taped-up windows on just about every building. Despite all these things, the British appeared to be following the main government poster's instruction: "KEEP CALM AND CARRY ON". Or in true British style perhaps, "Carry on regardless"!

Meanwhile, after a further three weeks of desperate but forlorn fighting, the French were finally and inevitably forced to ask the Germans for an Armistice. On 21st June, Hitler agreed to meet the French delegation. In honour of the occasion, Hitler met them the next day, June 22nd, in the forest glade of Compiegne near the village of Rethondes, where the French had preserved the railway carriage that Marshal Foch had used for the signing, in that same location, of the 1918 Armistice. Hitler had ordered the historic carriage to be taken out of its shelter and shunted to the paraCarrefour, to the paraexact site of the 1918 Armistice signing. There, with his personal flag draped over the Alsace-Lorraine memorial, amid a good deal of pomp and military music and in the presence of a German newsreel unit, he made the French delegates sign the 1940 Armistice; aboard that very same carriage, watched over by Marshal Foch's statue. Hitler even sat in Marshal Foch's chair for the occasion.

Hitler and Goring didn't stay long; just long enough to enjoy the look on the face of General Charles Huntziger, head of the French delegation, as the Germans' harsh terms were read out by General Keitel. Hitler left early, at about 15:30, in a move deliberately designed to show his disrespect and his utter contempt to the French delegates. Hitler and his entourage then travelled the 45 miles south-west to Paris in a motorcade. He'd left orders that upon conclusion of the thoroughly degrading, cinematographed formalities of the French surrender, the carriage itself was to be removed to Berlin and the Carrefour de l'Armistice was to be destroyed. Marshal Foch's statue was purposefully to be left unmolested, to contemplate the ruinous scene.

Even then Hitler hadn't finished discomfiting the French. He had one more turn of the screw to perform. Later that same day, he stood in front of a parade through the heart of Paris that was filmed by German and American newsreel teams.

Under that Parisian summer evening's sky, Hitler's forces, led by a military band, paraded west from the Musee du Louvre, through the Jardin des Tuileries and Place de la Concorde, up the Avenue des Champs Elysees. As the parade neared the Arc de Triomphe, the troops passed Der Fuhrer himself; standing on a raised temporary platform as he took their salute: then finally, humiliatingly, the whole German parade passed through the wide central span of the Arc de

Triomphe and into the Avenue de la Grande Armee, there to finish with General-Leutnant Von Briesen's presentation of the Iron Cross First Class to some twenty of his more distinguished soldiers.

The German parade had purposefully taken the exact same route used by the French Army in their 1918 victory parade; a special route known then as la Voie Triomphale, (the Triumphal Way), directly through the heart of Paris. Today, that route is itself a part of the city's L'Axe Historique . The Germans repeated the spectacle the following year, too; just to remind the French people exactly who was in charge.

Hitler stayed a week in Paris and ended his personal Parisian gala on June 28th by taking a private, early morning sightseeing trip around the captured city with some of his entourage, his official photographer and Albert Speer, his architect. His motorcade tour started at 06:00 and finished at 09:00. He left Paris early the next day, supremely glad that he'd conquered and seen this famous city, but having absolutely no desire to return to it. France herself was now parahors de combat, and the French people began to face the gruelling prospect of an indeterminate period of time in the shadow of the Swastika, under German occupation.

As news of the ignominious armistice and the new collaborationist Vichy government under Marshal Petain spread, there were many brave and defiant French servicemen who refused to acknowledge it. Some went underground, founding the Maquis, the French Resistance movement, whilst quite a number decided to get to England, by any available means, following their chosen leader: Brigadier-General Charles de Gaulle. Once in England, they formed themselves into La France Libre, the Free French Forces, with General de Gaulle as their commanding officer.

One such Frenchman was a 24 year-old qualified Pilote de Chasse, (fighter pilot) who was then serving overseas in the Armee de l'Air at Oran in French Algeria. He was Sergeant Emile "Francois" Fayolle. Emile's father was an Admiral in the French Navy and his Grandfather was none other than Marshal Marie Emile Fayolle, the legendary French Army commander of the First World War. With such ancestry, it was little wonder that Emile refused to acknowledge the humiliating armistice of Compiegne. After much discussion, and despite the warnings of dire consequences from the station commander, Emile and four other like-minded pilots, stole two of the station's aircraft and flew to the British base at Gibraltar. There they took ship to England, arriving in Liverpool in mid July. Emile Fayolle and his close friend Francois de Labouchere strengthened their already inseparable partnership throughout their RAF training and even made sure they were posted to the same squadron later.

Meanwhile, some undoubtedly thought that the British people were merely sticking their collective heads in the sand and hoping that their "German problem" would go away. Lord Haw-Haw himself went to great pains to point out during another of his broadcasts aimed at un-nerving the British public at the time, that Britain's military position, (on German paper anyway), was now utterly hopeless. What was left of the British army had abandoned its weapons at Dunkerque, the RAF had taken a beating in France, and now that the French had formally surrendered, England had no immediate ally capable of fighting alongside her. He went on to assure his British listeners that secretly, a great exodus of Britain's rich and famous people had already begun, that these plutocrats were deserting the country and leaving the ordinary people to face the coming German music. He also assured his listeners that the various anti-invasion measures being taken in Britain were known, and that such hastily improvised defences would be as papier-mâché to the overwhelming forces of the Wehrmacht when the German invasion came.

The resources of the British Empire and the Commonwealth countries however, were largely overlooked in the German appraisal of Britain's position. For now, mainland Europe belonged to the Germans and indeed, there appeared to be nothing to stop them from invading the British Isles apart from the English Channel. Even the American Ambassador to London, Joseph P Kennedy, a leading pacifist and ardent supporter of a continued appeasement of Germany, was of the opinion that England would last no more than two weeks once the anticipated German air attack began. As June of 1940 came to an end, a lone Luftwaffe pilot discovered that the British Channel Islands had been militarily abandoned, when he took a chance and landed at Guernsey's airfield.

But if indeed Britain was now standing apparently alone and barely prepared, she was at least still standing; and her people, far from sticking their heads in the sand, had begun taking Lord Haw-Haw with a fair-sized pinch of salt. The British public were for the most part, fiercely determined to repel any attempt at a German invasion of these sceptred isles, and at any cost.

The whole country was as ready as it could be to face the expected German onslaught. Even Jane stood ready, on another poster, this time with her foot on a crate of Anti-Aircraft ammunition. Wearing nothing but her "Battle Bowler" and a binoculars case to cover her modesty, she stood scanning the sky. For the British people, this was now a time of watching and waiting; a time of heightened anxiety that was resolutely tempered with that "Bulldog spirit". Yet this was the very situation that has always brought out the very best in the British national character. Great Britain with her back to the wall is a determined and formidable opponent, as the Germans were about to discover; but at the very end of June 1940, the question on everyone's lips in England was simply: "What happens next?"

Chapter Six

July 1940: Invasion Watch And Overture

By July 4th, as the Swallows nesting in England were rearing their young, the British Channel Islands of Jersey, Guernsey, Alderney and Sark were also securely under German occupation. Now, everyone in England was absolutely certain that the Germans were definitely going to come. What they were not certain of was how, and when, they would come. It was widely expected that the invasion would be a large-scale seaborne attempt, probably preceded by an airborne assault using gliders and paratroops. It was also thought that mass aerial bombing would come before any attempt was made by the Germans to cross the Channel. The first thing people actually parawere expecting however, was the arrival by parachute of German spies, to supplement those that, Lord Haw-Haw assured his listeners, were already firmly established in every walk of British life. Consequently, a phenomenon that came to be known as "Parachute Fever" began to grip the people.

Meanwhile, under the cover of the ongoing Home Guard recruitment, a secret voluntary army comprised of gamekeepers, farmers, foresters, in fact anyone with a country background, were covertly being recruited into what became known as the "Auxiliary Units". Those recruited into these secret units of the Home Guard were taken away to the West Country and covertly trained in the art of partisan guerrilla warfare: sabotage and dirty tricks in general.

Secret underground bunkers called "OB's" (Operational Bases) were constructed in woodlands outside key areas such as Ashford and the Medway Towns. These bunkers were about fifteen feet underground and had one camouflaged entrance and one camouflaged exit. Each bunker was just about capable of housing four men, their weapons and their specialist equipment.

The job of each Auxiliary Unit, in the event of a successful German invasion, was to stay behind after the Germans had over-run their location. Living primarily off the land, they were to wreak as much havoc as they could to German supply lines and lines of communication, before they were caught. Locals could communicate information regarding German movements to these in-situ resistance units, by means of a pre-arranged dead letter drop.

The Auxiliary Units were to make attacks on anything that would cause the Germans to delay their advance through the English countryside. Railway yards, roads, telephone lines, German Army units, German vehicles; all were on their "hit list". The assassination of German local area commanders or any British official who collaborated with the invaders was also a priority. Any action that would tie the Germans down or divert their resources was to be taken.

Of course, given the known responses of German troops to such partisan tactics in other occupied countries, many local people in the surrounding areas would certainly have been rounded up and shot on the village green in retribution if the situation had come to that. Furthermore, the best official estimate for the life expectancy of any Auxiliary Unit, once the Germans had landed, was put at a mere fourteen days, maximum. Despite such gloomy prospects however, there was no shortage of volunteers for the Auxiliary Units and all such persons were made to sign the Official Secrets Act.

In the meantime, the men of the regular army found themselves gearing up to meet the threat of invasion. A young British soldier, Gunner Bill Reed, of 252 Battery, 63rd Anti-Tank regiment of the Royal Artillery, found that his regiment was hurriedly moved south from their usual home in Oxfordshire, to meet the expected German invasion. Bill had joined the Territorial Army before the outbreak of war and now he found himself hurriedly stationed at Fort

Fareham, Cosham, near the naval base at Portsmouth, with the rest of his unit and their two-pounder Anti-Tank guns.

Bill and his comrades soon found that the well-intentioned anti-invasion obstacles, such as concertinas of Dannert wire and hidden trenches, became a constant hazard to the guarding troops during the night blackout. As a result, they developed an ingenious method of marking these hazards so that they didn't become the unwitting victims of the traps.

They discovered that the area around their camp was literally alive with Glow-worms and at dusk, the sentries used to put about five of these Glow-worms into a half-open matchbox and set it down next to the obstacles on their round. From a distance, these "markers" couldn't be seen, but as the patrolling sentries got to within about ten feet or so, they'd see this little glowing marker and know to take extra care where they trod. For some reason best known to the Glow-worms, they apparently never wriggled out of the matchbox, so they made perfect markers. The relief sentries used to let all of the Glow-worms go at dawn and collect the matchboxes ready for use the next night. Invasion watch, at least for young Bill Reed, proved to be a time of seemingly endless guard duty, punctuated with sky watching.

Whilst the regular army units continued to reform, the men of what was now officially called the Home Guard were at last issued with a recognisable uniform, which improved things greatly. Their confidence soared and the problem of equipment shortage was met with a cheerful acceptance of the fact and a willingness to make do. Some units still tried to improvise weapons and there were one or two fatalities, particularly with homespun inventions like the "soup tin grenade", but if the men were still a little over-zealous, they were at least now focussed.

The situation regarding the Home Guard's formation with a marked lack of equipment was superbly summarised by the great Noel Coward. He wrote a song that many people are familiar with even today, entitled "Could you please oblige us with a Bren Gun?" Although he'd written it in the mid-summer of 1940, Coward didn't actually record the song till the following spring, but the lyrics are a treat as they display his wonderfully warm wit perfectly. The song was a hit for him and it sounded all the better when sung by Coward himself with the memorably clipped tones of his cut-glass English accent. Here is a little taster:

Colonel Montmorency who was in Calcutta in ninety-two,

Emerged from his retirement for the War.

He wasn't very pleased with all he heard and all he saw,

But whatever he felt, he tightened his belt, and organised a Corps.

Poor Colonel Montmorency thought, considering all the wars he'd fought,

The Home Guard was his job to do or die.

But after days and weeks and years, bravely drying his many tears,

He wrote the following letter to the Minister of Supply:

Could you please oblige us with a Bren gun? Or failing that, a hand grenade will do.

We've got some ammunition, in a rather damp condition,

And Major Huss has an Arquebus that was used at Waterloo.

With the Vicar's stirrup pump, a pitchfork and a spade,

It's rather hard to guard an aerodrome. So if you can't oblige us with a Bren gun,

The Home Guard might as well go home!

One can easily see how the television sit-com series *Dad's Army* >became so hugely popular thirty years later. Noel Coward, in making light of the situation at the time, had, in a way, prepared the ground for the fictional Walmington-on-Sea Home Guard platoon, so memorably commanded by the town's pompous Bank Manager, Captain George Mainwaring.

A young man by the name of James Jenman had just started to see service in the newly formed Home Guard. In the summer of 1940, James was attending St. Dunstan's College in Catford, south London, as a senior year medical student. A number of the college's former students were now flying Hurricanes or Spitfires as commissioned officers in the RAF. Having passed through the college's Officer Training Centre (OTC) they had joined the RAF on a short service commission.

Shortly after Dunkerque, the college was evacuated to Reigate in Surrey, as it was felt that this would be a safer location. However, James recalls that a stray bomb, probably jettisoned from a German bomber on its way home from one of the early nocturnal nuisance raids of the period, fell on their sleeping quarters at Reigate one night. Sadly, James' medical skills were unable to help him save three of his schoolfellows, who were killed under the rubble as they slept.

James was already a Colour-Sergeant in the college OTC at that time but he was still too young to join the regular forces, so he joined the Home Guard instead. Being that he was studying medicine, James was duly made the unit's medic. He was also the unit's Armoury Sergeant, which meant that young as he was, he was responsible for the safekeeping of the OTC's rifles, ammunition and their most treasured possession; an ex-Great War Vickers Machine Gun, in full working order.

Young James Jenman, like Bill Reed, soon found that this period was one long round of sentry duty, as he was put to night duty guarding such places as the railway station and the water works. James might have been too young to join the regular forces, but between studying medicine and taking exams, he was stoically "doing his bit"; as were countless thousands more.

Meanwhile, the Royal Air Force had been using the unexpected period of grace that the Germans had given them since Dunkerque, most constructively. New pilots had reached those squadrons decimated by the Battle of France. Aircraft losses, thanks to the industrious Lord Beaverbrook and his Ministry of Aircraft Production, had largely been made good and the fighter control system was continually improving. Further improvement was also made to the RAF's front line aircraft too.

At the end of the first week in June, an engineering officer at RAF Hornchurch, a sector command fighter station in south Essex, had made a telephone call to the propeller division of the De Havilland aircraft company, enquiring about the new constant-speed variable pitch propeller that the company had recently developed. The De Havilland Company duly sent a team of their own engineers and one of the new propellers to Hornchurch, and with the minimum of fuss, one of 65 Squadron's Spitfires was fitted with it and flight tested.

The results were astonishing. Not only was the aircraft's overall performance at all altitudes

markedly improved, an additional 7,000 feet was added to the fighter's service ceiling. On June 22nd, after De Havilland's official report had been read at the Air Ministry, the company got the go-ahead to fit all Merlin-powered RAF aircraft with the new propeller as matter of extreme urgency. Working flat-out to convert the fighters first, 1, 050 Spitfires and Hurricanes were successfully fitted with the new propeller by 15th August.

Despite this important new advantage, the RAF was still, on paper anyway, outnumbered by the Luftwaffe at a ratio of about four to one, and this situation gave the Germans something of a false confidence about the task that now lay ahead of them. Fortunately for the RAF, the Luftwaffe's intelligence branch wasn't really up to its job. Not only did the Germans have an unrealistic idea of Fighter Command's strength after Dunkerque, they had no realistic idea about British aircraft production and repair rates either.

Dowding had purposefully kept the Spitfires back from the carnage in France as much as he could afford to, though 610 Squadron flew daily patrols from Gravesend and were often in the thick of it. In fact, the squadron had lost two commanding officers, Squadron Leader Franks and Squadron Leader Smith, in the fighting over Dunkerque. Being a more advanced aeroplane than the Hurricane, the Spitfire naturally took longer to manufacture and therefore longer to replace, which is why Dowding held them back as much as he could. This had another desirable, though less immediately obvious effect, too.

Though some of the German fighter pilots had encountered Spitfires over Dunkerque, most Messerschmitt 109 pilots hadn't fought against them at that point. They seemed to think that the RAF didn't possess that many Spitfires. If the German fighter pilots, boosted as they undoubtedly were on the relatively easy conquests they'd so far enjoyed, thought that the Mk Ia Hurricane was probably the best that the RAF could do, so be it. By the time the Battle of Britain got under way, even the venerable Hurricane had of course undergone some useful modifications to dramatically improve its performance.

Though still wanting in terms of maximum speed when compared to a Messerschmitt 109, the Hurricane could absorb a lot more battle damage than the 109, or for that matter, the Spitfire, yet still remain fully capable of flying and fighting. Aft of the cockpit, bullets and cannon shells tended to go clean through the Hurricane and out the other side! The Hurricane's relatively simple construction also meant that it could be repaired much more quickly too. Dowding knew that Fighter Command would be greatly outnumbered in the coming struggle, therefore any advantage that the RAF could exploit, however small, was worth pursuing. So far, the Luftwaffe had pretty much had things their own way. Now perhaps, it might be a little different.

The opening round of what was to become the Battle of Britain commenced in the early part of July 1940. Somewhere around 10th July, the Luftwaffe started probing Britain's defences by attacking shipping convoys in the English Channel. They also bombed a train near Newhaven, killing the driver and injuring the guard. The Germans sent their much-vaunted Junkers 87 "Stuka" dive bombers to attack the shipping, escorted by large numbers of Messerschmitt 109 fighters, who were to decimate any RAF fighter forces that were sent to meet the raids.

The Germans' primary objective was not the destruction of the ships as such, though supply ships were always worthy targets. Their prime objective was the destruction of RAF fighter aircraft. Before any attempt at the invasion of England could be made, the Luftwaffe had first to rid the skies over southern England of the RAF's fighters.

Despite everyone's expectations, it was not the Luftwaffe but the BBC Home Service that gave

the British people their first true taste of the coming air battle. On the evening of Sunday 14th July, BBC radio reporter Charles Gardner was standing atop the White Cliffs of Dover. Gardner had been sent there with a recording van to report on the progress of shipping in the Straits of Dover. What happened instead was that Gardner unexpectedly found that he had a front row seat as an air battle took place over a convoy. Within four hours of being recorded, Gardner's full and unedited account was pouring forth from every wireless set in England that was tuned to the BBC Home Service.

With the tone of his voice rising and falling to the tempo of the engagement and punctuated with the real, live sounds of the battle, Gardner described to the nation what he was seeing:

The Germans are dive-bombing a convoy out at sea. There are one, two, three,....six,.....seven. Seven German dive-bombers.....there's one going down on its target now. A bomb! No! He's missed! .....There's about ten ships in the convoy but they haven't hit a single one.....The British fighters are coming up. Here they come! The Germans are coming down in an absolute steep dive, you can see the bombs actually leave their machines…... You can hear our Anti-Aircraft guns going like anything. I'm looking round... I can hear machine gun fire.....can't see our Spitfires, but they must be down there somewhere. Oh! There's a plane coming down!.....Somebody's hit a German plane and he's coming down with a long streak! Coming down completely out of control, and now a man's baled out.... It's a Junkers 87 and he's going slap into the sea! There he goes! .....Smash! A terrific column of water!

The next ten minutes of Gardner's running commentary ultimately held the BBC Home Service listeners absolutely spellbound. During the recording, some people local to Dover had come to see the spectacle for themselves and their cheering had added to the background of his broadcast when another German dive-bomber fell from the sky after being hotly pursued by a Spitfire. Then Gardner obviously spotted another scrap going on as the defending fighters engaged the dive-bombers' escorts:

Hello, look, there's a dogfight going on up there, too. There are four, five, no six machines whirling and turning around… hark at those machine guns going! There's something coming right down on the tail of another... Yes, they're being chased home! There are three Spitfires chasing three Messerschmitts now. Oh boy! Look at them going! There's a Spitfire behind the first two – he'll get them! ...I've never seen anything so good as this. The RAF fighters have really got these boys taped. Our machine is catching up to the Messerschmitt now,...I wouldn't like to be him!

Gardner was practically exhausted as the battle closed and the sound of the onlookers cheering the RAF's victory ended his broadcast. The listeners at home were quite simply, stunned. Gardner's excited commentary, backed with the real sounds of exploding bombs, machine gun fire and screaming aircraft engines, had made for one of those rare moments of radio history. Circumstance had simply put Gardner in the right place at the right time of course, but like WLS reporter Herb Morrison, who three years earlier had found himself on hand to witness the unexpected horror of the paraHindenburg disaster, Gardner had brought the whole spectacle of the battle he'd seen directly to the people, in their own homes; which was something that Lord Haw-Haw, even in his wildest dreams, could never hope to do.

Gardner's commentary had been recorded live and it was patently obvious that it had been broadcast totally unedited. Because of this landmark case of paranon-censorship, the British people largely decided to trust the BBC again. Consequently, far from spreading gloom and despondency, Lord Haw-Haw was quickly relegated to the classification of comedy and he soon

ended up providing the spirits of the British people with a much-needed lift, especially as it was becoming evermore obvious that his information was often wildly incorrect. In some later cases, what he said frequently bordered on the hilarious. It didn't take long for British comedians to start mimicking him in their shows either, making him appear even more ridiculous in Britain than he already was. After the success of Gardner's broadcast, the BBC monitored and recorded most of Lord Haw-Haw's broadcasts, so that they could specifically tailor their own news bulletins toward discrediting the information Joyce put out.

On 16th July, two days after Gardner's breathless radio report, Hitler issued his "Directive No. 16" which gave the go-ahead for preparations for the invasion of England. The invasion was to be called "Operation Seelowe" (Operation Sealion). This directive opened with the following words:

Since England, despite the hopelessness of her military situation, still shows no sign of a willingness to come to terms, I have decided to prepare, and if necessary, carry out, a landing operation against her.

He further stated that if it became necessary, German forces would occupy the country completely. From that day forward, the Channel ports of German-occupied France and Belgium would see an ever increasing build-up of naval vessels, barges, tugs and transport vessels of every kind, as well as a steady influx of troops, in preparation for the anticipated landing operation.

Ultimately, the German plans to invade England would call for landings on a wide front, from Brighton to Folkestone. The first assault wave would be comprised of nine infantry divisions and two airborne divisions, supported by 250 amphibious Tanks and 70 rocket launchers. These would all be carried by 155 transport vessels, 160 small craft and a further 1,700 barges that would be towed by no less than 471 tugs. Surface units of the paraKriegsmarine such as their famous torpedo carrying E-Boats and the even faster S-Boats, (a torpedo boat so incredibly fast that it actually had to paraslow down to launch its weapons!) would assist a force of U-boats and twenty-eight former ferries that were being converted into paraFlak ships, in protecting the first assault wave. As soon as the first wave had secured beachheads, a second wave comprised of four armoured divisions, two motorised divisions and two more infantry divisions would follow.

Unfortunately for the Germans, they were treating the English Channel as being nothing more than a very wide river. The plans were untried and in fact, unrealistic, though they looked good to Hitler. He of course was a former infantryman from the 1914-18 war. He was not an Admiral, or an Airman and nor was he a General. He relied heavily on his advisors, and in their efforts to please him they would make any scheme he wanted work; on paper, anyway.

The provisional date for Operation Seelowe was set as being between the 19th and the 27th of September, during which period the moon and tide phases were most favourable. But first the Luftwaffe had to secure air superiority over the English Channel otherwise the whole invasion project was off. Goring and his "invincible" Luftwaffe thus had to smash the RAF completely, before the prospective invasion date.

The attacks on Channel shipping however were not, from the Luftwaffe's point of view, having the desired effect. The officer in charge of 11 Group, RAF Fighter Command, clearly wasn't willing to be drawn into the Germans' planned annihilation of his forces.

The Air Officer Commanding (AOC) 11 group was a tough New Zealander by the name of Keith

Park, a former Great War fighter pilot. He'd finished the 1914-18 war with the rank of Major, the command of 48 Squadron and with twenty confirmed victories to his credit. Air Vice-Marshall Park was very much a "hands-on" type of commander and he had his own personal Hurricane, which he often used for making unannounced personal visits to his fighter stations.

Park and Dowding got on famously. Park totally understood Dowding's air defence system and its strategic, as well as its tactical needs. Park's defensive tactics consisted of using "Penny-Packet" responses to the German raids. He had no choice in reality, due to the fact that the Germans heavily outnumbered the RAF. Added to this was the close proximity of 11 Group's airfields to occupied France, which meant that Park's fighters got the least warning of all. Park's squadrons had to be airborne within a scant two minutes of receiving the "scramble" order if they were to stand a chance of achieving a successful interception. It was a tight margin to say the least and it says much for the calibre of the personnel of these fighter stations that the two-minute target was, with practice, regularly achieved.

On 18th July, there occurred an incident that graphically highlighted the fact that despite the earlier success of the type over Dunkerque, the Boulton-Paul Defiant was a pure anachronism. Whilst patrolling over Folkestone that morning, a formation of nine Defiants from 141 Squadron were "bounced" by a formation of 109's. Realising that they were Defiants and not Hurricanes, the 109's had dived past them and attacked them from below, where the four guns in the Defiant's turret could not be brought to bear. Within minutes, five Defiants were shot down. A sixth was under vicious attack when the timely arrival of 111 Squadron with their Hurricanes saved the remaining 141 Squadron aircraft from total annihilation. Of the nine Defiants on patrol, six were destroyed, one was badly damaged and four pilots and five gunners had been killed. Only one of the attacking Messerschmitt 109's was lost. The aircraft crashed in France having been hit by return fire from a Defiant and the German pilot was killed in the crash.

The Defiants had suffered their first major setback in an episode that became known throughout Fighter Command as "The slaughter of the innocents". There would be one more, equally vain attempt, before the Defiant would be withdrawn from the battle in daylight. Thereafter, the type was re-assigned to the role of night fighter. But if the Defiant had suddenly shown its inherent weakness, so too had another, hitherto much-vaunted aircraft.

The German gull-winged Junkers 87 Stuka was a remarkably large aircraft for its type. It had an uncanny ability to dive near vertically and during the Polish, Belgian and French campaigns, it had built up a fearsome reputation. In level flight it was slow and needed protecting, but once in the dive it could not be touched, as with its large dive brakes extended, any pursuing fighter simply overshot it. But the Stuka couldn't dive forever. Coming out of its screaming, death-dealing plunge, it proved to be paraextremely vulnerable to fighter attack. To put it into the RAF vernacular of the day, the Stuka coming out of its dive was "easier to hit than a barn door", as their loss rate was beginning to show.

On 25th July, 501 (County of Gloucester) Squadron moved into RAF Gravesend with their Hurricanes. The Spitfires of 610 (County of Chester) Squadron had been moved to nearby Biggin Hill on 3rd July to rest after the intense fighting of the Dunkerque period. 604 Squadron, a night-fighter unit, had replaced 610 temporarily until 501 Squadron moved in.

The boys of 501 Squadron were rather an urbane bunch, as like 610 Squadron, theirs was an Auxiliary squadron, formed from volunteer pilots who were largely young men of means who flew at weekends before the war. The squadron had seen considerable action over Dunkerque,

and they had been part of the original force based in France. In fact, 501 were one of the last units to be withdrawn from France. Posted back to Croydon, the squadron then found itself covering the “mini-Dunkerque” operation over Cherbourg. They had lost their first official Battle of Britain pilot on July 11th, when Sergeant Dixon was shot down over the English Channel.

Just two days after 501 moved in, RAF Gravesend lost the first of the fifteen Battle of Britain pilots that are now commemorated at the site of the former fighter station. During a fierce dogfight over the English Channel, Feldwebel Fernsebner of JG52 in his Me109, shot down Flying Officer Phillip Cox; a young officer of apparently great potential whose dashing good looks bore more than a passing resemblance to the more modern-day film and television actor Jonathan Cake. Cox’s Hurricane crashed into the sea off Dover Harbour and neither the aircraft, nor the body of twenty-five year old Phillip Cox, have ever been found.

On July 29th, 501 Squadron were in action above Dover again, against a formation of escorted Stukas that were dive-bombing the harbour. During the frantic engagement, Pilot Officer John Bland had his Port wing “extensively ventilated” by German cannon shells and machine gun bullets, but skilfully managed to coax his battle-scarred Hurricane home, there to make a successful wheels-down landing back at Gravesend.

On the last day of July, Pilot Officer Don was forced to bale out of his stricken Hurricane at about 19:00 during another fierce engagement. His injuries were such that he was admitted to Canterbury Hospital. On the plus side, 501 Squadron had accounted for six enemy aircraft during the day’s fighting and Pilot Officer Don was their only casualty.

After almost a month of aerial skirmishing over the channel, testing the RAF’s defences, the Germans decided it was time to up the ante. Things were about to get serious.

Chapter Seven

August 1940: The Air Assault on Britain Begins

August opened with the issuing of Hitler's "Directive No. 17". This was his directive for the carrying out of air and naval warfare against England, in which Hitler stated expressly that before any attempt at invasion could be made: "The Luftwaffe must, with all means in their power and as quickly as possible, destroy the English Air Force". He further directed that only after air supremacy had first been obtained should the Luftwaffe make efforts against harbours and ports, with a view to causing possible widespread food shortages in England.

Meanwhile, the Swallows in England sought food for themselves and their fledglings over the farmland of the southern counties; wheeling, diving and swooping low over the maturing crops, unintentionally auguring at near ground level the desperate actions of the fighter planes that would soon be locked in mortal combat high above them.

Initially, the Luftwaffe continued their attacks on Channel shipping and mine-laying operations, until the Fuhrer Directive had been officially received. There was also one humorous event that occurred during the night of 1st/2nd August.

That night, those German night bombers that were not employed in mine laying in the Thames Estuary or scattering bombs on Margate and Bristol, performed a propaganda drop over the South of England. Thousands of leaflets printed either on yellow or green paper fluttered to earth in Somerset and Hampshire, bearing a message from Adolf Hitler to the British people. It was, the leaflet said, "a last appeal to reason" and was a direct translation of the speech Hitler had made in the Reichstag on July 19th. Citing all of Germany's victories to date and the Fuhrer's sincere personal wish to avoid further un-necessary bloodshed, the leaflet implored the British people to rise up and revolt against the "Gangster" Churchill.

The Fuhrer would no doubt have been utterly dismayed to find that the majority of his "Olive branch" leaflets had fallen uselessly in open countryside. The text of his speech was being eagerly digested by totally indifferent grazing cattle. Those copies that remained to be picked up in the morning, largely served to bolster the south and southwest counties' reserve of toilet paper, though some examples have survived to this day.

However, the Luftwaffe High Command (OberKommando der Luftwaffe, or OKL) bolstered by flawed and over-optimistic intelligence regarding British fighter losses thus far, and having now been given the green light from Hitler, unveiled a scheme that would, they were sure, render such a crushing blow to the RAF that an invasion would ultimately be made un-necessary. The scheme was christened "Adlerangriff".

Adlerangriff, or "attack of the eagles" was effectively to be an all-out, sustained assault on RAF Fighter Command. The prime targets were Fighter Command's airfields and the RDF stations. It was decided that Adler Tag, or "Eagle Day" would be 10th August and Reichsmarschall Herman Goring confidently predicted that his mighty Luftwaffe would achieve total air superiority over Southern England within four days of Adler Tag. However, bad weather on the 10th, prevented the attack and so the whole scheme was postponed for two days.

During the twelve days prior to Adler Tag, the scale and violence of the Luftwaffe's attacks had increased. On 8th August, Convoy CW9, consisting of twenty ships and codenamed "Peewit", was proceeding westwards, down the Channel. Just before dawn, the convoy was attacked by the fast and deadly E-boats of the German Navy. This first attack sank three of Peewit's ships.

Stukas strongly escorted by Messerschmitt 109's made the next attack at breakfast time. However, five RAF fighter squadrons from 11 Group, aided by another from 10 Group, intercepted the German formation and disrupted their planned attack on the convoy.

At Lunchtime, the scattered convoy was approaching the Isle of Wight when fifty-plus Stukas pounced on the ships. Four RAF squadrons came to the aid of the convoy and despite inflicting losses among the Stukas and their escorts; the convoy sustained some further casualties. The battle over Convoy "Peewit" seemed to be growing personal.

By the mid-afternoon, the German aircrews had been ordered to sink the entire convoy if possible, so eighty escorted Stukas made a further, determined attack at teatime. Seven RAF squadrons including, for the third time that day, No.s 145 and 43 Squadrons, met this attack. Most of the German losses over CW9 throughout that day had been the work of 145 and 43 Squadrons. In what turned out to be the greatest effort made by the Germans against a single convoy, August 8th had seen convoy CW9 loose seven ships by a combination of E-boats and Stukas, whilst a further six ships had been badly damaged. During the day's actions, the Luftwaffe had lost thirty-one aircraft whilst Fighter Command had lost nineteen.

However, the Germans sincerely believed that they had destroyed an incredible forty-nine RAF fighters in the day's actions, whilst the RAF claimed to have accounted for twenty-four Stukas and thirty-six Messerschmitt 109's.

The disparity between the numbers claimed and the actual numbers lost is a concurrent theme of the Battle of Britain. Flying and fighting at speeds of 300mph plus, left little time for any fighter pilot, of either side, to note the effects of his actions. The RAF fighters attacked as a squadron formation. Their primary role was the destruction of enemy bombers, not fighter versus fighter dogfighting. However, once the escorting 109's came into the fray, a Hurricane or Spitfire pilot had no choice but to "mix it" when he was attacked.

Although the initial attack on an enemy formation was a squadron effort, the situation quickly turned into every man for himself. Many ex-pilots have described the ensuing moments of an aerial engagement as a confusing melee of twisting, turning aeroplanes; each trying to out-turn the other to bring guns to bear or to avoid the fire of an enemy aircraft. It had been hard enough for the pilots of the First World War, in their SE5's, Sopwith Camels and Fokker D.VII's, dogfighting at speeds of up to 140mph. Hurricanes, Spitfires and Messerschmitt 109's were trying to dogfight at more than twice the speed of their Great War predecessors.

A pilot might get a two-second burst into a passing enemy aircraft. He might see that aircraft start to issue smoke or flames and drop away from the formation; he would then in all probability come under attack himself and have to fly for his life. Meanwhile another fighter, firing opportunistically at a fleeting target, might set upon that same enemy aircraft. If both attacking pilots survived, both would possibly claim the same aircraft as either damaged or destroyed, in all sincerity. So rarely was there time for a pilot to actually verify the effects of his attack in the heat of battle. Any pilot foolhardy enough to follow his victim down just to verify his "kill" often became someone else's kill.

Another aspect of aerial fighting often recalled by ex-fighter pilots is that one minute the sky was full of twisting, turning, speeding aircraft all seemingly firing at each other; then suddenly, the sky was virtually empty. This again was due purely to the speed of such engagements. As one former RAF fighter pilot of the period succinctly put it:

In the middle of a battle, you would be busier than a one-armed bandmaster with a flea in his

pants. After the battle, if by some miracle you'd survived, you usually made your way home on your own.

Over-claiming did not hold quite as much significance for the RAF as it did for the Luftwaffe. The RAF was fighting a purely defensive action and all that mattered from their point of view was to shoot down German aircraft. The notion of high scoring, medal-chasing fighter aces was in any case frowned upon, not only by the RAF hierarchy, but also by the pilots themselves. In an RAF fighter squadron, it was very much a team effort, all the way. In fact, it was by no means uncommon for most RAF fighter pilots to have to be pressured by their Squadron Intelligence Officer into filling out their daily combat reports, a task most pilots regarded as being a non-essential chore. By the middle of August, most Squadron Intelligence Officers were taking the pilots' combat reports in the form of a hurried dictation, which they themselves wrote up later and simply got the pilot concerned to initial, if he was still alive by the time the report had been typed up.

In a Luftwaffe Jagdgeschwader (JG, fighter unit) however, high scoring, medal-chasing fighter aces were actively encouraged. An impressive personal tally of victories painted on the tailfin of a pilot's Me109 ensured not only promotion for that pilot, but a spell in the limelight and sooner or later, an interview with Signal magazine as a precursor to receiving a medal such as the Knight's Cross, which was usually presented by Reichsmarschall Goring himself.

Thus the German pilots perhaps had more incentive for optimistic claiming, and the Luftwaffe certainly possessed a seemingly disproportionate number of "Top Gun" pilots, each with a remarkably high individual score, by the end of the war. But if uncorroborated or blatant over-claiming by German fighter pilots lead to rapid promotion, it also contributed directly to the Luftwaffe's seriously flawed intelligence reports; reports on which OKL of course based their major operational decisions.

With the weather clearing, OKL decided that August 12th would now be the prelude to Adler Tag. Meteorological reports showed a belt of high pressure now moving toward England. This would give the Germans the period of fine weather in which to commence the Adlerangriff. "The Glorious Twelfth", opening day of the Grouse-shooting season, therefore saw the Luftwaffe change targets from Channel convoys to RDF stations and coastal airfields.

At nine o'clock that morning, formations of escorted Stukas attacked five RDF stations. Dunkirk near Canterbury was damaged but remained operational. Swingate at Dover also got off lightly, though huts inside the compound were destroyed. Rye was more heavily damaged and was put out of action till noon, when a mobile diesel generator was able to put life back into the station's equipment. At Pevensey RDF station, the power main was also cut, but it was Ventnor RDF station on the Isle of Wight, that had suffered the heaviest damage. It had in fact been put completely out of action. The German bombs had started fires that, due to a lack of water on the site, had spread rapidly.

Despite this, RDF stations proved to be notoriously hard targets to hit. The latticework towers withstood the effects of blast very well. What the Luftwaffe's bomb-aimers failed to appreciate was that the vitals of an RDF station were not the towers, but the huts. Of the crucial RDF stations that had been attacked, only Ventnor remained out of action throughout Eagle Day, though OKL were blissfully ignorant of this fact. Ventnor only remained out of action until a mobile RDF unit was brought in to fill the gap whilst the main station underwent repairs.

The naval base at Portsmouth was also attacked. Despite heavy Anti-Aircraft fire, a large

formation of heavily escorted Junkers 88 bombers started several large fires in the docks and in the city itself at the same time that Ventnor was being attacked.

The Junkers 88 was a remarkably versatile aircraft. Though designed primarily as a twin-engined medium bomber, it was fast. In level flight and minus its bomb load, it was very nearly able to outrun the Mk I Hurricane. But the Junkers 88 was also an excellent dive-bomber and later variants made good night-fighters. The Junkers 88 was to the Luftwaffe what the later DH Mosquito was to the RAF.

The coastal airfields in Kent that were attacked were Lympne, Hawkinge and Manston. All three were Fighter Command stations. Lympne had received over 200 bombs in two attacks and the airfield was rendered unserviceable, though it was not incapacitated for long.

A force of Junkers 88 bombers attacked Hawkinge aerodrome, which was the forward airfield for 501 Squadron from Gravesend. Hawkinge suffered serious damage in the raid. Two hangars and the workshops were all but destroyed and the stores were badly damaged. There were also nearly thirty bomb-craters on the landing ground when the Luftwaffe departed, but despite all this, the airfield was operational again and handling fighters within twenty-four hours.

The damage that Manston sustained was similar to that done at Hawkinge. The Spitfires of 65 Squadron were almost caught on the ground, as they were actually taking off when a formation of Dornier 17's came in at low level, dropping High Explosive bombs. The Spitfires of 54 Squadron had tried to deflect the raiders but had been unable to get at the bombers before the escorting 109's intervened. But if the Dorniers had managed to get through to Manston unmolested, their escorts were at least given a savage mauling by the safely airborne and now vengeful Spitfires of 65 Squadron, as well as those of 54 Squadron, as they set course for home. Though damaged, Manston airfield wasn't wrecked. Not yet, anyway.

By the end of 12th August, OKL were in exultant mood. According to their intelligence reports it had been a good day; sixty-nine RAF fighters had been destroyed in combat, including apparently all of 65 Squadron's Spitfires on the ground at Manston, and very heavy damage had been done to the docks at Portsmouth. Also, the airfield at Lympne had been totally destroyed. The Luftwaffe had lost a total of thirty-one aircraft in the day's actions. All things considered, the prospects for Adler Tag must have looked very promising to OKL.

In actuality, although temporarily out of action, Lympne was far from being destroyed. However, it was in use only as an emergency landing ground the next day. Once again, the Germans' interpretation of their operations was more than a little optimistic. Fighter Command had in fact lost twenty-two aircraft, not the sixty-nine that OKL believed to have been destroyed, and the docks at Portsmouth were still operational, too.

Four of the RAF's losses that day were from 501 Squadron, though three of the pilots were saved. Squadron Leader Hogan had to make a forced landing at Dover; Sergeant "Ginger" Lacey also had to crash-land his equally badly damaged Hurricane and Flight Lieutenant Gibsen's Hurricane nosed-over as he tried to land on the bomb-cratered surface of Hawkinge. Though damaged as a result, this aircraft was later repaired. Flying Officer Kazimierz Lukaszewicz, a Polish pilot flying with 501 Squadron, was shot down and killed during a dogfight off Ramsgate at lunchtime, becoming the second of Gravesend's Battle of Britain pilots to lose his life in defence of this country.

The next day was August 13th: Adler Tag. The day dawned somewhat hazily, but the Luftwaffe was raring to go. Perhaps it was in part due to this over eagerness that der Tag started by

misfiring. Poor intelligence and communications were other factors, as was the rotund Reichsmarschall himself.

The targets had all been very carefully selected to ensure that the RAF would suffer greatly. Airfields had been marked down for destruction, diversionary attacks on shipping and harbours had also been planned. The Germans planned to stretch the RAF's fighters to their limit and preferably beyond, for this would be the day that RAF Fighter Command would be effectively wiped out.

Unfortunately for them, it would seem that the Germans assumed that almost any airfield in southern England belonged to Fighter Command. Consequently, a good many airfields belonging to the Royal Navy, RAF Training Command and RAF Coastal Command were scheduled for destruction, thus greatly dissipating the Luftwaffe's overall efforts.

Among the airfields targeted by the Luftwaffe were the Royal Navy's Fleet Air Arm bases at Ford, Gosport and Lee. Also targeted was Eastchurch on the Isle of Sheppey, and Detling, near Maidstone, both of which were Coastal Command bases. All five of these airfields were, for the Luftwaffe, a waste of bombs; their destruction would not affect Fighter Command one iota, and the Germans' primary target if the planned invasion was to succeed, had to be Fighter Command.

Sheerness was also targeted due to its port facilities, as was Southampton. For the Luftwaffe, the bombing of ports at this stage, when the Luftwaffe did not have air supremacy, was not only contrary to what Hitler had said in his last directive, it was another un-necessary dilution of effort. The RAF's fighters didn't use ports, though Southampton of course was home to the Supermarine works. However, it had earlier been assumed that Supermarine's Woolston factory would become a target sooner or later, so Spitfire production had been secretly farmed out to what were called "shadow factories". These were places like car factories, repair depots, the Southern Railway's workshops or other, general engineering works. This meant that production of precious fighter aircraft was carefully and widely distributed, not concentrated in one, extremely vulnerable, location.

At about 05:30, the first formations of bombers took off to begin their work of destruction. Their escorting fighters were Messerschmitt 110's. The Messerschmitt 110 was a pet project of Reichsmarschall Goring. It was a twin-engined fighter armed with a powerful forward-firing battery of two 20mm cannons and two machine guns, with a single rearward-firing machine gun for defensive purposes. On paper, it looked devastating. In concept, it was probably what the RAF's Defiant ought to have been, but wasn't.

Goring had earlier christened these aircraft paraZerstorers (Destroyers). Another hitherto popular name for them was "Ironsides". With a crew of two and a maximum speed of 335mph, the Messerschmitt 110 was ever so slightly faster than a Hurricane and 20mph slower than a Spitfire. It could out-turn neither of the RAF types, though. The Battle of Britain revealed that the much-vaunted paraZerstorer was ultimately a paper tiger, an overweight and unwieldy liability in the face of determined fighter opposition, unless it happened to have its quarry squarely in its forward sights. Small wonder that Reichsmarschall Goring had such an affinity toward them, for at this stage, the two were looking increasingly alike.

But on the morning of paraAdler Tag, the group of paraZerstorers detailed to escort the seventy Dornier 17's on that first raid, received a message from Goring himself that the whole attack was postponed till after lunch, due to hazy and partially cloudy conditions over England. It was

instances such as this where the Luftwaffe's lack of intercommunications made itself sorely felt. The escort group could not communicate with the bombers that they were escorting. After what the bombers' leader thought was aerial skylarking on the part of his escorts, who were 'buzzing' his aircraft and waggling their wings as they vainly tried to cancel the mission, the 110's left the bombers and returned to their base. The now unescorted Dorniers flew on, intent upon carrying out the set-piece planned attacks on Eastchurch and Sheerness, in blissful ignorance.

The Spitfires of 74 Squadron intercepted them over the north Kent coast and a fierce fight ensued. Despite the interception, the bombers got through to their objectives and Eastchurch was heavily damaged. Twelve people were killed with many more injured when the station's operations room received a direct hit.

As the raiders turned for home, 111 and 151 Squadrons arrived on the scene and joined the fray. Between them, the three RAF squadrons shot down four of the bombers and badly damaged a further four. When the German bomber crews finally landed back in France, they reported that the British fighter station at Eastchurch had been completely destroyed, as had the ten Spitfires that were apparently on the ground there.

Eastchurch was operational again by the early evening and in point of fact, five aircraft were destroyed on the ground. The aircraft concerned were twin-engined Bristol Blenheim light bombers. There were six Spitfires, ('B' Flight from 19 Squadron) on the ground at Eastchurch during the raid. These six Spitfires were experimentally armed with two cannons instead of the normal eight machine guns and were due to take part in a strike against German E-boats as part of the experimentation programme, later that day. However, these aircraft were well dispersed around the perimeter of the airfield and none suffered any damage. The only other Spitfires present at Eastchurch that morning were those attacking the German bombers.

Meanwhile, three RAF squadrons intercepted another raid over Hampshire that was aimed at the Royal Aircraft Establishment at Farnborough. The combination of cloudy weather and determined fighter attacks caused the raiders to become disorganised and the attack missed its target.

At 11:30, RDF picked up a raid estimated as being twenty-plus aircraft over Cherbourg and tracked the formation across the Channel as it headed toward Portland. This was in fact a diversionary raid that had already gone awry. The bombers of KG 54 (paraKampfgeschwader or bomber unit 54) failed to turn up. The advancing twenty-plus aircraft were Messerschmitt 110's that were supposed to be acting as escorts to this non-present bomber force. As the paraZerstorers vainly sought their charges over Portland, they were attacked by two squadrons of RAF fighters and suffered heavily, losing six of their number in less than five minutes. The remaining paraZerstorers fled at full throttle for the safety of France. So far, Eagle Day had got off to a rather inauspicious start for the mighty Luftwaffe.

The main attack finally came at teatime. Shortly before 16:00, a series of mass attacks were launched against Portland, Southampton, targets in Kent and the Thames Estuary. Three huge waves of German aircraft took part in the attacks, a good proportion of which were Stukas. One RAF squadron found itself absolutely ideally placed for once.

The Spitfires of 609 Squadron, up from Warmwell, were patrolling over Weymouth and saw a formation of Stukas below them. The 109's escorting the Stukas were already divided; half of them were embroiled with 238 Squadron well below the lumbering dive-bombers, whilst the

other half were well above; at very high altitude and seemingly unaware of 609 Squadron's presence or their impending attack. Blessed with the dual advantages of superior altitude and having the sun behind them, the Spitfires wasted not one second as they peeled off and literally fell on the unsuspecting Stukas.

It was a classic fighter attack. The startled Stuka formation was decimated in a matter of seconds as the squadron of Spitfires tore into them. Nine Stukas were shot out of the sky and the remaining dive-bombers broke away and bolted for France, scattering the bombs that had been destined for the fighter station at Middle Wallop, over the countryside instead, in a desperate effort to increase the speed of their escape.

Meanwhile, another large force of German raiders bombed Detling aerodrome, near Maidstone in Kent. The operations room, cookhouse and most of the mess buildings were wrecked and the station commander was killed in the raid. However, it was once again a totally wasted attack as of course; Detling was not a fighter station.

At the end of Eagle Day, the Luftwaffe had lost forty-five of its aircraft in the heavy fighting, a good many of them Stukas. Fighter Command had lost thirteen fighter aircraft. The RAF also lost the five light bombers that were destroyed on the ground at Eastchurch of course, but this was of no consequence to Dowding.

The Germans however, believed that they had definitely destroyed seventy Spitfires and Hurricanes, eighteen Blenheims, Eastchurch fighter station and Detling fighter station. They also believed that serious damage had been done to other important fighter stations. In actuality, RAF Fighter Command, far from being wiped out in a single day, had withstood the German onslaught and had inflicted losses on the Luftwaffe of more than three to one. But OKL were in no position to realise that.

Following their perceived success of Eagle Day, the Luftwaffe made just one-third of the number of sorties the following day, mainly targeting airfields in the southeast of England and for the first time, communications-type targets, such as railway lines and targets of opportunity, such as moving trains.

If a train came under attack from fighters, the driver had but two options: Stop or carry on. The one thing a train cannot do is take evasive action, unless there happens to be a tunnel. One such attack took place at about this time upon a Southern Railway evening train running from Ramsgate to Dover. Just outside of Deal, the driver, Mr Goldsack and his Fireman, Mr Stickells, heard what sounded like a volley of stones striking their engine. Looking out of the cab, Stickells saw six German fighters coming round to attack the train again. He shouted to Goldsack and both men sheltered in the cab as best they could as once again, machine gun and cannon fire, not stones, raked their engine. The low-flying fighters were aiming directly at the locomotive's firebox and cab area.

The engine had suffered boiler damage in that last attack. She was literally bleeding steam from her wounds, so Goldsack quickly stopped the train by smashing the vacuum brake. The very second the train stopped, both men jumped off the footplate. As the German fighters came round and opened fire again, Goldsack was hit squarely in the upper body and fell to the ground beside the tender, where he died; his chest torn open by a cannon shell. Stickells ran on but was hit in the arm, thigh, legs and foot by machine gun bullets as he tried to make his way back to the Guard, Mr Sabine. Stickells shouted, as he too fell, having passed out with pain and blood loss.

The German fighters passed low overhead and made off toward France, seemingly content with their work. Sabine ran to the fallen Fireman and seeing that he was still alive, treated his wounds as best he could by the trackside. One of the bullets had severed an artery in Stickells' arm, so Sabine bound a makeshift tourniquet around it to staunch the flow of blood, thereby saving Stickells' life.

A party of Marines who were stationed nearby soon came to help, having witnessed the attack. They also brought their unit's Medical Officer with them. Sabine then sent one of them to Deal station to get a train to come down and pick up the casualties. Meanwhile, the Marines formed a Human chain to the stricken Engine with buckets of water, right up to the footplate, to extinguish the Locomotive's fire.

An Engine from Deal duly arrived; summoned by the Marine that Sabine had sent. Stickells was stretchered onto the train, and the damaged engine was isolated whilst the other engine was coupled on, then the whole train was taken back up the wrong line to Walmer, after the Signalman had been informed and he had closed the line for them. Sabine's knowledgeable first aid treatment meant that Stickells made a full recovery from his four wounds. In fact, he returned to work six weeks later. The Locomotive was also repaired and returned to service.

After a couple of days of such indiscriminate opportunist action, the scale of the Luftwaffe's attacks escalated again. August 15th saw attacks by all three of the Luftwaffe's air fleets. The air fleet based in Norway had not taken any part in the battle so far due to the fact that the extreme range from their bases precluded their bombers from being escorted by Messerschmitt 109's. Now, it was felt that whatever reserves of fighters the RAF might have had in the north of England must surely have been sent south after Eagle Day. August 15th was to be a decisive day for both sides.

The Germans planned to make a series of attacks on an extremely wide front, aimed primarily at RDF and fighter stations. First to suffer were the forward airfields of Hawkinge and Lympne in Kent. Hawkinge had one hangar and a barracks block hit. The fighter station itself wasn't too badly damaged but other bombs had caused power failures that affected three RDF stations. Lympne was far more badly damaged and was in fact out of action for the next forty-eight hours. The Spitfires of 54 Squadron and the Hurricanes of 501 Squadron had met the attacks, inflicting heavy losses on the Stukas involved, though once again, 501's Flight Lt. Gibsen was on the receiving end. His Hurricane was hit by return fire from a Stuka that he was attacking and he was forced to bale out. Two other Hurricanes were shot down, but all three pilots were unharmed. Their timely interception may well have minimised the damage done to Hawkinge, but they were unable to prevent Lympne from being comprehensively "plastered".

Next to arrive was a force of thirty-plus escorted bombers from Norway, heading for targets in the industrial northeast of England. Although the estimate of thirty-plus proved to be a sixty per cent underestimation, the sixty-five Heinkel 111 bombers of KG26 escorted by thirty-four Messerschmitt 110's of ZG 76 (ZerstorerGeshwader, or destroyer unit) were painfully surprised to be met by three squadrons of RAF fighters. With one hour's warning of the impending raid, the controllers of 13 Group had plenty of time to arrange a suitable reception for the inbound Germans.

As the Spitfires and Hurricanes tore into the formation, the Messerschmitt 110's went into defensive circles, like a wagon train from the days of the American "Wild West" being attacked by Red Indians, thus leaving their charges totally unprotected. The Heinkels duly split up and some simply dumped their bombs into the North Sea and turned for home. Those few that

pressed on toward their targets found two more RAF fighter squadrons waiting for them. Not one bomber reached its target. Eight Heinkels and seven 110's were shot down. Many more faced the long journey home across the North Sea trailing smoke in a battle-damaged condition and with wounded crewmembers. But of far more importance was the fact that not one British fighter had been lost in the engagements.

Further south, a force of fifty-plus unescorted Junkers 88's from KG30 bombed the aerodrome at Driffield in Yorkshire. Being a bomber station, Driffield was another waste of effort and even the four damaged hangars and the ten Whitley bombers that were destroyed on the ground, hardly justified the loss of the six German aircraft that were shot down on the mission. Once again, Fighter Command had inflicted casualties among the raiders without suffering a single fighter loss. The northern raids had cost the Luftwaffe a total of twenty-three aircraft and crews.

At lunchtime the action returned to the south of England, as low-flying Messerschmitt 109's strafed RAF Manston. Two Spitfires were destroyed on the ground and casualties were sustained among the personnel of the station.

Mid-afternoon saw the Germans achieve a penetration of British airspace without being intercepted. A force of Stukas escorted by Messerschmitt 110's and 109's got through to the fighter station at Martlesham Heath unmolested. Considering the force that the Germans employed, the station got off lightly with a broken water main, cut telephone lines and damage to the officers' mess and workshops. However, two hangars were badly damaged when a visiting aircraft that was parked in front of them, was hit and blew up.

At the same time as Martlesham Heath was attacked 250-plus German aircraft in two waves, were approaching Deal and Folkestone. There were four RAF fighter squadrons on patrol in that area and three more, including 501 Squadron, were hurrying to join them as the raiders began to split up and head for their targets.

Once again, Eastchurch was on the Luftwaffe's hit list, as was the airfield at Rochester. Dover, Rye and two other RDF stations were also targeted. Rochester was not a fighter station. It was home to Short Bros. who were engaged in the production of a four-engined bomber type, the Stirling, there. It was also home to Pobjoy Motors, who supplied aero engines to Short's. The only RAF presence at Rochester was No. 23 Elementary and Reserve Flying Training School. However, this raid ultimately delayed production of the Stirling for almost a year, as the Germans scored hits on the components warehouse and the highly flammable paint stores, but it did not aid the Luftwaffe's primary aim of destroying Fighter Command. Eastchurch was only slightly damaged again and none of the RDF stations that were attacked suffered any serious damage either.

Over 250 German aircraft made other, ultimately equally ineffectual raids in the early evening against targets in the southwest of England. The fighter station at Middle Wallop was attacked but suffered minimal damage. A similar situation was to be found at RAF Worthy Down; the aerodrome was raided, but suffered minimal damage.

At teatime, a force of seventy-plus aircraft was plotted approaching the south Kent coast. Most of 11 Group's forward squadrons were on the ground, refuelling and re-arming. The Hurricanes of 501 Squadron were almost out of fuel when they intercepted the raid over the coast. Joined by another squadron, 501 attacked and succeeded in splitting the German force. The result of this was that the Germans missed their intended targets, the important fighter stations of

Biggin Hill and Kenley. They hit West Malling airfield instead, which was at the final stage of its construction and wasn't therefore operational at the time. The runways were damaged, as were two of the four hangars, though not seriously. Other bombers found Croydon aerodrome and bombed that, but they suffered at the hands of 111 Squadron, who were based there.

By the end of August 15th, the RAF claimed to have shot down 182 German aircraft, whereas the actual loss to the Luftwaffe was seventy-five aircraft. Of far more importance to Dowding was the fact that Fighter Command had lost thirty-four aircraft, with seventeen pilots killed and a further sixteen pilots wounded.

The Luftwaffe on the other hand, claimed to have definitely destroyed eighty-two Hurricanes and Spitfires, five Curtiss Hawks (an American fighter aircraft, of which the RAF had none) and a further fourteen aircraft of other, assorted types. An impressive total, as far as OKL were concerned, of 101 aircraft destroyed, on paper.

However, from OKL's point of view, this optimistic outlook should have been balanced by a number of significant considerations. The Luftwaffe had thrown just about every available fighter into the day's actions in a serious attempt to destroy Fighter Command. In their attempts to destroy Fighter Command's ground installations, the German attacks had involved all four of Fighter Command's groups, but despite the heavy damage OKL evidently thought Fighter Command had sustained, it should have been manifestly clear to them that every raid, bar the one made on Martlesham Heath, had been successfully intercepted and heavy German losses had been sustained.

The German losses were far worse than OKL had anticipated. The forces from Norway had suffered particularly badly of course. Also, it was becoming apparent that the Stukas would need to be heavily escorted by Messerschmitt 109's, both to and from their targets, if they were to continue to take part in the battle. Worse still was the fact that the Messerschmitt 110, a supposed escort fighter itself, would also have to be escorted by 109's in future. The northern raids had exposed the vulnerability of the type in no uncertain terms. The sight of Messerschmitt 110's, the so-called Zerstorers, flying around in defensive circles would become increasingly common in the coming weeks.

Reading the day's self-congratulatory intelligence summaries at his private hunting lodge, Karinhall, late that evening, Reichsmarschall Goring made another of his stupendous military decisions. He decided that there was obviously no point in further attacking the RDF stations. In his opinion, they were of questionable value as targets, given that none of them appeared to have been put out of action yet as a result of the repeated Luftwaffe attacks. Goring evidently had no understanding of RDF's paramount importance to the defenders. Meanwhile, as the rotund Reichsmarschall digested his food and his intelligence summaries, RAF technicians continued to work feverishly, in their efforts to put Ventnor RDF station back on line.

The Luftwaffe continued to increase the pressure on Fighter Command by mounting large-scale raids against fighter stations. Over the next twenty-four hours, Fighter Command lost a further twenty-two fighters with eight pilots killed whilst the Luftwaffe lost forty-five aircraft. But even the mighty Luftwaffe could not sustain that kind of all-out effort indefinitely. On Saturday 17th August, they had a day of rest, engaging only in reconnaissance work, whilst the Luftwaffe's intelligence branch finished preparing a crucial overview document; a summary of the state of play to date. The Luftwaffe lost three of their reconnaissance planes, shot down during the day, whilst Fighter Command suffered no losses.

By night, German bombers made a few scattered raids, but these were mostly of nuisance value, though there was a sinister purpose to some of these raids. The British were not the only ones to apply new technology to the art of aerial warfare.

The Luftwaffe was trying out an ingenious modification to the Lorenz blind approach system operated by major airports, to gain accuracy in night bombing. The Luftwaffe's modification was called paraKnickebein, which means paracrooked leg. The bombing aircraft literally flew down a radio beam broadcast from German-occupied Denmark. Another beam broadcast from German-occupied Holland cut across the first beam over the intended target. The bombing leader heard the steady continuous note of the first beam in his earphones. If he deviated left of it, he heard a series of Morse code dots. If he deviated to the right, he heard dashes. He simply flew along the mid-path until he heard the second beam's signal cut into the steady note of the first beam, at which point the bombs would be released.

Fortunately, the RAF's "Y-Service" already had their suspicions about this development. They'd first encountered the word Knickebein when the intelligence men found a scrap of paper inside the wreckage of a crashed Heinkel He 111. The aircraft was from KG26 and had been shot down by a night fighter. The scrap of paper referred to a bearing that had to be flown using whatever this Knickebein might be. Further suspicions were aroused from the interrogation reports of downed German aircrew, which mentioned Knickebein. The RAF gave it the operational codename of "Headache".

Finally, the "Y Service" got the break they needed when another night bomber was brought down. They analysed the Lorenz set found in the crashed German bomber and discovered that it had been modified to operate on a different wavelength. It didn't take the RAF long to find the German beams with a specially equipped Avro Anson. The Germans had been careless enough, or confident enough, to leave them switched on. By flying along the first beam, the Anson's crew discovered that a second beam cut across it right over the Rolls-Royce aero engine factory at Derby. The Luftwaffe's GeheimeWaffe was out of the bag. Once found, a suitable jamming system, codenamed "Aspirin" cured the "Headache" by providing another set of dots for the German pilots to listen to, effectively scrambling his hitherto trusted signal and thus confusing the German pilots. The "Battle of the Beams" had begun.

Meanwhile, the head of the Luftwaffe's Intelligence section, an officer by the name of "Beppo" Schmidt who held the rank of Oberst, or Colonel, was feverishly working away "dotting the i's and crossing the t's" of the all-important overview document. His intelligence summary of the Luftwaffe's operations, which he'd prepared on the night of August 15th, stated that so far, 373 Spitfires, 180 Hurricanes, twelve Defiants and nine Curtiss hawks had definitely been destroyed by the Luftwaffe since 1st July.

Taking those as known facts, he then went on to obtain his conclusion. Schmidt started by simply guessing at Fighter Command's possible strength on July 1st. He then estimated how many RAF fighters were likely to be serviceable, took away the "known" losses inflicted by the Luftwaffe, then added a rough guess as to how many aircraft might have rolled off British production lines in the same time period. The result: Schmidt's incredibly flawed calculations showed him that RAF Fighter Command possessed no more than 300 serviceable fighters countrywide at 10:00 on 16th August. Added to this good news was the ninety-two British aircraft that the Luftwaffe had apparently definitely destroyed during its operations of 16th August. Fighter Command, according to Schmidt, was on its knees; now possessing just 208 Spitfires and Hurricanes on August 17th. Conclusion: The end of the line for RAF Fighter Command was thus in sight. Reichsmarschall Goring would doubtlessly be pleased with such

figures and victory for the Luftwaffe could not be long in coming.

By coincidence, at more or less the same time as Schmidt was writing off Fighter Command, Air Chief Marshall Dowding was taking stock of his position too. Dowding's problem was not, as Schmidt had evidently convinced himself, a shortage of aircraft. On 17th August, Dowding actually had a total of 1, 065 Hurricanes, Spitfires and Defiants on strength with over 450 more in reserve. Dowding's problem was a shortage of trained pilots to fly these aircraft and fight with them.

The serious drain imposed on pilot strength by the hectic fighting of the past few weeks had been recognised, but the Air Staff, despite Dowding's constant pleas, were reluctant to take pilots out of the light bomber squadrons and transfer them to Fighter Command, in case of invasion. On the evening of 17th August, a total of twenty-three pilots were grudgingly transferred from the army co-operation units and the light bomber squadrons, but these twenty-three would have to go on a short conversion course to learn how to fly fighters before they could be of any use to Dowding. Fighter Command had lost eight pilots killed in the day's fighting of 16th August alone.

Of course, casualties were not just confined to those pilots who were killed. Many more pilots were wounded in combat, some slightly, others grievously. Many of those in the latter category were burns victims. One drawback in the design of the British fighter aircraft was the placement of the reserve fuel tank directly in front of the cockpit. If a bullet pierced the tank, the high-octane aviation fuel it contained was apt to gush into the cockpit.

More than one lucky pilot either baled out or incredibly, switched off his engine and managed to glide his stricken fighter down to a relatively safe, wheels-up landing, after which he was extricated from his wrecked aircraft and although soaked to the skin in high-octane petrol, he nonetheless found himself miraculously alive to tell the story, thus reinforcing the age-old flying adage that "any landing you can walk away from is a good landing". But if it were an exploding 20mm cannon shell that hit the tank, then it would be blazing high-octane fuel that streamed into the cockpit, like a super-intense flame-thrower. Within seconds of such a cataclysmic event, the inside of the cockpit was transformed into an inferno. Even if the pilot inside managed to bale out successfully, he would be severely burned and in agony.

Most of those who survived such a horrific ordeal were transferred from the receiving hospitals to a specialist burns unit at the Queen Victoria Hospital at East Grinstead. Doctor Archibald MacIndoe, a pioneer of plastic surgery techniques, ran the unit. "Mac" as he was universally known, did not aim to give these young men back their youthful, dashing good looks. Most of the cases he saw were beyond such aims anyway. Mac's aim was simply to restore the basic functions of eyelids, noses, lips, fingers (where such could be saved), hands, arms, feet and legs. The surgical technique of skin grafting was also pioneered at his unit.

At first, there were some terrible, though sincerely meant, first aid measures that were administered to the screaming burns casualty. Some pilots who had crash-landed a burning aircraft and been caught in the flames, were smothered in either a Tannic acid cream, or worse, a substance called Gentian violet. Both formed a hard seal over the wound that not only sealed in the heat, but also any contamination such as dirt or the remnants of burnt clothing. Infection usually followed, if sheer agony or the shock didn't kill the patient first.

It was soon noticed however, that badly burned pilots who had come down in the sea fared much better. Soon, the first treatment a patient received at the burns unit became a cool saline

bath. This not only reduced the risk of infection, it took away the searing heat of the burnt tissue, gently cleansed the injuries and reduced the incidence of shock, too.

Once the patient's condition was stabilised, the assessment for reconstructive surgery could be made. For most cases, a long, arduous and extremely painful journey on the road to some sort of recovery lay ahead. It says much for the courage and fortitude of all involved, that some of these pilots returned to operational flying later in the war.

As all concerned were learning from the bitter experiences of these young men, they soon christened themselves "The Guinea Pig Club". There is even a club emblem, a Cavy with wings. It is a badge that, if you look very carefully, you can still find in existence today. It is always worn with a quiet dignity, and an unspoken pride.

One of the pilots badly burned in the previous day's fighting was Flight Lieutenant J. B. Nicholson, of 249 Squadron. Hit repeatedly by enemy cannon and machine gun fire, his Hurricane burst into flames. Despite being wounded by the enemy bullets and severely burned by the aviation fuel from his exploding fuel tank, Nicholson managed to shoot down a Messerschmitt 110 Zerstorer with his blazing aircraft before taking to his parachute. As if he hadn't suffered enough, he was further wounded by rifle fire from a trigger-happy member of the Home Guard as he floated back to earth. The Home Guardsman was obviously in the grip of parachute fever and consequently of the opinion that anyone who came down from the sky by parachute must be a German. Nicholson was subsequently awarded the Victoria Cross for his actions though peculiarly; he was the only Battle of Britain pilot to be so decorated.

In a slightly comical digression, since a Home Guard incident of sorts has just arisen, it was at about this time that Gunner Bill Reed, whom we last encountered on guard duty during July, marking his night round with glow-worms, came home to his native Warwickshire on a short leave. His unit was being trained for a planned invasion of Norway that would not actually occur, but being a member of the regular army, he used to assist his local Home Guard unit, the Radway, Ratley, Edge Hill and Upton platoon, with their training.

During this particular leave, when the aerial fighting was seemingly at its most intense, this platoon was called out in the dead of night. By all accounts, a German bomber had crash-landed near Edge Hill Woods, but not all of the downed bomber's crew were accounted for. The Home Guard was turned out to assist the Police in the search for the missing enemy airmen. What followed could well have made for a good episode of Dad's Army .

The platoon duly mustered at the village hall and being a regular soldier, Bill was asked by the platoon Sergeant to check the unit's rifles. He found the rifles were in good order, but the platoon appeared to have no ammunition for them! The man responsible for the safekeeping of the unit's ammunition had securely locked it in a strongbox in his shed, but had since mislaid both the shed and the strongbox keys.

Time was of the essence, so after much soul-searching and cursing, it was decided that the platoon would say nothing, fix bayonets and search Edge Hill woods anyway, in the hope that the missing Germans, if encountered, would think them armed and surrender without a fight; for nineteen year-old regular soldier Gunner Bill Reed, was the only armed man among them.

The Home Guard's all-night search of the woods proved uneventful. As luck would have it, the Police contingent of the search parties found the two missing airmen in the early hours of the next morning. Tired and hungry after their night in the woods, the two fugitives had indeed surrendered without resistance to the six armed Police officers who found them and they were

only too happy to accept free transport to the Police station followed by a hot meal. The Home Guard platoon returned to the village hall and Bill Reed returned to his regular unit two days later, with an amusing story to tell his comrades.

As Dowding pondered the problem of pilot shortage, Sunday 18th August dawned. This day ultimately proved to be the hardest day of the Battle of Britain. The Luftwaffe, spurred by Schmidt's wildly optimistic intelligence evaluation, made it a day of titanic effort against Fighter Command. However, once again the Luftwaffe's target selection was as flawed as their evaluation of their enemy's strength, and Fighter Command once more rose to the challenge.

Massed formations again attacked airfields in the south and southeast of England, though as ever, not all of the airfields that were attacked belonged to Fighter Command. However, two of the day's first targets were the important fighter stations of Kenley and its near neighbour, Biggin Hill. Both Kenley and Biggin Hill were sector command stations.

I am not going to examine this day's events in great detail, purely because "The Hardest Day" also happens to be the title of an excellent book by Alfred Price, and one that examines the events of 18th August in fantastic detail. From the point of view of this book though, there are a couple of incidents that are worth singling out. The first is the low-level German attack on Kenley aerodrome, purely because it illustrates the effectiveness of the strengthened airfield defences outlined earlier in this book, very graphically. The second incident I have chosen from that day of course involves 501 Squadron from Gravesend.

The planned raid on Kenley was imaginative; bold and daring to say the least, and had the timing of the three elements of the planned attack not gone slightly askew; Kenley aerodrome would doubtlessly have been left as a scene of severe damage, if not temporary devastation. But events would soon show the truth behind the old adage that it is often the unexpected that ruins the best-laid plans of mice and men.

KG76 were detailed for the Kenley raid and they planned the first element of their assault as a combined dive-bombing and high altitude attack. This was to have been followed immediately by a third, specialist part of their unit, making a surprise low-level attack. The raid on Kenley was also timed to occur as near simultaneously as possible, with KG1's attack on neighbouring Biggin Hill. This, it was hoped, would split the defenders' forces nicely.

The attack was originally scheduled for the early part of the morning, but the weather over England was too hazy, so the raid was postponed till lunchtime. At the re-scheduled hour, sixty Heinkel 111's from KG1 took off to pick up their fighter escort, then they headed for Biggin Hill. The high-level force of Dornier 17's from KG76 and the dive-bombing Junkers 88's also from KG76, had trouble finding their escorts and had to orbit, causing them all to be delayed. The unescorted low-level raiders of KG76 left exactly on time. Once again, because the Luftwaffe possessed no system of ground control or intercommunications, there was no way of delaying or warning the nine Dornier 17's of the third, low-level wave.

By an amazing feat of navigation, the nine low-level raiders arrived over Kenley exactly on time. Furthermore, RDF hadn't picked them up during their wave-top flight across the channel. It was the Observer Corps post on top of Beachy Head that saw them first. Once the defences had been alerted however, the writing was on the wall for the low-fliers.

The timing of the raids was paramount to the low-fliers. The idea was to have split the defenders between the high-altitude and the dive-bombing attacks, leaving the low-fliers to plaster Kenley and finish off anything of value that remained after the first and second wave

attacks. Now, the delays incurred by the first two waves meant that the low-fliers arrived first and with the aerodrome's defences fully expecting them. Furthermore, thanks to accurate plotting by the Observer Corps posts along the bombers' route, the gunners at Kenley even knew how many raiders were coming for them, at what height and from which direction they would appear.

At 13:22, the nine low-flying Dorniers streaked over the boundary fence at Kenley, already being hotly pursued by the Hurricanes of 111 Squadron, who had been scrambled from nearby Croydon aerodrome. As Kenley's strengthened ground defences opened up with a deadly combination of 40mm Bofors guns, light machine guns and 3-inch artillery pieces, one of the pursuing Hurricanes was hit and crashed, killing its pilot. The remaining Hurricanes pulled up sharply and broke away from the concentrated fire that was coming up from Kenley's defences.

Also caught in the crossfire was the Dornier leading the extreme left-hand section of the German formation. It is possible that this aircraft had already been hit by one of 111 Squadron's Hurricanes, as it made its run across Kenley somewhat out of formation. Whatever the reason, it was singled out by some of the defenders and raked with gunfire. The stricken aircraft caught fire but did not crash immediately. A far worse fate awaited the crew of that particular aircraft, which had only a few seconds more to live.

The bombers sped low over Kenley and released their loads. Three hangars collapsed under the explosions and a barracks block was also hit. As the German aircraft approached the airfield's northeastern boundary, the Aircraftsman in charge of the station's PAC batteries pressed his firing buttons. The devices functioned perfectly, leaving a vertical grid of smoke-trails, each one of which concealed a steel cable. The Dornier that was already on fire flew straight into the hanging cables and as the parachutes at either end of the wire deployed, the blazing bomber was literally stopped dead in mid-air. Plucked from the air, it hit the ground in a fireball, from which there were no survivors.

The crews of the other two German aircraft in that section of the attack formation were horrified by the spectacle and turned steeply away from the smoke trails. One of them also struck an airborne cable but because the speeding aircraft was banking, the cable scraped along the leading edge of the bomber's wing, causing only light damage and slid off before the bottom parachute could deploy, thus sparing the aircraft's occupants the same fate as their comrades.

As the lead aircraft of the German formation, commanded by Hauptmann Roth, also took action to avoid the mysterious, but clearly lethal smoke-trails, the relentless ground fire took its toll on his aircraft. His Dornier was hit squarely in the port wing, near to the engine, by a 40mm Bofors shell. The exploding shell tore a huge hole in the wing and also ruptured the port side fuel tank. As the fuel streamed out, it caught fire. The pilot, Oberleutnant Lamberty, shut down the port engine and held the blazing aircraft low, in a desperate attempt to avoid any further damage, but it was immediately obvious that the stricken Dornier would never make it home. Lamberty managed to steer the burning aircraft to a successful crash-landing at Leaves Green, just beyond RAF Biggin Hill. By the time the blazing bomber came down, most of the crew had suffered serious burns.

As soon as the remaining Dorniers were clear of Kenley, the waiting Hurricanes of 111 Squadron pounced on them again; just as the bombs from the late arriving high-level raiders came raining down on the airfield. Two more of the low-level raiders were badly damaged before 111 Squadron had to break off their frantic pursuit. The bombing by the late arriving

formations was inaccurate due to the smoke already rising from Kenley.

Of the nine Dorniers that had attempted the low-level attack on Kenley; four were brought down by a deadly combination of fighters and ground defences, whilst the five aircraft that did make it back to France all bore the scars of their mission. Every one of the five surviving aircraft was damaged, two seriously. Eight German airmen had been killed, five were now prisoners of war and three were wounded, one seriously. The Germans had paid a heavy price for the raid on Kenley; a raid that, for all the effort involved, had manifestly failed to knock out the station.

The second incident I have chosen to note is one that cost the defenders dearly, purely through poor flying tactics. Flying in a "Free-hunt" ahead of the late high-level bombers that were bound for Kenley and Biggin Hill, were the Messerschmitt 109's of the third Gruppe (group) of JG26, led by Oberleutnant Gerhard Schopfel, who was in temporary command whilst Adolf Galland, the legendary German fighter ace who normally commanded that unit, was in Berlin. Also flying with III/JG26 was an element of JG3, so that Schopfel was leading a hunting pack of about forty 109's.

At a little after 13:00 Schopfel's hunting pack crossed the English coast into Kent between Sandwich and Deal, seeking to do battle with the RAF fighters that would inevitably be detailed to intercept the incoming German bomber formations.

Meanwhile, the twelve hurricanes of 501 Squadron were at that time near Ashford, on their way back to Gravesend from their forward base at Hawkinge. The pilots of 501 were in a happy frame of mind, as upon their return to Gravesend the squadron would be released for a rare and well-earned afternoon off. No doubt the thought of a well-deserved pint or two of foaming ale in the convivial atmosphere of paraThe White Hart, a stone's throw from the airfield at Chalk, on the main Gravesend-Rochester road and the regular pub for the pilots stationed at Gravesend, was being entertained in the pilots' minds. However, unbeknown to the happy Hurricane pilots, the vast armada of inbound German aircraft was about to put paid to that idea.

The sector controller interrupted their reverie when he called them up and ordered them to climb to "Angels twenty" (Twenty Thousand feet) and patrol Canterbury. Eight further squadrons were already being scrambled to join them.

Fifteen minutes later, as 501 Squadron were cursing their luck and climbing in a wide spiral over Canterbury, they were blissfully unaware of the forty 109's high above them; but Schopfel had seen the climbing Hurricanes. Schopfel quickly realised that luck was on his side. The Hurricanes were keenly concentrating on keeping their rigid formation (four sections of three aircraft) whilst climbing and clearly had not, or perhaps could not; see the German fighters high above them. Schopfel was perhaps vainglorious enough to have also realised that under such opportune conditions, a "Lone Wolf" would achieve total surprise, where a pack of forty would certainly be spotted.

Schopfel ordered the rest of his formation to remain high and cover him whilst he alone went down to attack the English fighters. Taking great care to keep the sun behind him, Schopfel stalked his prey and successfully slipped unseen behind the two tail-weavers of the English formation, the Hurricanes of Pilot Officer Kenneth Lee and Pilot Officer F. Kozlowski. With two well-aimed bursts of cannon fire, the stealthy Schopfel sent the pair of them spinning earthward. Both pilots baled out, wounded.

As Kenneth Lee baled out of his mortally wounded Hurricane, he put into action a private plan

that he'd been formulating for some time. He'd heard of incidents where German fighter pilots had deliberately machine-gunned British pilots as they descended on their parachute. He had decided some while ago that this would never be his fate. He knew that his altitude was about 17,000 feet when he'd baled out. He also had a rough idea that he would fall at a rate of about 1,000 feet per six seconds. In a monumental display of self-discipline, he used the stop watch he'd taken to carrying, to time sixty-six seconds during his deliberate, but totally uncontrolled free-fall. Only then did he pull the ripcord of his parachute.

Still oblivious to Schopfel's presence at the rear of their immaculate formation, the remaining ten Hurricanes of 501 Squadron continued climbing. Within two minutes of dispatching the first pair, Schopfel shot down another Hurricane in flames from the rear of the formation: that piloted by Sergeant D. McKay.

As 501 Squadron had still unbelievably not detected the loss of their three comrades, Schopfel closed in on the Hurricane flown by Pilot Officer John Wellburn Bland. This time, he pushed his luck a little too far. As Schopfel's bullets and cannon shells tore into Bland's Hurricane, pieces of debris flew backwards and hit the Messerschmitt's propeller. Oil began to cover Schopfel's windscreen as Bland's stricken Hurricane caught fire. Schopfel quickly dived away from the scene and headed back to France, where he successfully landed his damaged fighter. John Bland was not so fortunate.

As Schopfel made for the safety of the French coast and Bland's Hurricane fell to earth, the rest of the German hunting pack descended on the remains of 501 Squadron and a dogfight ensued. As the battle moved ever nearer to the bombers' objectives, the Hurricane of Flying Officer Bob Dafforn also fell victim to one of Schopfel's pack members, though Dafforn safely baled out before his Hurricane crashed at Cronks Farm, near Sevenoaks, shortly after John Bland's Hurricane crashed.

By exploiting the rigid peacetime tactics that the RAF fighter squadrons still insisted on using, the Machiavellian Schopfel had been able to shoot down four Hurricanes in something less than six minutes. Those same six minutes had seen two of 501 Squadron's pilots wounded: Pilot Officer Kozlowski and Pilot Officer Kenneth Lee. Sergeant McKay baled out intact, though with minor burns, whilst thirty-year-old Pilot Officer John Wellburn Bland was killed, as he was still strapped into the cockpit of his burning Hurricane when it hit the ground at Callcott Hill, near Sturry.

Incidentally, Kozlowski's Hurricane, P3815, crashed at Rayham's Farm, near Whitstable and the crash site was the subject of a major excavation by The London Air Museum in the mid-to-late 1970's. The engine, propeller boss and most of the cockpit were recovered and put on display in the museum. It made for one of the museum's largest displays as the instrument panel, rudder bar, joystick, parts of the pilot's harness, throttle lever, maps and even the remains of a Daily Express newspaper were all recovered.

However, to return to 18th August 1940: John Bland wasn't the only loss 501 Squadron were to suffer that day. In a later engagement, Flight Lieutenant George Stoney, a very experienced Flight Commander, was shot down and killed by an equally experienced German fighter pilot; Hauptmann Josef Fozo, StaffelKapitan (Squadron Leader) of 4/JG51.

Stoney had been leading his section into the attack against a massive formation of inbound bombers. Fozo later recalled how the German escorts had successfully blocked the initial attempt that the Hurricanes made at getting to the bombers, except for this one Englishman,

who'd got through. Although admiring the Englishman's undoubted bravery, Fozo's job was to prevent this lone Hurricane from attacking the bombers in his charge. Fozo pounced on Stoney's Hurricane and with a lethal burst of cannon and machine gun fire, sent him plummeting toward earth.

Twenty-nine year-old George Stoney and his Hurricane crashed at Stile Farm, Chilham; but it wasn't such a one-sided engagement, as 501's Flying Officer Stefan Witorzenc and Pilot Officer Pawel Zenker each dispatched a Messerschmitt 109 of II/JG51 into the muddy waters of the Thames Estuary just after Stoney was shot down. Both German pilots were killed, one being Hauptmann Horst Tietzen, a leading Luftwaffe fighter pilot; the other was his wingman, Leutnant Hans-Otto Lessing.

Lessing had once expressed his admiration for the quality of the RAF's Spitfires and the men who flew them, but he dismissed the Hurricane as being already outdated. Now, rather ironically, he was the ultimate victim of his own contemptuous attitude toward that aircraft. One can only imagine how crestfallen this rather arrogant young German might have felt, if he'd known that the pilot who'd bested him and administered the fatal blow wasn't even English, but Polish, and as such, a member of an already beaten nation in German eyes.

So ended "the hardest day", and it was certainly a black day for 501 Squadron. It was a day that had seen titanic efforts made by both sides. A day that had cost the Luftwaffe a total of sixty-nine aircraft destroyed and a further thirty-one that were damaged but repairable. RAF Fighter Command had lost thirty-nine aircraft, five of which came from 501 Squadron alone, whilst another thirty-four were damaged but repairable. Only eight RAF fighters had been destroyed on the ground, which given the massive efforts the Luftwaffe had made against the RAF's airfields, was surprisingly few. This is probably due to the fact that the vast majority of the RAF's fighters were in the air, fighting. Another factor was again undoubtedly poor target selection by the Luftwaffe. Not included in the RAF losses mentioned above are the sixty-two aircraft of "other types" that were lost. These were aircraft that did not belong to Fighter Command, or that were lost or badly damaged in raids on aerodromes that were not fighter stations; such as the naval bases at Ford, Gosport and Thorney Island, or the Coastal Command bases at Detling and Eastchurch.

501 Squadron had only been at Gravesend for a few weeks, but the enormous strain of the fighting was already beginning to tell on the young faces of the pilots. It may have been the best medicine, but any laughter among the pilots now was often strained and many of these young men were consuming far more cigarettes per day than they used to. They were increasingly living on their nerves. This is where the Gravesend locals stepped in.

The amiable Landlord of paraThe White Hart was Daniel Pryor, who provided the pilots with a special room called paraDaniel's Den, which was in fact one end of the pub's cellar. If the pilots wanted to remain there after closing time, paraDaniel's Den never closed till they were ready to go. There was even an air raid alarm wired directly from the airfield to the pub, to warn the pilots. Foaming pints of English Ale, noisy games of Darts or just boisterous horseplay were not the only forms of therapy the Den offered. There were some young local girls who were woman enough to understand the stress these boys were under, and compassionate enough to realise that what these boys sometimes badly needed more than anything else, was the kind of physical release that only a woman can provide. Above all, these girls were discreet in their ministrations too. Although nothing was ever said aloud about it, there were people on the outside who noticed that certain young local girls, despite the rationing, never seemed to be without silk stockings or chocolate for some reason!

One such girl, who for obvious personal reasons asked me not to name her, (I've called her Faith, as it bears no resemblance to her real name whatsoever), was a nineteen year-old at the time who worked in the NAAFI at RAF Gravesend, just as the air battle really started to heat up. Over the weeks, Faith saw the daily lives of the young fighter pilots. She saw them nervously waiting for the telephone to ring, saw them run to their aircraft and take off. She saw them after they landed; drained, shaken, exalted, exhausted and in some cases, wounded. Faith also saw who didn't return, and the effect these losses steadily had on those who'd been lucky enough to survive another air battle, but who knew that it could easily be them next time. Put simply, her own young heart went out to them. Consequently, she and some of her like-minded friends were regularly with the pilots at paraDaniel's Den and in fact, she married a fighter pilot later in the war.

Faith told me how the girls would watch the boys as they socialised with them, endeavouring to spot those who were showing signs of the relentless stress they were under. It didn't take long to detect the symptoms: a slight tic, odd nervous habits, a shaky hand using a cigarette lighter, or one who having downed his drink just that bit faster than usual, ordered another one straightaway. Faith told me how, having spotted her intended "welfare case", her usual technique was to latch on to the individual whilst appearing to be with the group he was in, then she'd gradually ease him away, taking him to somewhere she knew they could be quite alone together. Sometimes they'd return almost surreptitiously to paraDaniel's Den afterwards, "depending on what the urgency factor had been like", as she put it!

The reason why Faith expressly didn't want to be named was that at the time I interviewed her, she and her husband were still married and living together. Faith's husband had absolutely no idea as to the true extent of her "war work", as she called it, and frankly, she wanted it kept that way. I was always taught to respect a lady's wishes.

The next few days saw the weather deteriorate. Low cloud hampered the Luftwaffe's operations and for the most part, only isolated raids came through. It was perhaps just as well, as "the hardest day" had left both sides exhausted. Seemingly perhaps as a diversion, a new film called Gasbags was doing the rounds at the cinemas. Starring the ever-popular Will Hay and the rest of The Krazy Gang, it was a comedy of errors in the very best tradition of British film comedies. As it's title suggests, the story centred on the antics of the largely inept crew of a barrage balloon unit. The film was probably the inspiration for a particular episode of Dad's Army twenty-nine years later, in 1969, called The Day the Balloon Went Up.

On August 20th 1940, Prime Minister Winston Churchill stood up in the House of Commons and made another of his immortal speeches. Praising the efforts of the RAF's "Fighter boys" he stated that:

The gratitude of every home in our island, in our Empire, and indeed throughout the world, except in the abodes of the guilty, goes out to the British airmen who, undaunted by odds, unwearied in their constant challenge and mortal danger, are turning the tide of the world war by their prowess and their devotion. Never in the field of Human conflict, was so much owed, by so many, to so few."

On hearing these words, there were some RAF fighter pilots who reputedly remarked with their own peculiar brand of humour, that Churchill was probably alluding to their mess bills, whilst others looked around them and observed that there were indeed a lot fewer of their number than there had been of late.

It was at this time that young medical student and Home Guardsman James Jenman was on a two-week summer camp at a farm in West Tytherley, near Stockbridge, Hampshire. Nearby was the RAF fighter station at Middle Wallop.

James recalled that they were working in the fields this day, carting sheaves of wheat to the stacking yard in preparation for threshing. The large, heavy farm cart was drawn by two equally large and heavy Clydesdale horses. As they were loading, a raid was taking place on the aerodrome. They were in no immediate danger, so they carried on working. That was until a lone Dornier bomber, retreating from the raid, flew toward them at low-level, spraying machine gun bullets. The farmer ordered them to shelter under the cart, though the level of protection that would be afforded by such action was questionable in James' opinion. As everyone scrambled under the cart, James felt strangely compelled to stay with the horses, trying to keep them calm.

As the marauding bomber sped low overhead, James instinctively ducked, but tenaciously he held onto the horses. It was then that he noticed a lone British plane determinedly chasing the fleeing foe. The singleton fighter opened fire on the bomber as it passed over the cart and James watched as the bomber was shot down and crashed just two fields or so away. The victorious British machine then returned to perform a victory roll over the still stationary farm cart.

As the others emerged from hiding under the cart, the farmer started shouting at James for remaining out in the open with the horses. As James pointed out to him, he hadn't done it out of bravery: apart from the obvious fact that if the horses had bolted, everyone sheltering under the cart would have been run over and crushed by it, the real reason James had stayed put was that one of the colossal Clydesdale horses was standing resolutely on his foot!

On 24th August, the weather cleared. Once more, the fighter station at Manston was the target of repeated German raids. The morning raid had seen German fighters take a toll on 264 Squadron's Defiants. The lunchtime raid saw 264's remaining Defiants taking off from Manston just before the bombs started raining down again. The Defiants had only narrowly avoided being caught on the ground. One Defiant was hit by return fire as it attacked one of the German bombers and was forced to land, though the crew were unhurt. Three other Defiants and their crews, including the squadron commander, were not so lucky. The last action of the day for 264 Squadron saw the remains of the unit further decimated by Messerschmitt 109's as the Defiants tried to shoot down the Heinkel 111's that the 109's were escorting.

The fierce fighting of August 24th had once again highlighted the Defiant's total unsuitability for day fighting, as well as Manston's extreme vulnerability. At the day's end, 264 Squadron had just two serviceable aircraft left. Thereafter, the Defiant was totally withdrawn from daylight operations. Given also the utter devastation that the raids had wrought at Manston, the decision was reluctantly taken to evacuate the base. In the space of that one fateful day, Manston had gone from being a front line forward fighter station, to being a place declared suitable only for emergency landings, for the foreseeable future.

Manston wasn't the only notable loss sustained that day. After becoming embroiled with a small formation of Dornier 17's and the 109's that were escorting them, 501 Squadron lost another of their Polish pilots. When the German formation broke up after 501's initial attack, Pilot Officer Pawel Zenker was last seen pursuing a retreating German aircraft out to sea. Determined, in true Polish style, that the German machine would not escape him, Zenker ignored his Flight Commander's repeated order to break off his engagement. Chasing enemy

aircraft across the Channel toward France was strictly against standing orders, and with good reason. Neither the fiercely determined twenty-five year-old Pole or Hurricane P3141, were ever seen again.

Five days later, on August 29th, 501 Squadron almost lost another pilot; Sergeant Pilot Bill Green. The day had been one of low cloud and Green thought it unlikely they'd see any action that day. Unfortunately, he was wrong. 501 were scrambled and ordered to climb up through the cloud and head south-east toward an inbound raid. As the Hurricanes emerged from the cloud layer, the two-tone green and brown of the Hurricanes' camouflage scheme meant they were perfectly silhouetted against the whitish-grey of the clouds, whereas the pale blue undersides of the free-hunting Me109's flying above them, meant that the German fighters were almost perfectly camouflaged in the brilliant blue sky. The Germans spotted the Hurricanes easily and dived down to mix it.

Sergeant Green was completely unaware of the Germans' presence until bullets and cannon shells hit his engine and shattered the armoured glass of his front windscreen, wounding him in the leg. Luckily for Bill Green, it was hot Glycol, not blazing petrol that was now gushing into his cockpit. Shocked, Bill realised his hurricane was doomed and so would he be if he didn't bale out, pronto. He slid back his cockpit canopy, undid his straps then rolled the stricken Hurricane onto its back and fell out, tumbling away from the doomed fighter.

As he tumbled head over heels, the windrush tore his flying boots off his feet.

He reached for the ripcord of his parachute and pulled the D-ring. Nothing much happened. The drogue chute came out, but the main chute failed to deploy. Sergeant Bill Green, at twenty three years of age, was now heading straight for the ground at 203 feet per second. Any luck he may have thought he'd had in getting out of the doomed Hurricane now seemed to have deserted him. Bill was horribly convinced that he was about to die.

At a height of not much more than 200 feet, Bill's luck unexpectedly returned. His parachute suddenly decided to work after all. Bill floated down to a soft landing in a cow field in the Elham valley; bootless, shaken and very, very lucky to be alive. The bullet wound in his leg precluded any further participation in the Battle of Britain on Bill's part.

As if the aerial struggle itself wasn't bitter enough, the last part of August also saw another bitter conflict coming to a head. Regrettably, this was a clash between two of the most senior officers in Fighter Command: Air Vice Marshall Keith Park and Air Vice Marshall Trafford Leigh-Mallory, the commander of 12 Group.

As the Luftwaffe were targeting 11 Group's fighter stations, Park frequently found that all of his forces were committed to intercepting the inbound raiders. Consequently, he often had little or nothing in reserve with which to directly protect his own airfields. He had therefore on a number of occasions, requested cover from his neighbouring Groups. On every occasion that he'd requested help from Air Vice Marshal Brand, the commander of 10 Group to Park's west, he'd received it; promptly, and at the height and location specified. Sadly, it was often not the case when assistance was requested of Air Vice Marshall Trafford Leigh-Mallory's 12 Group, just to Park's north.

Leigh-Mallory was a frustrated man. Realising before the war that the newly-created Fighter Command's 11 group would bear the brunt of any action, he'd desired command of it. Instead, he watched as the command he so keenly sought was given to Keith Park. If that hadn't been bad enough, he was now seemingly being kept in reserve, champing at the bit whilst the battle

raged just south of him. In conjunction with Squadron Leader Douglas Bader, the famous legless pilot portrayed by Kenneth More in the post-war film Reach for the sky, he'd been trying to develop "big wing" tactics.

A big wing was made up of three or more squadrons, just like the "flying circuses" of the First World War. Like those earlier flying circuses, such formations were best suited to offensive actions such as fighter sweeps, as they took a lot of time to assemble, gain sufficient height and then head to where they were needed. But time; in the purely defensive situation that Fighter Command was then facing, was the one precious commodity that they really didn't have much of. By the time a big wing was airborne from Duxford in Cambridgeshire, the Luftwaffe had already hit Park's airfields and were turning for home, so that by the time the Duxford wing finally arrived at the airfield they were supposed to be protecting, the damage was already done and the raiders had fled.

But Leigh-Mallory badly wanted to see action and so did Bader. Unfortunately, as Bader had been invalided out of the peacetime RAF after the bravado-induced crash that had cost him his legs in 1931, he had not been involved with the service at the time that Dowding had taken over and built from scratch the radical system of defence that was now being used against the German onslaught.

Though he'd subsequently been able to rejoin the RAF and now commanded a Hurricane squadron in 12 Group, tactically, Bader; like Reichsmarschall Goring (though Bader personally would have hated the comparison) still thought in terms of the Western Front during the Great War. He still expounded the tactics of the Great War aces; men like Albert Ball, Billy Bishop, and Mick Mannock or even at a pinch, the Red Baron. But the late Red Baron, with his vermilion Fokker Triplane, no longer led the "Richtofen Circus", an outfit whose primary role in 1918 was purely offensive in any case. Though in 1940, there was a Luftwaffe fighter unit, JG 1, that bore Richtofen's legendary name, and like the old Richtofen Circus of 1918, their role was primarily offensive, too; namely flying free-hunting fighter sweeps, ahead of the inbound bombers.

Fighter Command's role in the summer of 1940 was purely defensive, the very situation that Dowding's system had been specifically engineered to face. Unfortunately, that was a simple fact that Leigh-Mallory and Bader were endlessly disposed to overlook whenever either man was called upon to voice a tactical opinion; but for Leigh-Mallory's purposes, the dogmatic and renowned Bader was certainly a handy man to have around.

Understandably, Park was greatly angered by this continuing display of individualism on the part of the 12 Group Commander. As far as he was concerned, Fighter Command was supposed to be a team: a team fighting a crucial defensive action: a battle for survival. This was neither the time nor the place for mavericks like Leigh-Mallory and Bader and certainly no time to experiment with unsuitable tactics. Not when his airfields were being pounded to pieces.

As far as Dowding was concerned, Park and Leigh-Mallory shouldn't have been at loggerheads, as they undoubtedly were. This simply wasn't the time or place for that either; there was far too much at stake. He told them both that Fighter Command was fighting a desperate struggle and that the RAF was in fact only just holding its own against the Germans. He told them that what was sorely needed were not tactical arguments but more pilots, and perhaps a miracle.

Without a doubt, Dowding should certainly also have told Leigh-Mallory that he knew perfectly well what the orders were and that he should comply with them, whatever his own personal feelings on the subject of tactics were. Unfortunately he didn't, and so the rancour between

Park and Leigh-Mallory thus continued, though somewhat more quietly.

If such a thing was deemed possible, the air fighting also became even more bitter and frantic from that day on. The Luftwaffe's attacks were quite literally relentless as they were of course indulging in night operations against industrial targets in England, too. By night, Fighter Command was virtually powerless to stop the German attacks, though they certainly tried and even had the odd success; but night interceptions were rare indeed. No specialist night-fighter squadrons existed as yet.

But it was one of these night operations that ultimately turned the Battle of Britain. On the night of August 25th, an accident happened: an accident that was to have a decisive effect upon the whole conflict, though neither side knew it at the time. Purely due to a navigational error, German bombs were dropped on London. Dowding and Park, and even Leigh-Mallory, were about to get their respective miracles.

Chapter Eight

September 1940: Turning Point

At first, the only noticeable change as August gave way to September, was in the English landscape. The ripening crops on the farms had gradually turned the face of the southern counties, over which the battle was being fought, from a rich green to a golden-yellow. There was no immediate change in the way the great air battle was being fought, though. The tempo of the German attacks against Fighter Command was every bit as furious as it had been throughout the preceding two months. But the Germans, and the Swallows, were growing restless. As Harvest time arrived, both knew that the weather would not last for that much longer. Time was now pressing.

In retribution for the perceived night attack on London that had happened by accident on the night of August 25th, Prime Minister Winston Churchill had authorised RAF Bomber Command to retaliate with raids on Berlin. Although the nightly raids did little material damage to Berlin, they did enormous damage to Nazi pride. The rotund Reichsmarschall had once publicly boasted that if ever an enemy bomb fell on Berlin, the people of the city could call him "paraMeier"; which given the extremely racist nature of the Nazi regime, was undoubtedly an anti-Semitic jibe. The trouble for both Goring and Hitler was that after the first of the British raids on the German capital, many of Berlin's citizens were taking up Herman's offer, publicly.

As it became clear to Hitler that these British intrusions were not simply a "one-off" occurrence, he took an unprecedented step. In a vitriolic speech in the Reichstag, (the German Parliament) he promised the horror-struck Berliners that reprisal raids on British cities would be made. "If they bomb our cities," he screamed, "we will wipe theirs out!"

Meanwhile, the daylight air assault on Britain continued, and that first week of September seemed harder than ever. On Monday 2nd September, the Luftwaffe's targets were once again RAF fighter stations. That morning, a replacement pilot, Flying Officer Arthur Rose-Price, brother of the well-known British actor, Dennis Price, joined 501 Squadron at Gravesend. He just had time to register his presence and be assigned a Hurricane before he was called to take part in the squadron's first action of the day. However, in what was now a typical sign of the hectic struggle that was facing the RAF's fighter pilots, Arthur did not survive the squadron's second patrol in the afternoon. Though he was an experienced fighter pilot, the twenty-one year-old died flying Hurricane L1578 in combat with Messerschmitt 109's over Dungeness at about 16:30. He hadn't even finished unpacking his kit.

Although the Luftwaffe's intended targets that day were main fighter stations such as Biggin Hill, Kenley and North Weald, non-fighter stations such as Detling and Eastchurch were also attacked again. Though targets such as the latter two airfields still did nothing to further the Luftwaffe's main aim, they still had to be defended by the RAF.

Monday 2nd September also saw the first German attack on RAF Gravesend. It wasn't that the Luftwaffe had singled out Gravesend at last, merely that the commander of a straggling German bomber had noticed an airfield under him and dropped two High Explosive bombs on it as he passed over. The two bombs did no material damage to the airfield, but two soldiers on perimeter defence duties were killed.

The Luftwaffe lost a total of thirty-five aircraft that day. Fighter Command had lost thirty-one, with eight pilots dead and seven wounded. The strain was enormous and the gap in the two sides loss figures was narrowing.

The next day was little different. At 10:30 on the morning of Tuesday 3rd September over the Kent village of Chart Sutton, near Maidstone, the usual sounds of cannon and machine gun fire from another dogfight high in the heavens were heard. Then came the other sound; a high-pitched screaming, as a blazing Hurricane plunged toward the earth out of the summer sky, a long plume of black smoke marking its descent. Farm workers and others watched in horror, as the stricken fighter looked set to crash onto the village school, where classes of local children were in attendance. But at almost the last moment, the doomed fighter was seen to veer sharply away and to then crash in flames on the edge of the apple orchard at nearby Parkhouse Farm. The unfortunate pilot was obviously still at the controls.

The force of the crash was so great that identification of the pilot and aircraft seemed virtually impossible at the time, though in typically British fashion, a sharp-eyed local Police Officer had managed to note the aircraft's serial number and the crash was reported to the Hollingbourne district ARP office. Despite this, it would be another forty-five years before the identity of this self-sacrificing pilot would even be guessed at and a further five years before it was unofficially confirmed. Until then, he would simply be one of the increasing number of unsung heroes; young pilots who were simply posted as "missing, presumed killed in action" as the Weald of Kent continued to be both a witness to, and a graveyard of, the great aerial struggle.

For the British, there appeared to be no let-up in the ferocity of the German hammer-blows: no end in sight. On 4th September, RAF Gravesend was the intended target of two German raids. Perhaps the Luftwaffe thought that all the bombs they'd so far dropped on "RAF Cliffe" had finally put that airfield out of action and that the RAF had set up another base nearby. Perhaps the Germans had hitherto not even realised that there was a fighter station at Gravesend. Either way, Gravesend was most definitely on the Luftwaffe's target list for this day.

The first raid was broken up and turned back by determined British fighter attacks, but the Germans' second attempt got through. The force of Heinkel 111's reached the airfield and released their deadly loads. Bombs rained down, ploughing up vast amounts of earth and leaving large craters in the ground on the eastern side of Thong Lane. By a miracle, the airfield, situated as it was wholly on the western side of the road, was untouched by a single bomb, but the farmer whose property had now been extensively re-landscaped, probably wasn't too happy about it. The results of the Luftwaffe's landscape gardening efforts can still be seen in those fields today, behind the "Cascades" Leisure Centre and south-eastwards up the sloping ground to Randall Woods.

On 5th September at 15:10 hours, the Luftwaffe was near Gravesend again. The gunners of 166 Battery, 53 (City of London) Heavy Anti-Aircraft Regiment, observed twelve Heinkels north of their site, position S9, near Chattenden, Rochester; flying east at an estimated height of 19,000 ft but sadly beyond the range of their guns. The Thameshaven oil storage tanks on the Essex bank of the Thames, always a tempting target, were the bombers' objective.

Their counterparts of 159 Battery based at Allhallows, logged that at 15:12 hours their four 4.5 inch guns engaged the same twelve Heinkels northwest of their position. Upon engagement by 159 Battery, the raiders' quickly climbed from 19,500 feet to 21,000 in an attempt to avoid being caught in the crossfire of the intense barrage being put up by the Essex gunners as well as those at Allhallows. However, the twelve German bombers made only a fleeting attack and were soon clear of Thameshaven and on their way home.

The Luftwaffe's main plan that afternoon had been for a converging attack on the Naval Dockyard at Chatham, but their planned attack went awry due to the determined intervention

of the RAF's fighters, so some of the scattered attackers therefore raided Thameshaven as a purely secondary target. Shortly after the twelve Heinkel 111's from KG26 departed Thameshaven, some residual Dorniers escorted by Messerschmitt 109's and already being harried by the Spitfires of 41 Squadron, also dropped bombs on Thameshaven, causing small fires in two places before they too, turned for home. The guns of 159 Battery at Allhallows were soon ordered to cease fire as the Spitfires of 66(F) Squadron, up from Kenley, arrived to help their 41 Squadron colleagues.

There then followed a widespread and fierce dogfight over the Hoo Peninsula as the Hurricanes of 73 Squadron also arrived on the scene to enter the fray and the German fighter escorts fought desperately to cover the bombers' retreat. During this period several aircraft of both sides were hit and seen to crash.

Among the first to fall was a Messerschmitt 109 distinctively marked with white wingtips, (possibly that flown by Leutnant Deutsch from 7/JG53, who incidentally, is still posted as missing), that was shot down by Pilot Officer George Bennions of 41 Squadron. The aircraft crashed on the tidal mudflats of the River Medway at Kingsnorth, opposite Gillingham and was quickly swallowed by the swamp-like ooze.

As the aerial battle continued two of 66(F) Squadron's Spitfires were shot down by German fighters and crashed, the first at 16:00 hours off Hoo Ness (Kingsnorth). The pilot, Flying Officer Peter King, was killed owing to parachute failure. The other 66(F) Squadron Spitfire crashed in the River Medway near Upnor, less than five minutes later. Flight Lieutenant G P Christie baled out, landed in the river, and was picked up by a Royal Navy launch from the dockyard at Chatham. Christie had in fact been wounded and was subsequently admitted to the Royal Navy Hospital at Gillingham.

Two of 41 Squadron's Spitfires collided head-on during the combat, killing both pilots: Squadron Leader "Robin" Hood and the Squadron's 'B' Flight Commander: Flight Lieutenant Terry Webster. Pilot Officer Wallens was forced to bale out with leg wounds after shooting down a Messerschmitt 109. Pilot Officer Lock returned to base at Hornchurch where he safely landed with a battle damaged aircraft and a minor leg wound. Lock had succeeded in shooting down two of the German bombers before one of the escorting fighters damaged his aircraft and wounded his leg. His Spitfire was repaired overnight and Lock was in action with the same aircraft and a bandaged leg the following day. Another 41 Squadron pilot, Flying Officer Tony Lovell, managed to bale out of his stricken Spitfire before it crashed into the sea after he too was shot down by one of the escorting German fighters. He was picked up soaking wet but otherwise unhurt.

At about 18:00 hrs, the Luftwaffe decided to carry out an attack specifically aimed at Thameshaven, though at a lower altitude than the previous, secondary attacks. Once again, the Essex Anti-Aircraft sites and 159 Battery at Allhallows engaged the raiders, the gunners on both sides of the Thames Estuary putting up a fearsome barrage of High Explosive at the Germans, and with notable effect. This time, the combined Anti-Aircraft gunners shot down two enemy aircraft, both Heinkel 111's from III/KG53.

The second of the two, hit by the heavy concentration of Anti-Aircraft fire from the Essex batteries over Thameshaven, subsequently crashed into the sea off Herne Bay, killing all five of its crew. The first bomber, already damaged on its run-in over Thameshaven, was now rapidly losing height and dropped out of the main formation immediately on leaving the target area. Subsequently, it flew directly along the southern side of the Thames, probably in an attempt to

avoid the deadly fusillades from the Essex batteries.

Unfortunately for Feldwebel Anger and his crew, their attempted evasive action took them directly over the coastal defence position of Slough Fort and just to the north of 159 Battery's position at Allhallows. The gunners of both positions fervently added to the discomfort of the already distressed bomber's crew, with their own combination of small arms and machine gun fire, as well as 4.5-inch Anti-Aircraft shells. Anger's aircraft was hit again and again and again.

With his badly hit aircraft streaming thick black smoke, and patently losing its struggle to stay in the air amid the hail of shell and bullets coming ceaselessly at him from Allhallows, Feldwebel Anger was forced to ditch the stricken bomber in the relatively shallow water off the Nore, by the Medway Estuary. However, the manoeuvre was not without its inherent dangers, and the shell-shattered, bullet-ridden bomber was by now disintegrating in the air. Only two of Anger's crew survived the Heinkel's watery crash-landing. Feldwebel Waier and Unteroffizier Lenger were picked up by a Royal Navy patrol boat and taken prisoner. Feldwebel Anger, Unteroffizier Armbruster and Gefreiter Novotny were all killed.

As the remaining bombers headed home, the men of the Fire Brigade arrived to tackle the blaze at Thameshaven. Though they had a full night's work ahead of them, the report of the damage done by the day's raids on Thameshaven makes it clear that the fierce barrages of Anti-Aircraft fire had certainly spoiled the aim of the raiders.

According to the damage report, the Germans had dropped a mixed load of large and small bombs but luckily the bombs had, for the most part, fallen about 200 yards too far north, and thereby had fortunately missed the heart of the oil storage area. However, two of the larger bombs had severely damaged the powerhouse, resulting in the plant being put temporarily out of action. A direct hit by one of KG53's bombs on a tank containing 5, 000 gallons of lubricating oil, sent a thick pall of smoke into the sky, reminding all for miles around of Dunkerque again.

One of the KG53 aircraft took a series of photographs during the raid and the damage done to Thameshaven during this raid can clearly be seen in them, but the Essex and Allhallows Ack-Ack gunners had certainly struck back at the enemy. The wreck of Feldwebel Anger's shattered Heinkel was subsequently removed, blown up completely by the Royal Navy, as it was considered to be a hazard to marine navigation.

On 6th September, the fierce aerial fighting cost 501 Squadron three more pilots. Pilot Officer Hugh Adams and Sergeants Oliver Houghton and Geoffrey Pearson were all killed in aerial combat over Ashford that morning, as the Luftwaffe once again mounted heavy raids on Fighter Command's sector stations. Twenty-two year-old Hugh Adams, formerly a Sergeant pilot, had in fact only just been commissioned as a Pilot Officer. He was killed on the very morning that his commission was gazetted.

RAF Gravesend had so far lost nine pilots, all of them from 501 Squadron. Sadly, they were not to be the last. 501 Squadron had been in the front line since the Battle of France, and would remain so. Although they had lost nine pilots in their time at Gravesend during the Battle of Britain so far, their losses were relatively light compared to some of the other, fresher front line squadrons. Clearly, experience paid: though the price was often very high indeed.

Early the following morning, 7th September, the Spitfires of 66(F) Squadron, led by Squadron Leader Rupert Leigh, flew into Gravesend from Kenley to relieve

501. After the formalities of the changeover were completed (including no doubt, directions to

Daniel's Den at The White Hart!), 501 Squadron left Gravesend and flew to Kenley. Not that Kenley was going to be a holiday for 501 Squadron any more than Gravesend would be for 66(F) Squadron. It was just that sometimes a change could be as good as a rest for a fighter squadron and even in fact, for the nation's cartoon heroine, Jane.

Throughout August, the ubiquitous Jane had largely been a WAAF who, as it now transpired, was only on leave from Naval Intelligence in any case. Now it seemed, she'd been "called up" by no less an organisation than MI6 and her presence was urgently required at "Hush-Hush House". After a ride in an aeroplane, Jane managed to hitch a further ride with a dashing young RAF Officer who just happened to be passing in his two-seater sports car. After dropping her as close as his way took him to her intended destination, he gave her directions "past the three craters, left at the wrecked Heinkel, through the Tank Traps and fork right at the dud bomb". Apparently, Hush-Hush House was to be found not far from there!

Unbeknown to the fighter pilots of both 501 and 66(F) Squadrons that morning, a change far bigger than Jane's branch of service, or their merely swapping airfields, was indeed coming to them all; and within just a few short hours.

For Fighter Command the situation of the daylight battle was looking more and more desperate. In the fortnight since 24th August, nearly 300 Hurricanes and Spitfires had been lost and an additional 170 had been seriously damaged; but thanks to Lord Beaverbrook's organisation, the Ministry of Aircraft Production, nearly 270 replacement fighters had reached the front line fighter squadrons during that same period. Of far more importance was the fact that this same fortnight had seen over 100 RAF fighter pilots killed with a further 128 wounded. The aircraft could be repaired or replaced, but seasoned and experienced pilots were an altogether more precious asset and one that was not easily replaced.

It was also not a loss that Fighter Command could sustain for much longer. The pilots that Fighter Command did have were all battle-fatigued and long overdue for relief. New pilots arrived at their squadrons from the Flying Training Schools, where the training programme had already been grievously shortened to save time, to find that the ten or twelve hours instructional flying time they'd logged solo on either a Spitfire or a Hurricane, was nowhere near the amount of experience needed to survive in combat. These fresh-faced fledgling fighter boys were quite literally thrown in at the deep end and they either learned very quickly and survived for a while, or they died very quickly: sometimes on their first operational day.

To Dowding and Park, the situation appeared dark indeed. Vital fighter stations and lines of communications were being mercilessly pounded daily. The fierce fighting took a relentless toll on valuable aircraft, put the already hard-pressed ground crews under an intolerable strain and thus took its toll on efficiency. In terms of pilots, Fighter Command's losses were near to being critical.

Unbeknown to both Dowding and Park at this point, was the fact that the Luftwaffe's losses were a cause for alarm to them also. Losses among German bomber crews were particularly keenly felt. If a Messerschmitt 109 was lost over England, the Luftwaffe lost one aircraft and one man. If a Zerstorer was lost, it was one aircraft and two men. If a bomber was lost, it meant the loss of one aircraft and five men, and quite a few bombers had been lost over England in the last two months, as well as fighters of both types. It was a good job that the Stukas had earlier been withdrawn.

Luftwaffe aircrew were also battle-fatigued by now, as the Royal Air Force was putting up much

more of a fight than the over-optimistic Germans had initially expected. What the Germans had confidently expected at the outset would be yet another relatively easy conquest, was now proving to be a titanic struggle. A protracted and bitter aerial struggle of attrition was an eventuality that they simply had not planned for.

With the perceived imminence of a German invasion, the British had been bombing the French Channel ports nightly, targeting the massed German transport vessels that had been steadily gathering in such places, since July. Air raid alerts happened nightly, heavy German guns let fly at the unseen British raiders with everything they had. British bombs exploded around the docks and the surrounding districts. These operations naturally kept sleeping Luftwaffe air and Ground crews based near the French Channel coast, awake.

So, added to the Luftwaffe's unexpectedly high levels of battle casualties were the cases of crew exhaustion, (what the Germans referred to as being paraAus-flugen, literally "flown-out"), and more alarmingly, cases of what came to be called "paraKanal-krankheit" or "Channel-sickness", an apparent pronounced fear of flying across the English Channel. Cases of both became markedly more frequent at this time, though in reality, it was only one disorder that was afflicting them all: Battle Fatigue. Also alarmingly on the increase and due to this fatigue, was the number of simple accidents whereby aircraft were put out of action through bad landings or ground collisions. The enormous strain, particularly among bomber crews who were flying both day and night operations over England, was really beginning to tell.

Yet for all this, OKL still believed that the RAF was on its knees. By Beppo Schmidt's calculations, Fighter Command possessed fewer than 200 serviceable fighters at the very most. With the Fuhrer hopping mad at the British raids on Berlin and Goring fed up with the self-inflicted "Meier" nametag, now was evidently the time for a Grosse display of decisive action.

The rotund and now greatly annoyed Reichsmarschall, whose grand-gesture promises were constantly coming back to haunt him, was also in the mood to berate his hitherto beloved paraJager, the fighter pilots, over the continuing bomber losses. Visiting some of his front line units on the Channel coast, he went into a complete rage, during which he did the RAF a great service by declaring that henceforth, the bombers must be closely escorted. This meant that the fighter escorts, instead of sweeping ahead of the inbound bomber formations, had to stay with the bombers at a greatly reduced speed, mainly to bolster the bomber crews' wavering resolve. This robbed the fighters of just about every tactical advantage they could possess. It was clearly tactical madness, every one of the German fighter pilots knew it, but it was Goring's personal order; for the Fuhrer had at last given his permission for a big change in Luftwaffe operations to be made. The date for that change had been set for today, September 7th.

Saturday 7th September seemed to start much like any other day thus far to the tired pilots of RAF Fighter Command. An RAF fighter pilot's day during the Battle of Britain has previously been described as being "long periods of boredom punctuated by moments of sheer terror!"

Their day typically began with getting out of bed whilst the birds were still coughing, at a half an hour before dawn. A quick wash, a quick shave, then dress and go down to breakfast. A casually glib enquiry as to the news in the morning paper, but a question of far more importance was: Who's got a Daily Mirror? There was now almost a physical need to know what Jane was getting up to today. She lost her clothes again?! This was usually the cause of a general, though light laughter, but it was all superficial. With breakfast over, it was then time for the lorry-ride out to dispersal. Now began the long and intensely nerve-racking period that consisted of the occasional snatched doze between the half-reading of a magazine and marathon cigarette

consumption, as they anxiously awaited the telephone call that would send them running to their waiting aircraft.

Upon returning from an engagement, the pilots often chatted excitedly with each other, using their hands to demonstrate how they'd fought with the enemy aircraft. The Squadron Intelligence Officer would try to de-brief them to get an idea of the enemy's losses. The NAAFI van would arrive, bringing Tea and sandwiches for the pilots whilst the Ground Crews were swarming all over each aircraft, examining damage, making speedy repairs where necessary and refuelling and re-arming each fighter as quickly as possible, in readiness for the next "scramble" call. Then for the pilots, there would be that long, cigarette-filled wait again. Sometimes a Squadron could get four or five "Scrambles" per day, until they were stood down at around 21.15. Then it was time for a quick wash and brush-up and in the Gravesend Squadron's case, off to paraThe White Hart.

501 and 66(F) Squadrons had changed over at Gravesend quietly enough, due entirely to the fact that the German formations were markedly later than usual in coming. There was even time for the changeover to be photographed by a war photographer from The Times, who was visiting the station, though due to censorship, Gravesend wouldn't be mentioned by name. The captions would show that the photographs were taken on a fighter station "somewhere in southern England" and distinctive landmarks in the background, such as the chimneys of Tilbury Power Station, would be carefully painted out.

The Germans' apparent tardiness that day was because Reichsmarschall Goring himself was coming to direct the day's operations, personally. His own special train, Asia, with its opulent carriages, its stock of exceptional wines, its staff of cooks, secretaries, personal assistants and its two flat-cars bearing Luftwaffe flak guns for protection against enemy fighter attack, ceremoniously puffed its way to the Pas de Calais to deliver the Reichsmarschall, resplendent in a sky-blue uniform and carrying a new baton, to the waiting Luftwaffe field commanders.

As soon as Goring got off the train, the entourage made their way in a small convoy, Goring's shiny black Mercedes staff car with its pennants fluttering, closely escorted by motorcycles, to Cap Gris Nez; where Goring, surrounded by his Luftwaffe Feldmarschalls, Generals and Obersts, waited to see the mighty aerial armada fly over them to deliver what was now confidently expected to be the final, knockout blow, right to the heart of the enemy.

And what an awe-inspiring sight it must have been, as over 300 bombers closely escorted by twice that number of fighters, stepped up in waves, roared over the heads of the assembled Luftwaffe chiefs that afternoon and headed across the Channel toward England.

On the British side of the Channel, the RDF stations started plotting the incoming raiders. The RAF's fighter squadrons, including 66(F), were scrambled and ordered to their usual patrol lines, at their usual altitudes in readiness to defend once more their precious bases, the Luftwaffe's usual targets. But today was about to prove different.

When the defending RAF fighters reached their interception points, they could find no trace of the expected German formations. The sky appeared remarkably empty, yet the plotting tables showed that massed formations of enemy aircraft had definitely crossed the English coast, heading inland.

The RAF's fighter controllers, having every reason to believe that the fighter stations would once more be the targets of the German raids, had of course positioned the defending fighters in the best place to block such attacks. The raiders meanwhile had unintentionally slipped past

the waiting British fighters and then altered course around the back of them, splitting into two distinct formations as they headed toward their real objective.

Fortunately, Observer post 1/Bravo 1 at Allhallows had a grandstand view of the approaching German formations and in common with other Observer Posts in the local network; they quickly alerted their Group Headquarters at Maidstone, who in turn directly alerted Fighter Command, as to the raiders' actual position and their unexpected change of course. Today, Saturday September 7th, the aerial armada of German bombers was ignoring the RAF's fighter stations. Today, they were heading straight for London, along the line of the Thames.

The RAF's fighter controllers quickly contacted the waiting squadrons and gave them new courses to steer in an attempt to block the attacks. Squadrons were vectored toward the Germans and given the "Buster" order, go at absolute maximum speed. But too much precious time had already elapsed and the Germans reached their intended target, the London docks, virtually unopposed.

September 7th was a day that James Jenman recalled. He had just returned home to Catford that day from his summer camp on the farm and was standing in a neighbour's garden, watching in awe, as wave after wave of enemy aircraft flew overhead and bombed the London docks. He remembers hearing the droning sound of the bombers' engines, the thumping din of the many distant explosions and seeing the dense pall of black smoke that inevitably rose and hung over the east end of London: an ominous cloud that told all for many miles around, of the disaster taking place below it.

That evening, the late summer sky was a vivid hue of orange, lit by the many fires on the river. Even in Catford, James Jenman could smell the smoke and fumes from the fiercely burning dock buildings.

The Luftwaffe's bombers were back that night, guided by what looked like an unearthly and protracted sunset. It was a most unholy light that was thrown up from the burning docks. On reaching their target, the bombers didn't have to worry about aiming. They simply added their loads to the work of destruction started by the daylight raiders. Reichsmarschall Goring was delighted to personally report over the airwaves that "London is in flames!", as German radio stations broadcast a running commentary on the day's action.

The men of both the National Fire Service and the Auxiliary Fire Service were hard pressed to cope, as many of the fires were classified as being "conflagrations". For London's fire crews and citizens, the night of 7/8th September was merely the beginning. Added to all this was the fact that the codeword for the expected invasion, "Cromwell" had been mistakenly issued. Church bells across the country rang for the first time in nearly a year and Home Guard units loaded their rifles and went out on a night of endless patrols and stop-and-search operations, unsure if the issuing of the codeword meant that the invasion was imminent or had in fact already begun.

By morning, no German invasion had materialised, but over 300 Londoners lay dead among the smoking ruins of the city's east end, whilst more than 1, 300 were injured. Three mainline railway termini, including Waterloo, had been hit during the night's raids. At Victoria, bombs had cut the power supply to the stations signalling equipment, killed some passengers, a driver, and had injured two firemen. There was also severe disruption to the train services due to collapsed viaduct arches. Such disruption to the railways was something that Londoners and the "big four" railway companies would quickly become accustomed to, but once again, the

Southern Railway's managers would rise to the challenge. Southern's network would be fully operational again within forty-eight hours. London was reeling, yes: but paralysed not; and the resolve of Londoners was something that the Luftwaffe's planners could not calculate at all. The people emerged from their shelters, dazed and scarcely recognising their surroundings; then did what Londoners do best: they carried on. They picked their way through the smouldering rubble, stepped over the Fire Brigade's hoses and showed their ID cards to challenging Home Guards or Police Officers as they tried to get to work.

The sudden change in German strategy shown by the events of the previous day, ultimately gave Dowding and Park not just the major strategic miracle they'd both been hoping for, but two tactical miracles also.

The first tactical miracle had manifested itself in the form of foreigners. When Poland and then the rest of northern Europe fell to the Germans, a large number of trained service pilots had successfully escaped to England. As we have already seen, 501 Squadron had some Polish pilots and there were other RAF fighter squadrons that counted French, Belgian, Czech, American, Canadian, South African, Australian, Irish, Jamaican and New Zealand pilots amongst their number and there were other foreign pilots at that time who were still "in the pipeline", finishing their courses at Operational Training Units.

One such pilot then at 5 OTU, was a Frenchman whom we met earlier, Emile Fayolle; who was by now commissioned as a Pilot Officer. Pilot Officer Fayolle would join 85 Squadron in a week's time and flying a Hurricane, would soon start making his presence felt with the Luftwaffe. Amazingly, his first victory flying with the RAF, would be at night.

However, also under training with Fighter Command were two whole squadrons of Polish airmen, jointly led by British and Polish officers and a similar squadron of Czech airmen. Hitherto, these squadrons had not played any significant part in the battle as Dowding was of the opinion that the language difference was still too much of a barrier to be able to integrate them fully into Fighter Command's operational system.

But on the afternoon of September 7th, one of those Polish squadrons, 303 Squadron based at Northolt, was on patrol, training. Although they had already been involved in some minor skirmishes before now and had fought a brief engagement as a squadron just two days previously, they were not yet fully operational, largely being utilised as a last line of defence or patrolling near their own base.

In company with 1 Squadron, they came across one of the London-bound German bomber formations during their patrol. Shooting down enemy aircraft was the same in any language, especially to the Polish pilots, who like any other red-blooded Pole, had a deep, personal score to settle with the Germans. The sight of so many enemy aircraft was simply irresistible. As the Hurricanes of 1 Squadron attacked the rear of the bomber formation, they drew the attention of the German fighter escort to themselves. Having a height advantage and with the German fighter escorts engaging 1 Squadron, Squadron Leader Kellet, leading 303 Squadron, decided they were absolutely ideally placed. They accelerated to fighting speed and attacked the German bomber formation.

The German bombers suffered heavily at the hands of the vengeful Poles. The sheer hatred that the Polish airmen had for the Germans produced a distinctive hallmark in the attacks they made. The Poles always flew paramuch closer to their intended targets than their RAF counterparts did, before opening fire. The Poles wanted to make absolutely certain that every

bullet found its mark, so that the German aircraft they were attacking would be undeniably destroyed. In attack, they never left room for doubt, or error. What Polish pilots may possibly have lacked in language skills, they often made up for threefold in fighting skills; but then for the Poles, it was an intensely personal business.

When news of this engagement reached Dowding's ears later that day, he allowed himself a slight smile; he then gave orders to make all three of the foreign squadrons in 11 Group fully operational the following day, thus giving him an additional three full-strength front line units, right where they were needed, at an unexpected stroke.

The second tactical miracle was less obvious at the time. Due to the fact that the incoming German formations had inadvertently got through to London virtually unopposed, many of the German aircrews now thought that the Luftwaffe had indeed all but wiped the RAF's fighters from the skies. Because the first raid came in unusually late in the day, the subsequent attacks were made through the night; a time when Fighter Command was indeed virtually powerless to stop them. Given such a marked lack of opposition to a large-scale air attack on the British Capital, OKL believed that total victory was now definitely, tantalisingly, within the Luftwaffe's grasp.

The next day, Sunday 8th September, was rather a quiet one. Although the weather was fair in the morning, it became increasingly cloudy as the day progressed. Some small-scale attacks were made against airfields, including Gravesend, but the eleven squadrons sent to intercept these raids were, for the most part, successful in turning them back. Some light damage was sustained at West Malling, Hornchurch and Detling, though of the three, only Hornchurch was an operational fighter station. Gravesend had escaped damage once again.

On that day, Dowding and Park, and to an extent Leigh-Mallory, were handed the major miracle that they'd each fervently hoped for. The German media issued graphic accounts of the previous day's success against London and assured the citizens of the Greater German Reich that the man himself; Reichsmarschall Herman Goring, had now taken personal command of the air operations against England. The Reichsmarschall, also buoyed by the previous day's apparent success, decided to concentrate fully on bombing London, round the clock.

He grandiosely gave this new strategy the name of operation Loge: after the forger of Siegfried's sword in Teutonic legend. From now on, he decreed; the RAF's fighter airfields were to be ignored. As the RAF was now apparently on its knees, any remaining English fighters would be annihilated in the skies over London. To Reichsmarschall Goring's blinkered eyes, all was apparently going well: even the Swallows were now leaving England en masse. But the migratory departure of the birds could only serve to underline the inescapable fact that both time and the weather were fast running out.

Although there hadn't been much activity during the day that Monday, London was again hit hard by night. Londoners, who were hitherto more accustomed to hearing paraA Nightingale Sang in Berkeley Square coming from their wireless, now found a new sound to listen out for: that of "Moaning Minnie", the air raid siren; as the period that rapidly became known as "The London Blitz" began. Their city would continue to be hit hard by German bombs for the next fifty-two consecutive nights before there was a very brief lull in the night bombing. The sight of people picking their way through scenes of fresh devastation would become the normal beginning of every morning, as London continued to go about its daily life and Business.

On Monday 9th September, the RAF's fighters managed to pull back the ground perceived lost

on the previous Saturday. Even two days respite in the merciless pounding of Fighter Command's aerodromes had seen a truly remarkable effect. As the massed German formations returned in another full-scale daylight attempt on London, the RAF fighters were able to put up such a solid defence that hardly any of the bomber formations got through to their intended target.

As the 11 Group squadrons intercepted the raiders over Kent as usual, some of the 12 Group squadrons, including the "Duxford Wing", maintained standing patrols just to the north of the capital. When the 11 Group squadrons had to break off the engagement and return to their bases to refuel and re-arm, the waiting Wing sallied forth and engaged the enemy over the final approaches to London. This was totally unexpected and plainly too much for the German bomber crews, who'd already had a mauling on the way in. Bombs were randomly jettisoned all over north Kent and the southeast and south London suburbs, as the raiders abandoned their objectives and turned for home. Amateur radio enthusiasts in southern England could hear many of the distress calls that were now emanating from stricken German bombers over a wide area.

As night fell, both sides began counting the cost. Fighter Command had lost a total of nineteen aircraft, but six of the pilots were saved and London itself had been saved from the German onslaught. The Luftwaffe had lost a total of twenty-eight of their aircraft and the dispirited bomber crews all complained vociferously that their fighter escorts had apparently left them to face an unexpectedly strong RAF resistance alone.

Goring's close-escort policy wasn't working. The escorting fighters, tied to the slower bombers as they now were, couldn't accelerate to fighting speed in time to block the determined attacks by the Hurricanes and Spitfires. The escorts were starting to suffer grievous losses of their own, as those who had previously enjoyed the role of the hunter, now increasingly found themselves in the unenviable position of being the hunted.

The Luftwaffe's change of target strategy, whilst suddenly relieving the pressure on Fighter Command, heightened the level of the British public's invasion fever. Many saw these new attacks on London as being the inevitable prelude to a landing attempt, rather than the simple, vengeful, knee-jerk reaction to the RAF's Berlin raids that this new German strategy sprang from. Even Churchill said so in the House of Commons. A report from a British Coastal patrol aircraft the following afternoon of a large force of German E-boats (fast Torpedo boats), Destroyers and other ships off Dieppe, did nothing to allay fears in England either, though the codeword "Cromwell" was never issued again.

Yet things had undoubtedly changed for the better, from Fighter Command's point of view, anyway. Concentrating on London by day meant that the RAF's fighters now had much more time to intercept. The Germans now had further to come and further to go back and of critical importance was the fact that the Messerschmitt 109 had fuel enough for just ten minutes flying over London. Full-throttle combat used up precious fuel and reduced this meagre fighting capability even further. Ammunition expenditure would also prove to be a marked setback for the Luftwaffe's fighter pilots, who were still tied to the lumbering bombers by Goring's hateful close-escort policy.

Long-range fuel tanks for the escorting Messerschmitt 109's were not something that the German planners had ever envisaged having to need; therefore, none were available. Consequently, the Luftwaffe's strategic shortcomings were about to be keenly felt, and 12 Group's offensive big wing was about to come into its own.

On September 10th, the fickle English weather largely prevented Luftwaffe attacks. As cloud blotted out the Luftwaffe's intended targets, Fighter Command had a rare quiet day. London still suffered by night, though.

The following day saw sporadic raids on London as cloud over the Thames Estuary and the English Channel again frustrated the Luftwaffe's plans for the full-scale annihilation of London's population. Suddenly things were not looking quite so rosy to the Germans. Hitler, noting the RAF's continued resistance, postponed advanced mine-laying operations for "Operation Sea-Lion", the planned invasion of England, till September 14th and the invasion itself till September 24th at the earliest, provided that German air superiority was achieved before then. Goring was, even at that late stage, still confident that it would be.

Analysing the change in German tactics, Air Vice Marshall Park started despatching his forward interception squadrons in pairs. Instead of trying to intercept the German formations over the Channel, these paired squadrons now flew inland, climbing hard all the time, and then turned to face the incoming attackers at a hopefully superior altitude. Once the direction of the main attack was calculated, additional single squadrons were despatched as reinforcements.

Meanwhile, 12 Group's "Duxford Wing" along with other, individual squadrons, would be scrambled to provide the necessary backup over London itself. For the first time since the battle began, the Germans were facing a much larger and more concentrated force of defending fighters.

Once again, the sheer scale of the German effort involved in creating bigger, longer-lasting air battles, would lead to vastly inflated claims of German fighter successes. Once again, OKL were seemingly blinded by their own intelligence, despite the evident heavy losses among the German bomber crews.

On September 11th, Churchill rose in the House to offer the British population a speculative warning:

The efforts of the Germans to secure daylight mastery of the air over England is, of course, the crux of the whole war...If this invasion is going to be tried at all, it does not seem that it can be long delayed...Therefore, we must regard the next week or so as being a very important period in our history.

On September 14th, Hitler, perhaps noting Churchill's advice, held another invasion conference. According to the German Army's high command, OKH, (paraOberKommando das Heer) the German Army was just about ready to go. The Naval high command, OKK, (paraOberKommando der Kriegsmarine) stated that the Kriegsmarine was ready, though understandably reluctant to go, without German air superiority. The operations of the Luftwaffe, at least according to OKL's intelligence summaries, were evidently above all praise. Hitler decided that it was merely the fickle British weather that had so far prevented the knockout blow from being administered, but Goring assured his Fuhrer that another four or five days of good weather would soon change that. True, Goring had said exactly the same thing to Hitler back in August, just before paraAdler Tag, and he'd had the weather he needed then, but apparently it would be different this time.

The Kriegsmarine politely reminded Goring that they had lost over eighty barges to the actions of the RAF's bombers in just the previous night, so Hitler decided that it was probably best that the invasion be postponed a little further, to give the Luftwaffe more time to completely smash what little remained of the RAF's fighter defences. A further three-day delay was put on the

advanced preparations for the invasion, though all other preparations were to continue. But time and tide waited for no man, not even Adolf Hitler; which was an inescapable fact that the Fuhrer, OKH and OKK were also fully aware of, even if Goring and OKL hadn't quite grasped it.

Meanwhile, cloudy conditions over the Channel and southern England again prevented full-scale attacks on London. Raids were mounted, but they were mainly of the hit-and-run type, using fighters. Both sides lost fourteen aircraft each in the day's combats, though six of the RAF's pilots were saved, including Pilot Officer R Robbins and Sergeant Pilot P Willcocks, both of 66(F) Squadron from Gravesend. Though saved, Robbins lay seriously injured in Maidstone Hospital. Willcocks, who had managed to pull off a successful forced-landing despite his Spitfire's Luftwaffe-inflicted engine failure, was in action again the following day in a replacement Spitfire.

The weather forecast for the morrow was fair after a misty start, though with some patches of cloud. The Germans decided that Sunday 15th September would see Siegfried's shiny, newly forged sword being put to maximum use against the troublesome English. If Sunday 18th August had been the hardest day, then Sunday 15th September would ultimately prove to be the decisive day of the Battle of Britain, for both sides.

The day itself indeed dawned misty, just as the met-men had predicted, but the forecast was for a fine, late summer day and the Luftwaffe had decided that today would be the last day of Fighter Command's continued resistance. As far as German aircrew knew, (from information supplied by Schmidt's Intelligence section) the RAF was now finally down to its last fifty Spitfires. It was confidently expected that these would all be destroyed in the coming battle over London. The day of reckoning had apparently come at last and like the historic Battle of Waterloo, it was to be fought on a Sunday.

Shortly before 11:00 hrs, the RDF stations reported the build up of massed formations over northern France, as the German bombers assembled and then picked up their close fighter escorts. The Germans still hadn't realised that the British RDF stations could "see" them as they took their time assembling the huge formations over their bases. Such tactics only increased the period of warning that Park was given.

In a monumental display of fighter controlling, Air Vice Marshall Park initially sent eleven of his squadrons aloft to intercept the enemy, requesting an additional squadron from 10 Group, which was duly sent. Meanwhile, all five squadrons of the Duxford Wing were put up in good time by 12 Group, to patrol the south Essex coast. Over 200 Hurricanes and Spitfires were now airborne and climbing hard to intercept the steadily advancing raiders. Unusually for the Germans, they made no feint attacks. The encroaching massive German formations, stepped up from 15, 000 to 25, 000 feet, made straight for London, which made Park's job very much easier. Further squadrons were now ordered off to join the fray.

With an impressive final total of twenty-four squadrons sent to intercept the German raiders, the first clashes came as the Germans crossed the south coast of England. Other RAF squadrons joined in the fray over mid-Kent and the Medway Towns to harry the Germans all the way to London. As battle was joined, aircraft began tumbling from the sky in a wide swathe across the Kent countryside, in full view of the populace below.

Battle in the air was a peculiar life or death struggle that painted its way in a complex pattern of thin white trails high across the blue English sky, accompanied by the faint staccato rattle of machine gun fire, the slow boom-boom-boom of cannon fire and the constantly changing,

whining pitch of aero-engines being pushed to the very limit. It was a spectacle deathly in nature yet utterly compelling to behold.

In yet another illustration of a perhaps uniquely British trait, there seemed to be many people on the ground these days who, prior to the war, couldn't have told a Spitfire from a bonfire, or a Messerschmitt from a banana-split, but who had now, thanks to a wealth of booklets and pamphlets on the subject, almost become experts on aircraft recognition over the course of the summer. They cheered when "one of theirs" fell to earth trailing black smoke in its death-dive, and they watched with bated breath and fingers crossed for an emergent parachute, when it was "one of ours" that was falling. ("Not that our chaps get shot down very often of course, but it could happen", to borrow a sentiment from the wonderfully English, and perhaps not-so-very fictional, Captain Mainwaring of Dad's Army!)

As the Luftwaffe fought their way toward London, it had certainly become painfully obvious to the bomber crews that there were a lot more than fifty Spitfires meeting them. The German fighter pilots escorting the bombers had to beat off ferocious attacks by paired squadrons of Hurricanes and Spitfires whilst keeping an anxiously watchful eye on their fuel gauges.

Then, just as the hard-pressed Germans approached the city of London, Big Ben struck noon and the five squadrons of the Duxford Wing, as if on cue, entered the fray, tearing into the already battered German formations, along with other RAF reinforcements. The bombers' escorts, one by one, reluctantly began to turn for home, out of ammunition and with that dreaded red warning lamp flashing on the control panel, telling the pilot that he barely had enough petrol left for the dangerous return journey to France. The bombers now faced the final run up to the target with just their own defensive armament for protection: one gun against the eight of any attacking British fighter.

Accurate bombing under such conditions was a total impossibility. The massive German bomber formation had been badly mauled and had lost all cohesion. Bombs were scattered all over south and southeast London, from Beckenham to Westminster, from Crystal Palace to Camberwell and from Clapham to Victoria.

High over south London amid all this aerial activity, Sergeant Ray Holmes of 504 Squadron looked out of the cockpit of his Hurricane and saw, a little below him, a lone Dornier 17 seemingly heading straight for Buckingham Palace. He wasn't having that. Ray dived after the bomber and latching onto its tail, he attacked it four times, expending his remaining ammunition stock; but the Dornier, though damaged and flying somewhat slower than it had been, flew resolutely on. In desperate frustration, Ray Holmes then made a conscious decision and deliberately rammed the stubborn German bomber, simultaneously shearing the tail off the bomber and tearing the Port wing off his Hurricane in the collision. Holmes baled out of his spinning Hurricane, which crashed into the street below and buried itself beneath a set of traffic lights at a busy road junction in Buckingham Palace Road, there to remain for the next sixty-four years until it was excavated over the course of a weekend, live on television.

Ray Holmes landed safely in a dustbin in Chelsea, deposited most gently as his parachute snagged on some guttering, to receive a hero's welcome from two delightful young ladies, whilst two crewmembers of the now tail-less Dornier landed by parachute to a different kind of reception. The Dornier's other two crewmen were already dead.

On the ground watching the parachuting German airmen coming down, was fifteen year-old Dick Bottley. Dick saw that one of them was going to land on the Cricket Ground at Kennington

Oval, but the other, the pilot as it transpired, landed on the Tramlines opposite The Surrey Tavern to a somewhat vengeful reception. Dick noticed that the majority of the people who'd rushed out and quite literally mobbed the German airman, were women. The unfortunate German pilot, Oberleutnant Robert Zehbe, had already been wounded during Ray Holmes' succession of attacks on his aircraft. Though taken prisoner, he later died of his wounds, which were quite probably exacerbated by those inflicted by the angry mob when he landed. Meanwhile, the plummeting Dornier crashed onto a jeweller's shop on the forecourt of Victoria Station. It was an engagement that somehow seemed to symbolise the frantic aerial struggle, particularly as it made the front page of the newspapers the next morning.

As the German bombers began their return journey over the southern suburbs of London, British fighters were still pursuing them. However, the bombers were not totally without fighter cover. Although the main escorts had since been forced to abandon their charges and fly home, other, fresh escort groups were coming in to take over and hopefully afford some measure of protection to the returning bombers.

Southeast of Dartford in Kent, one of Ray Holmes' 504 Squadron compatriots, Pilot Officer John Gurteen, was attacking a Junkers 88 when he fell foul of one such escort group.

On the ground at Hartley, nine year-old Ted Perrin recalled that there was some patchy cloud about, but otherwise it was a fine late summer's day. It was shortly before 13:00 when Ted, who had been fervently watching the air battles that morning, saw a group of aircraft that he thought were British twin-engined Bristol Blenheim light bombers, meeting their fighter escorts. The Bristol Blenheim and the Junkers 88 were extremely alike in appearance and it was very easy to confuse one for the other, a mistake that was often made by both British and German Anti-Aircraft gunners.

Ted heard the rattle and boom of gunfire high above him, which was followed by the unmistakeable screaming sound of a diving aeroplane, growing louder and louder by the second. As young Ted watched, awestruck, a Hurricane came diving down out of the blue, its engine still set at full throttle from the combat high above. The fighter's dive grew ever steeper and Ted followed it with his eyes as, with its engine literally screaming, it crashed straight into a house in Church Road, Hartley.

Twenty-four year-old Pilot Officer Gurteen was still in the cockpit of Hurricane N2481. Although many people, including Ted, rushed to the scene of the crash, there really was nothing that could be done. For anyone to have survived such an impact was impossible and nobody was sure at the time whether or not the house was occupied, either.

John Gurteen's body was later recovered from the wreckage surprisingly in one piece, and he was subsequently cremated at Hendon Crematorium. His ashes were later scattered over his own house from the air, by his friend and Flight Commander in 504 Squadron, Flight Lieutenant Royce.

Sunday 15th September was also a day that Winston Churchill chose to make another of his impromptu visits to the 11 Group Operations Room at Uxbridge. Sitting next to Air Vice Marshall Park, he watched the great battle for London unfold minute by minute. As the plotting table filled, the Tote board showed that every squadron was now engaging the enemy. Turning to Park, he asked: "What reserves have we?" Park unhesitatingly replied: "There are none." Churchill was greatly impressed by the calm manner in which such an all-important battle was conducted in 11 Group's nerve centre. He was to write as much and at great length, in his

memoirs.

As the remaining bombers of the first raid made their way home and the local Fire Brigade attended the scene of John Gurteen's crash at Hartley, the RDF stations began to pick up the unmistakable plots of another massive raid being assembled over northern France. Sure enough, the Germans came back en masse for another attempt at destroying London at around 14:00. Once again Fighter Command put up a spirited defence with no fewer than all twenty-three squadrons from 11 Group, three from 10 Group and the five squadrons of the Duxford Wing from 12 Group.

It was soon evident to the defending fighter pilots that the Germans had lost heart after the first "show". Most of the bombers turned back before reaching the Capital as once again the Hurricanes and Spitfires tore into their formations. Those that did press on with the attack were met over London by ten squadrons from 11 Group fighting as five paired units and the full force of the Duxford Wing.

Bombs were jettisoned over a wide area as the main German formations, advancing up the Thames corridor, once again lost all cohesion when the defending fighters set about them. Instead of mercilessly pounding the heart of London, most of the German bombs were scattered on Erith, Woolwich, Stratford and Hackney. Beckton Gasworks was also hit, but Siegfried's sword, far from thrusting at its enemy's heart, had instead been ignominiously blunted on the grindstone of Fighter Command's defence.

Soon the badly mauled German formations headed home, though not all of the stragglers would make it. One such aircraft, a Dornier 17, was so badly damaged by several fighter attacks that at 14:45, it gave up the struggle of trying to stay in the air and crash-landed on the Isle of Grain, the easternmost area of the Hoo Peninsula, on its way home. The crew, Unteroffizier Wien, Feldwebel von Goertz, Gefreiter Schild and Gefreiter Weymar were all taken prisoner.

In the Operations Rooms of the 11 Group sector stations and the Group Headquarters, the plotting tables cleared and the lights on the Tote boards under each squadron's number returned to the coloured bands marked "Landed and refuelling".

A handful of bomb-carrying Zerstorers attempted a raid on the Supermarine factory at Southampton at teatime. However, the fierce barrage from the Southampton Anti-Aircraft guns effectively thwarted their intentions. Not one of their bombs hit the factory and this proved to be the last enemy action of this most memorable day.

The population of Southern England, having witnessed the great air battles that had raged overhead all day, eagerly tuned-in to the evening news on the BBC Home Service, and listened intently as details of the day's events were read by their favourite newsreader, Alvar Liddell. According to the BBC evening news broadcast read by him:

During large-scale attacks attempted by the enemy on London throughout the day, a total of 165 enemy aircraft were shot down for the loss of thirty of our own aircraft, with ten of these pilots saved. Buckingham Palace has been bombed again, but nobody was hurt.

Upon hearing the bulletin, a great cheer went up from just about everybody, be they in their own home, Anderson shelter or even picking through the bomb-blasted ruins of their street. By the time the morning newspapers hit the streets, the figure for claimed German losses would be higher still.

The loss figure quoted for the RAF was in fact very nearly correct. Twenty-six RAF fighters had been lost with thirteen pilots saved. Although the claimed loss of 165 of the Luftwaffe's aircraft was later found to have been an over-estimation of 300 per cent, it was a huge tonic for public morale at the time and one that was sorely needed.

The Luftwaffe's true loss figure for the day was fifty-six aircraft. That did not take into account the many German bombers that returned to France streaming smoke, flying on one engine, or with controls or hydraulics badly damaged, or with dead or badly wounded crewmembers, none of which served to bolster the badly shaken resolve of the Luftwaffe's bomber crews. The fact remained that the Luftwaffe had not suffered such a grievous loss rate since August 18th and Goring was clearly no nearer to smashing the RAF now than he was then.

Morale amongst the Luftwaffe's aircrews had taken a severe beating that day. Once again, German bomber crews complained at their debriefing sessions about the perceived lack of protection from their fighter escorts. The fighter pilots in turn complained of being "chained like dogs" to the lumbering bomber formations. Losses among the paraJagdGeschwaderern were suddenly approaching a critical level since September 7th. It was obvious to the German fighter leaders that Goring's close-escort policy was nothing short of disastrous, suicidal even, but still they were continually criticised and lambasted by their comrades of the bomber units and ordered to stick with it by Goring.

For a whole week, the RAF had been in the most favourable position of being able to exploit unusually bad Luftwaffe tactics and the proof of their success in so doing was now to be found on the casualty returns for German fighter units and further confirmed by the increasing numbers of crashed Messerschmitt 109's littering the southern English countryside.

As the London newspapers of Monday 16th gave their graphic accounts of the previous day's success, low cloud and rain precluded further air operations and both sides took advantage of the lull to review the situation. Goring decided that it was still possible to smash the RAF in four or five days if the weather proved favourable. Park, ever the master tactician, was devising more new interception policies which included the use, on a small scale, of three-squadron wing tactics if time permitted.

On September 17th, the wet weather moderated slightly, though not enough for mass attacks. Instead, the Luftwaffe sent large waves of fighters over England with a few bombers as bait, the idea being to tempt Park into sending massed fighter formations to attack them only to find that his precious Spitfires and Hurricanes would be cut to pieces by the overwhelming number of German fighters.

The Germans sent eight such raids over, committing some 250 aircraft. Park sent up twenty-eight squadrons to deal with them. Upon finding most of the German aircraft to be fighters, battle was joined and the German formations were turned back over mid-Kent. The RAF lost five aircraft with only one pilot killed whilst the Luftwaffe lost eight aircraft. Not exactly the result that OKL had hoped for.

At the end of that day, the Germans' mood matched the gloomy weather forecast, which was for a week of squally showers, low cloud, possibly some bright intervals and most certainly some prolonged periods of drizzle. Given also the obvious fact that Fighter Command was far from being crippled, Hitler decided to postpone any attempt at invasion until further notice. He summoned Goring for a conference. It was not a meeting at which either man expected to see the Fuhrer offering the rotund Reichsmarschall his heartiest congratulations or praise for his

military prowess.

In England, a slight change in the tempo of the battle was noticeable throughout the rest of September. Weather permitting, daylight attacks on London by large formations of enemy aircraft were still made, but what was becoming ever more obvious to all concerned was that the Germans were increasingly reluctant to press those attacks home.

Meanwhile, as the Luftwaffe continued to raid London nightly, RAF Bomber Command continued their nightly raids on the French ports where Hitler's invasion fleet was assembled, doing much damage. Taking advantage of the "Bomber's Moon" on the night of September 17th, the RAF's night bombers had managed to destroy twenty-eight barges at Dunkerque and badly damage over fifty more. They also scored a direct hit on an ammunition dump and had badly damaged a German destroyer and an E-boat. The Kriegsmarine was not amused.

The last two weeks of September in fact saw a gradual reduction in the number of German massed daylight raids. The Luftwaffe could simply no longer afford the tremendous losses that these operations were now costing them in terms of trained crews and aircraft.

By way of local examples; at 17:00 on the 18th, a straggling Junkers 88 from 9/KG77 became the victim of determined fighter attacks. The pilot crash-landed his badly damaged bomber in the fields behind Cooling Court, opposite Cooling Castle, but the ground was not very forgiving. Unteroffizier Kurz and Gefreiter Koehn were both killed in the landing attempt. Unteroffizier Glaeseker was the only crewmember who survived to be taken prisoner. Unteroffizier Burkhart was never found and remains to this very day "missing". This one crash cost the Luftwaffe one bomber and three prospective officers.

On Friday September 27th, a not dissimilar incident occurred which later turned out to have historical significance. At 3.30pm, a battle damaged Junkers Ju88A-1 of 3/KG77 made a forced-landing on the marshland between Graveney and Seasalter, near Faversham. Billeted at a nearby pub, The Sportsman, were the men of the 1st Battalion, the London Irish Rifles whose job it was, among others, to pick up downed German aircrews.

As a detachment of these Irishmen headed out to the crash site, they were expecting nothing more than to take the bomber's crew peacefully into custody. However, the men came under machine gun fire as they approached the crashed aircraft. Two of the Germans had removed a couple of their aircraft's defensive MG15's and were making a determined attempt to keep the soldiers at bay. The German pilot, Unteroffizier Fritz Ruhlandt, hadn't finished setting the aircraft's demolitron charge that he was rigging to go off under the starboard wing's fuel tank. Ruhlandt was determined that his crashed aircraft would not fall into British hands.

The soldiers split into two groups to split the Germans' fire. One group stayed put and returned fire, keeping the Germans on one gun busy, whilst a small group crept along a dyke, getting to within fifty yards of the bomber. As the soldiers drew nearer to the downed aircraft, Ruhlandt told his crew to cease fire and surrender. He'd finished setting the demolition charge. Unteroffiziers Ruhlandt, Richter and Richter (there were two crewmembers by the same name and rank) and Gefreiter Reiner were then taken into custody and driven back to paraThe Sportsman. As nobody had been killed in the exchange of fire, the soldiers stood their prisoners pints of ale and exchanged souvenirs with them till they were taken away for interrogation.

But the story doesn't quite end there. The soldiers' Commanding Officer, Captain Cantopher, wasn't with his men when they ventured out to collect the Germans. It was only now, as the Germans were being stood pints of ale, that the reason for their initial resistance became

known to him. Unfortunately for Unteroffizier Ruhlandt, Captain Cantopher spoke German, fluently. He'd overheard the German pilot telling his crew that the charge he'd set under the starboard wing fuel tank of their aircraft would go up fairly soon and blow the plane to smithereens, by which time they'd be miles away.

Thinking only of the prize that was about to be denied to British Intelligence, Cantopher hurriedly drove out to the crashed bomber, found the demolition charge, removed it and threw it into the nearby dyke, where it detonated harmlessly in the muddy water shortly afterwards. Ruhlandt's aircraft would be scrutinised after all.

Because of the exchange of fire between the German airmen and the soldiers, this incident was classed as a land skirmish. Therefore it has the distinction of officially being the last battle involving a foreign enemy to have actually taken place on English soil. So if you thought that the defeat of Bonnie Prince Charlie's Jacobites at the Battle of Culloden in 1746 had that honour, you are wrong I'm afraid! It was the Battle of Graveney Marsh in 1940, for which Captain Cantopher deservedly received the George Medal, for his undoubted bravery.

Also of interest is the fact that KG77 had not long come into the Battle. This was only their second week of operations against England and they'd suffered heavily already. For no particular reason that could be determined, their loss rate would be amongst the highest of any Luftwaffe bomber unit by the end of the Battle.

Another such localised incident, one that was a small piece of a larger scheme, occurred at 14:00 on the afternoon of the very last day of the month, when a straggling Messerschmitt 109 of 7/JG53, the legendary "Ace of Spades" unit, was seen flying low and slow over Broom Hill, Strood. It was obviously in trouble. The pilot, Unteroffizier Ernst Poschenrieder, had been in combat with Spitfires that had intercepted the formation of Ju88 bombers from KG30 that his squadron was close-guarding on a London raid.

Lady luck certainly wasn't flying with Ernst this day. Goring's close-escort policy had put Ernst and most of his comrades at a distinct disadvantage and JG53 had paid the price when the Spitfires of 222 Squadron pounced. The aircraft he was flying, 5175, "White 12", wasn't even his usual mount and the victory bars painted on her tailfin certainly were not his. He wasn't particularly superstitious, but all things considered, so far it definitely wasn't his day.

Unbeknown to Ernst, three of his JG53 comrades and two more from JG54, were in exactly the same position as he was at that moment, all as a direct result of 222 squadron's attack. Unteroffizier Braatz of 9/JG54 had crashed in flames fifteen minutes ago and was now dead. Unteroffizier Vogel of II/JG53 had just been captured ten minutes ago after crash-landing, whilst the German Air Sea Rescue Service was about to pick up another of II/JG53's pilots after he'd parachuted into the English Channel. Unteroffizier Marke of 7/JG54 had also just crash-landed and was being taken prisoner, whilst another of III/JG53's 109's was, like Ernst, about to make a forced-landing, near Eastbourne. It wasn't all one-sided though; Sergeant-pilot Hutchinson of 222 Squadron had also crash-landed his combat-damaged Spitfire at 1.45 pm during the same action.

The only thing Ernst knew for certain at that moment though, was that his own bullet-riddled aircraft was never going to make it back to his home airfield, Etaples in France. He'd been dramatically losing both height and speed since leaving the outskirts of the London area. Too low now to bale out, he was looking for a suitable place to crash-land his battle-damaged fighter. Broom Hill, a hilltop field that had been given over to the growing of vegetables for the

war effort, was his chosen site. In point of fact, it was fast becoming his only option.

Looking at the field below, he could see that it was going to be tricky. The first thing he had to consider was that there were people tending the field. Secondly, he needed the flattest part of the field, which regrettably wasn't overly long, but as his Spitfire-damaged, overheating engine was now beginning to misfire, he needed to get down quickly. Thirdly, he also wanted to minimise the dangers of the wheels-up landing he knew was coming; so aiming high as he overflew the field, he pressed and held the firing buttons of his guns, harmlessly emptying them of any remaining ammunition, into the tops of the many trees surrounding the place.

After completing his second low pass over the field to decide his landing path, he brought his stricken fighter, with its loudly complaining engine, round on the final approach on the field's eastern side for the inevitable, but controlled crash. A local light Anti-Aircraft position now took a few opportunist pot-shots at him, but though they superficially hit his aircraft again, he was committed to the crash-landing now and so he effectively ignored them.

As Ernst approached the tree-line, he throttled his wrecked engine right back and put the flaps down, to lose as much airspeed as possible. Ninety, eighty, seventy miles per hour; the treetops ahead seemed to be reaching up to him, trying to grab him. Almost atop the trees, he cut the loudly misfiring DB601 engine at the very last minute, to hopefully prevent a fire. Silence now as the propeller stopped; just the noise of the windrush. Stick back a little to induce a stall and the dying Messerschmitt skimmed the trees, sinking through the last thirty feet of the air whilst the ground rushed up to meet him, personally it seemed.

The Messerschmitt hit the ground very heavily as it stalled, at a little under sixty miles per hour. With amazing violence, it ploughed along the downward sloping ground; bucking, bouncing, bending two of its propeller blades backwards, crushing the flaps and radiators, tearing up the dry soil and eventually; breaking its back as it slewed half-round to starboard and came to a stop in a small hollow, mercifully just short of the trees, by the south-eastern corner of the field. He had made it by the narrowest of margins, but the force of the crash-landing had nearly broken Ernst Poschenrieder's back, as well as "paraWhite 12"'s.

The farm workers came running to the crash scene, armed with a variety of agricultural implements such as hoes and forks. They thought the pilot had tried to machine-gun them on his way in and now they were baying for his blood, but a young Land Army girl, a Scots lass named Sarah Kortwright, beat them all to their intended prey. Standing on the downed fighter's crumpled port wing next to the now open cockpit canopy, she forcibly prevented any of them from getting to the pilot. Ernst sat in the cockpit, his ears ringing and in a great deal of pain from his back; and waited. Fortunately, someone had gone to fetch a Policeman.

Sixty-year-old PC 28 Jack Matthews of the City of Rochester Police, who happened to live nearby at 51, Brompton Lane, also on the south-eastern boundary of the field, quickly arrived on the scene. There in a hollow was the crashed German fighter, the pilot still in the cockpit and with Sarah Kortwright still on the aircraft's buckled wing, protecting the pilot from the menaces of the surrounding angry mob. Sizing up the situation, Jack immediately took control. He strode purposefully up to the fighter's cockpit and formally arrested the pilot, for his own protection. Facing the mob, he sternly announced that anyone trying to get at the pilot now would be either obstructing a Police Officer or having to assault one. Jack was over six feet tall, athletically built and he cut quite an imposing figure, as he made sure everyone could see that he already had his hand on his trusty police truncheon. Although he didn't show it, Jack was equally concerned that his prisoner might try to escape, he didn't realise that Ernst was injured

at that point. Suddenly, the mob weren't so keen on their original intent and began to disperse and Ernst was then carefully extracted from his cockpit.

Jack later said that the German pilot, frankly, was in no fit state to resist arrest or make a run for it in any case, having sustained what turned out to be quite serious back injuries during the crash-landing. In fact the pilot seemed only too thankful simply to have got out of his perilous situation alive. Ernst was taken first to Chatham Police station, where the severity of his injuries was quickly realised. He was then transferred immediately to the nearby Naval Hospital, where he underwent an emergency operation.

In just that one London raid, the Luftwaffe had lost five prospective officers from just the fighter crashes. Three of KG30's Ju88's failed to return whilst three more limped home badly damaged. Add the bombers at Cooling and Graveney into the equation and the Luftwaffe had lost the best part of twenty-six prospective officers and eleven aircraft in just these isolated examples alone. Multiplied across the whole panorama of the Battle of Britain, such a loss rate was unsustainable even to the mighty Luftwaffe.

As the prospect of invasion fast diminished with the weather, so the German bombers flew less daylight sorties and instead increased their night operations, particularly against London and other important cities. However, the motivation for this had more to do with Goring's anger at having seen his invincible Luftwaffe suffering its first defeat, than with any furthering of his Fuhrer's now suspended invasion plans.

Suitably chastised by Hitler during that post-September 15th conference, Goring decided that he hadn't finished with the troublesome English yet, not by a long chalk; and he also had a nasty surprise up his sleeve for his hitherto beloved Jager; the fighter pilots whom he now overwhelmingly felt had let him down.

Chapter Nine

October 1940: Autumn, Jabos And Blitz's

As September gave way to October, the winds freshened and leaves on the trees started to turn brown as the autumn finally arrived. The noticeable change in the season also heralded the noticeable change in Reichsmarschall Goring's temperament. Chastised by his Fuhrer over the frustration of the invasion plans, Goring vented his spleen on the Luftwaffe's fighter units. As they had, in his considered opinion, manifestly failed to protect the vital bombers, they could now carry the bombs to England themselves. Accordingly, he had one third of the total available fighter strength converted to carry a 500lb bomb under the fuselage of a Messerschmitt 109 or three such bombs under the wings and fuselage of a paraZerstorer.

These Jabos (short for Jagdbombers, fighter-bombers) as they were now called, would fly as live-bait, escorted by a vast number of fighters, whose task it would be to annihilate any RAF fighters that tried to intercept them. If the Jabos got through, they were to drop their bombs on the troublesome English below, preferably on a decent target of opportunity; but failing such, anywhere. The German fighter pilots felt thoroughly dejected and angered by this order, and it was an order that came to mark the end of their esteem for Reichsmarschall Goring personally.

The autumn weather in England started cloudy, but it was still dry, still mild enough for the Jabos to reluctantly take up their role. Flying as high as they possibly could with their burden of bombs, the Jabos headed for England, escorted by their Kameraden of the Jager, but just as their own enthusiasm for this onerous task was half-hearted, the reaction of the defenders ultimately proved maddening to them.

Initially, as RDF couldn't tell what type of enemy aircraft were coming in, Park had no choice but to send appropriate forces to meet this new threat, which of course, was exactly what the Germans wanted. But after a week of such activity, a specialist unit called 421 Flight was formed at RAF Gravesend, at the behest of no less a person than Winston Churchill. The Flight was formed on October 7th, from a nucleus of 66(F) Squadron's pilots and was initially equipped with the Hurricane.

421 Flight's job was to check up on inbound raids and identify the nature of the enemy aircraft involved. Given that 421 Flight's primary role of spotters meant that they were ordered not to engage the enemy unless attacked themselves, it was soon decided that the faster Spitfire would be a more suitable aircraft for them to use.

Because RDF could "see" over much of Northern France, Gravesend's position was ideal for 421 Flight's purpose, as the singleton spotter could climb steeply as he flew south over Kent to take up his high-altitude position over the Channel. Once in position, he relayed the necessary information back to his controller by radio and sped back to Gravesend as the appropriate numbers of defending fighters were "scrambled".

Once 421 Flight was established, Dowding and Park simply wouldn't play the Germans' game. Both men realised that the paraJabos were the last act of a desperate Reichsmarschall and could have little more than a nuisance value, so Park steadfastly refused to despatch the massive fighter formations that the Germans wanted him to, in order to deal with them. Park sent just enough of his own fighters to chase the dispirited paraJabo pilots away. More than anything else, it was the introduction of the paraJabo at the same time as the German day bombing raids diminished, which convinced Dowding and Park that the Battle of Britain was all but over.

But after ten days of their spotting operations, 421 Flight had lost four aircraft, shot down by German fighters. At such high altitudes, the two-stage supercharger of its DB601 engine gave the Messerschmitt 109 a distinct edge in performance over its British adversaries. From October 18th, 421 Flight's spotters were despatched in pairs, one to spot whilst the other provided cover.

Meanwhile 66(F) Squadron, despite being in the thick of the fighting, hadn't paraofficially lost a pilot since they'd moved to Gravesend, though Pilot Officer C. Bodie had a narrow squeak on 5th October. During combat with German fighters, his Spitfire suffered engine damage and also had most of its starboard wing physically torn to shreds by cannon shells. Three-quarters of his Spitfire's starboard aileron was missing and the wingtip was hanging on by a thread, but Bodie somehow managed to gingerly coax his aircraft, with its unhappy Merlin and its disintegrating starboard mainplane, back to Gravesend; arriving quite literally on two-thirds of a wing and a prayer. To the astonishment of all those on the airfield who were anxiously watching his approach, he made a successful wheels-down landing, leaving his awestruck ground crew to wonder at how, paraexactly, the severely damaged fighter had stayed in the air at all in such a condition.

Despite such incredible luck as Pilot Officer Bodie's, 66(F) Squadron now had their run of good fortune regarding pilot casualties ended. On 4th October, the day before Bodie's miraculous return, Flight Lieutenant Kenneth McLeod Gillies, the Squadron's popular 'A' Flight Commander, had been reported missing, following the successful interception of a Heinkel 111 bomber off the East coast. There was still no official news of him yet. On 8th October, Pilot Officer George Corbett, a Canadian, was shot down in combat over Eastchurch. Corbett was still in the cockpit of his Spitfire when it crashed and burned on Bayford Marshes, near Upchurch. The twenty-one year-old was German "Ace" Adolf Galland's forty-third victim. Also lost that same day was Sergeant Pilot Rufus Ward. He too was shot down in combat with Messerschmitt 109's and was killed when his Spitfire crashed at Borstal, near Rochester.

On the 11th, 421 Flight lost Sergeant Pilot Charles Ayling, formerly of 66(F) Squadron, when his Spitfire crashed at Newchurch following combat with enemy fighters over Hawkinge.

On the 17th, Pilot Officer Hugh Reilley, an outgoing, twenty-two year-old who was another of 66(F) Squadron's Canadian pilots, was shot down and killed by another German "Ace": JG51's Major Werner Molders. Reilley's Spitfire, R6800 LZ-N, crashed in flames at Crockham Hill, near Sevenoaks.

Of the other RAF casualties suffered as a result of the large high-altitude fighter sweeps that the Germans made over Kent at the time, some were not necessarily realised as being such. In particular, two that occurred on the 10th involved two fighters from different squadrons, 249 and 253 Squadrons respectively. The two aircraft crashed within minutes of each other in two totally separate though exactly similar, incidents.

In both cases, the pilots, 249's Sergeant Pilot Edward Bayley and 253's Sergeant Pilot H. Allgood, were seen by their squadron comrades to suddenly drop out of formation and head straight for the ground, for no apparent reason. Despite urgent radio calls, neither pilot responded, both aircraft diving ever more steeply and each seemingly bent on self-destruction. One of them, the Hurricane piloted by 249 Squadron's Sergeant Bayley, made a lasting impression when, with its engine screaming, it slammed straight into the ground on Marshgate Farm, at Cooling, on the Hoo Peninsula, not far from "Shades House".

At the time, both crashes were put down to Oxygen failure, which neatly explained the respective pilots' failure to respond to their radio. If their Oxygen supply had failed at altitude, both pilots would have been rendered unconscious. The symptoms certainly seemed to fit.

However, Geoff Nutkins of the Shoreham Aircraft Museum told me that Bayley's crash site was partially excavated a few years ago and one of the items recovered was the armour plate from behind the pilot's seat. This plate bears a large hole, at head level, of the type and size that can usually be safely attributed to a 20mm cannon shell from a Messerschmitt 109, fired at close range. As we have already seen from Gerhard Schopfel's example when he gave 501 Squadron such a black day on 18th August, the RAF's rigid flying tactics, when cleverly exploited by an unseen "Lone Wolf", could also lead to sudden losses like these.

At present, the front section of Sergeant Bayley's Hurricane still lies deep in the marshland soil at Marshgate Farm, but if the hole in his recovered back armour is anything to go by, it is no wonder that Bayley didn't respond to the radio calls from his squadron mates. It is extremely doubtful that the unsuspecting Bayley ever knew what hit him, but thanks to that partial excavation, we now have a much clearer idea of what probably happened to him. It is equally possible that the cause of Sergeant Allgood's death may well have been strikingly similar in this respect also.

Of course, it wasn't just enemy action that could cause losses. At 13:50 on 13th October, Pilot Officer J K Ross of 17 Squadron was forced to bale out of his stricken Hurricane, P3536, after being hit by the well intentioned, but sadly mistaken marksmen who were manning the Chatham Anti-Aircraft guns. Unfortunately for the hapless Ross, the gunners had added injury to his doubtlessly considerable insult, as he had been wounded. Coming down to earth on his parachute and no doubt in some pain, he watched his Hurricane as it crashed on the bank of the River Medway. Shortly after landing, Ross was taken to Gravesend Hospital, where he was admitted for treatment.

Meanwhile, the Luftwaffe's night Blitz on London continued unabated. Night after night, the German bomber streams crossed the Channel to rain death and destruction on the population below. The Luftwaffe also started dropping parachute mines on London during this time. A fiendish development to say the least, it was simply a contact operated, two-ton sea mine, suspended from a parachute. It fell silently and unlike conventional bombs, it could not hope to be aimed at a specific target due to its tendency to drift as it descended; and of course, it contained enough explosive to sink a ship. It was purely a weapon of terror.

As well as regular bombs and the parachute mines, the Germans dropped tons of small incendiary bombs, filled with oil. "Firebomb Fritz" as these remarkably effective devices came to be known, caused widespread damage to the City of London and was probably the most effective device the Germans used. As they were delightfully cheap for the Germans to produce, the Luftwaffe obviously felt obliged to drop them on London by the thousand.

My late paternal grandfather, whom we always called "Diddy" (due to his being the shortest member of the family), was a serving London Fireman during this time. Now if there was one thing Diddy had always enjoyed, it was driving. Piloting a Dennis Fire Engine, bell ringing, through London's blacked out, bomb-damaged streets on his way to yet another "shout" during the Blitz of 1940, suited him down to the ground. In fact, in later years he used to drive his Morris Oxford saloon car in much the same manner, never once using the clutch, as the Dennis Fire Engine of his day had what was commonly referred to as a "crash-change" gearbox. Diddy therefore opined that a clutch pedal was simply a luxury item, fitted solely for use by lazy

drivers. It was a good job for him that his Morris cars all had a strong gearbox.

One story that he would often tell was of one particular night, shortly after the start of the Blitz, when his crew were called out to some blazing warehouses on the riverfront in his native Bermondsey. They'd arrived to find a Fireboat already on the scene in mid-river and a crew of the AFS (Auxiliary Fire Service) with their Taxi-towed pump, who seemed to be struggling to connect their hose to a Fire hydrant.

Diddy, by virtue of being the driver, was nominally in charge of his Fire Engine's pumps once he'd got his crew to the scene. Diddy couldn't understand why the AFS crew were having so much trouble trying to connect their hose to the hydrant, so he quickly went to see if he could help them, whilst the crew of his engine ran out their own hoses. It was then that he realised that at this early time, the AFS' hoses though of the same diameter as the standard Fire Brigade hoses, had a coupling that was different and would therefore not fit the hydrant, an official oversight that he for one found "plain stupid".

As the Thames was near high tide, he ordered the AFS crew to sling their feed hose into the river and use the water from there while he connected the feed hose from his engine, which he knew would fit, to the hydrant. The AFS crew got a marginal head start before Diddy opened up the pumps on his engine. As the AFS crew's jet began gushing muddy river water at the blazing warehouses, Diddy's hoses emitted nothing but an embarrassing splutter, and dribbled. The bombs had blasted the water main feeding the hydrant. Diddy duly shut his pumps down, disconnected the feed hose from the hydrant and threw it into the river alongside that of the AFS crew.

Using the Thames as a source of water had its drawbacks though, as Diddy and the AFS crew quickly discovered. The powerful pumps on Diddy's engine could handle over 1, 100 Gallons of water per minute at full bore. It wasn't long before the feed hoses became clogged with mud and debris from the Thames and once more, the pumps ran dry and the jets spluttered and died. The warehouses, with their timber floors and roof beams, burned to the ground, chiefly through a lack of water, as the determined efforts of the Fireboat were simply not enough to control the blaze. Dejectedly, the crews unblocked their hoses then packed up and left the scene.

Naturally, this event was the subject of much discussion back at the Fire Station. Word soon spread round the Central London Fire Stations that other crews had encountered the same problem, but there was a solution.

One crew from another Fire Station had come up with a novel but very effective idea for a filter by taking the waste paper basket from their Station office and tying it over the end of the feed hose prior to dropping it into the Thames. The basket in fact proved to be a remarkably efficient filter. Having sent word of this success round to the various other NFS London Fire Stations, it wasn't long at all before there were no longer any waste paper baskets to be found in any of the various Fire Station offices. This measure proved so successful that proper basket weave filters were hurriedly produced and issued to London's Fire crews and the AFS units, which was just as well, as there was no let up in sight in the Luftwaffe's campaign of nocturnal arson.

Another problem encountered by the citizens of London, usually the morning after a night of raids, was hand-painted signs that read "DANGER: UXB". Such signs quickly became intensely familiar to the civilian population of Britain's towns and cities. "UXB" was an abbreviation for an extremely deadly phenomenon: the UneXploded Bomb. Some such bombs were simply duds,

whilst others were of a type purposefully fitted with a delayed action fuse, so that nobody knew when they would explode.

Sometimes, the only way a UXB revealed its sinister presence was when it suddenly detonated. One such nightmarish occurrence happened to nine-year-old Joyce Thomas. She was left deafened in one ear and scarred by flying glass when an undiscovered UXB went off as she and a group of her friends made their way home after their weekly Boys and Girl's Life Brigade Club meeting. The UXB was lodged under a sweet shop in Gurney Street, near the Elephant and Castle in South London. The young girl walking next to Joyce, whose name was Florrie, was killed instantly as an item of street furniture that had been hurled skywards by the blast, came down directly next to Joyce; directly where Florrie had been seconds before. Florrie wasn't the only fatality that evening and Joyce wasn't the only casualty, but Joyce always considered herself to have been the lucky one that night.

Even those UXB's whose locations were discovered, still wrought their own brand of havoc as the roads, schools, railway stations, factories, warehouses and any other location in which they lay, had to be closed. Dealing with them was the exclusive preserve of the Army's Bomb Disposal Units, a select band of men who quietly tackled these Hadean devices on a daily and nightly basis, and who sometimes paid the ultimate price for their gallantry.

Finding adequate shelter from the rain of bombs was something else Londoners soon grew adept at. Of course, Anderson shelters were all well and good if you had a garden to put one in, but for those living in flats or one of the many thousands of back-to-back houses in London, the Anderson wasn't an option. The public shelters, such as they were, simply couldn't cope with the number of people trying to use them. Jane Fisher, then a 30 year-old whose husband, Fred, was away at sea in the Royal Navy, simply preferred to gather up their three-year-old daughter and take shelter in her under-stairs cupboard as soon as the sirens sounded, rather than risk going out to try any of the public shelters. She felt she had as much chance of survival under the stairs in her Bermondsey home as in any shelter. It certainly worked for her.

It wasn't long though, before a lot of Londoners "used their loaf" and started using the Tube stations as air raid shelters. The deeper the station, the more popular it became as a shelter. People slept wrapped in blankets in the passageways and on the platforms. At first, the government were worried by this new development and tried hard to dissuade people from the practice, but the stubborn Londoners continued to utilise the Tube stations so in the end, a substantial section of the London Underground was made into official shelter areas. Bunks were fitted, as were extra lavatories and temporary canteens. Some stations boasted rudimentary medical centres and children even received some of their schooling whilst sheltering from the bombing deep in the Tube stations.

But even Tube stations were not totally bomb-proof. On the night of October 15th, the Luftwaffe unintentionally scored a direct hit with a High Explosive bomb on Balham High Road, just above Balham Tube station. Forty-three people were killed above ground in the blast, whilst Sixty-four of the shelterers and four London Transport staff members died underground, as the vast bomb crater caused the total collapse of one end of the tube station. Also wrecked was the main sewer directly above the station and many of those killed below were either crushed under the many tons of rubble, or else they died trapped in unimaginable filth. Added to the carnage was a double-decker Bus, LT669 on route 88, that had been abandoned by its passengers and crew when the sirens sounded. The Bus had subsequently been drawn into the vast crater as the ground suddenly subsided beneath it. LT669 became something of a public spectacle as it remained in the crater for two weeks. It was just as much of a spectacle when it

was finally lifted out by a heavy crane.

Like every other aspect of London life, London Transport was now finding itself evermore in the front line too. The Luftwaffe's bombs wrecked innumerable vehicles and did enormous damage to the depots and roads. Eleven days after the Balham Tube station disaster, in the morning rush hour, a line of Trams in the Blackfriars Road received a direct hit as they stood just south of the overhead railway bridge. Two Trams were completely destroyed and one was severely damaged, whilst a fourth lost most of the glass on its top deck. Fortunately, like LT669, the Bus caught up in the Balham disaster, the Trams had been abandoned before the bombs came down, though there were some people who were injured by the flying glass.

The bridge itself was also very badly damaged, but not enough to totally stop the trains. It wasn't long before they were able to cross it, just a little more slowly till full repairs had been carried out. The south side of the railway bridge and the surface of its brick support pier on the west side, opposite the old station entrance, still plainly bear the scars from this episode today.

Because of incidents such as these, the Buses found their routes constantly changing, but somehow London Transport continued to operate, just like the railways, keeping London moving as best they could. In another noteworthy incident, the Bus garage at Leyton, in east London, suffered damage by bombs one night and every Bus in the garage had its windows shattered. When the "All clear" sounded, the garage staff, undaunted, simply removed all the broken glass from every vehicle and sent the least damaged vehicles out first. By ten-to-nine that same morning, the entire fleet from Leyton garage was in service; albeit totally windowless and somewhat battered, but running nonetheless.

Also running, or rather cycling, during one of the many air raids of this time, was James Jenman who on this particular night, was cycling home after playing Rugby, when he was blown off his bike by the sudden explosion of a bomb. His bike was totally wrecked and so he had to walk the remaining five or six miles home. Although his back hurt him considerably, he thought, in his considered medical opinion, that it was just badly bruised. It later transpired that he had in fact fractured two vertebrae in the tumble, an injury that was to give him trouble throughout his later life.

On Sunday, October 20th, the high-flying Jabos returned, making daylight attacks on southeast England and London again. They came over in five waves, heavily escorted, from about 09:30 till approximately 14:00. Part of the fighter escort for one of the later raids was provided by 6/JG52, based at Peuplingues, in France and one of the escort pilots from this unit was Oberfeldwebel Albert Friedemann.

The inbound raiders and their escorts had already been fighting their way across Kent when they reached Central London at around 13:40. The Jabos had dropped their burdensome bombs shortly before and their pilots could now engage the defending RAF fighters on equal terms, though ever with a cautious eye on the fuel gauge.

One of the RAF squadrons sent to deal with these raiders that day was 41 Squadron, up from Hornchurch. High over the City of London area, 41 Squadron's Flying Officer Peter Brown in his Spitfire, was in combat with a yellow-nosed Messerschmitt 109, that flown by Friedemann. During the combat, Brown succeeded in gaining the advantage over his opponent and scored several decisive hits on Friedemann's Messerschmitt, which started to belch brownish-black smoke from its now mortally wounded Daimler-Benz engine.

The crippled Messerschmitt began to lose speed and height as it flew over Tower Bridge,

crossing the Thames in a roughly southeasterly direction. Brown flew his Spitfire alongside his vanquished foe as the German pilot jettisoned his cockpit canopy and raised himself out of the seat. Having no choice in the matter, Friedemann baled out of his doomed fighter over the Plumstead/Welling area of south London and as it transpired, his exit was not a moment too soon. Seconds after Friedemann had jumped, the Messerschmitt's fuel tank exploded in mid-air. The time was almost exactly 13:45.

On the ground at Welling, was fifteen year-old Ennis Mowe. Though still at school, Ennis was the sort of girl who hated the fact that she was considered too young to take any active part in the war effort. She badly wanted to "do something" and even though it was she who had done the Lion's share of the work involved in constructing the family's Anderson shelter, it simply wasn't enough for her to be content with, an attitude that had lead to several arguments with her father recently.

Not feeling inclined to enjoy the dubious comforts of the public air-raid shelter in Bellegrove Road that Sunday, Ennis was making her way home, on foot, half-watching the vapour trails of yet another aerial battle that was obviously taking place at altitude over London again. Suddenly, she heard a loud "boom" high above her. Stopping, she quickly looked up in time to see a fireball and a fighter aircraft breaking apart as another fighter turned rapidly away. The tail section of the stricken aeroplane disintegrated, but the front section was coming straight down, dropping like a stone.

A good many people on the ground, including young Ennis, also saw something else falling away from the doomed aircraft, flailing and tumbling through the air as it came down. It was Oberfeldwebel Albert Friedemann, who was now condemned to realise a horrible end to his young life, by the fact that his parachute had failed to open.

The Messerschmitt's largely intact front section landed with a very loud thud, upside-down in a front garden in Wickham Street, across the road from the gate of Gibson's Farm. The impact forced the Messerschmitt's undercarriage to spring partially from the wheel-bays. Albert Friedemann fell to his terrifying death a short distance away across the farm, whilst pieces of his Messerschmitt's tail section fluttered down over a wide area.

Meanwhile, in Wickham Street, there was already a small crowd around the wreckage, the fallen Messerschmitt having miraculously missed the houses. The hot metal of the fighter's engine was still ticking as it cooled, but there was no fire. The Messerschmitt's remaining fuel had been burnt off in the mid-air explosion, some twelve thousand feet ago. People seemed to be looking at the vanquished aircraft with a mixture of curiosity and awe, as if it were something from outer space. The authorities were soon on the scene and gradually the crowd dwindled as the Police sent the sightseers away. Later, the RAF posted a guard over the wreck to prevent any possible souvenir hunting, for the wreck rapidly became a spectator attraction.

The authorities quickly removed Albert Friedemann's shattered and lifeless body from Gibson's Farm, but the wreck of his aircraft stayed in Welling for another three weeks. It was put on display outside the local cinema and fifteen year-old Ennis Mowe stood beside it nightly, in all weathers, for just over a fortnight, collecting donations from the queue of cinema-goers, in aid of the district Spitfire Fund.

At the end of each collection, she gave her collecting tin to the cinema manager, who counted the money she'd collected, paid it into the Post Office on her behalf and posted a notice showing the Post Office receipt for the amount raised. Ennis felt proud that she was at last

doing her bit for the war effort, while her father simply shook his head in quiet capitulation. However, this episode proved to be just the beginning of a long, long history of young Ennis "doing her bit".

The day after Friedemann's death, October 21st, was one when the weather clamped down again. It was mainly cloudy with intermittent rain and even some lasting fog over England. Despite this, the Luftwaffe sent small formations and even single aircraft over to make a nuisance of themselves; an aim that they totally achieved, though the effort cost them six aircraft. Fighter Command suffered no losses, but the mournful weather seemed to portend the grim discovery that was made later that day.

Seventeen days after he'd last been seen, the body of missing twenty-seven year-old Flight Lieutenant Ken Gillies from 66(F) Squadron was washed ashore at Covehithe. After leading the successful interception of that Heinkel 111 bomber, it is entirely possible that his aircraft had been damaged by return fire, or that he'd perhaps fallen foul of an escorting Messerschmitt 109. Either way, his Spitfire had evidently crashed in the sea.

Six days later, on October 27th, 66(F) Squadron lost another pilot, as Pilot Officer John Mather was killed when his Spitfire crashed at Half Moon Lane, Hildenborough. What caused the crash is still not known, but once again Oxygen failure was strongly suspected at the time.

On October 30th, 66(F) Squadron left Gravesend for the newly completed and now operational airfield at West Malling, near Maidstone. Pilot Officer Mather was therefore the last of the fifteen pilots flying from Gravesend who'd lost their lives during the Battle, officially. This is purely because for the British, the Battle of Britain officially ended at midnight on 31st October 1940.

As if in recognition of this fact, 66(F) Squadron's place was taken by 141 Squadron, a Defiant-equipped squadron whose role was now night-fighting. Henceforth, RAF Gravesend was to be a night-fighter station until the following spring.

With the threat of German invasion now patently passed, the daylight air battle was clearly won and the British position thus clearly saved. Air Chief Marshall Dowding and Air Vice Marshall Park, the two victorious commanders, were duly summoned to a meeting of the Air Council; at the end of which, both men, instead of being heartily congratulated, were actually removed from their posts; sacked, effectively. Dowding was sent off to America on a fact-finding tour whilst Park was transferred to RAF Training Command. There was no truer saying, it seemed, than the old proverb which states that people are seldom grateful toward their saviours.

Chapter Ten

Winter 1940 To Spring 1941: London

Pride

At the time of course, the Battle itself knew no such arbitrary date as 31st October, and although the long hot summer itself was now over, the following winter period would effectively become a postscript to it. The weather, the determined RAF fighters and the shorter days often intervened to frustrate the lessening German daylight raids, but despite these factors, there were still some daylight aerial battles in November that were every bit as ferocious as those of August had been. To all intents and purposes, though in a slightly different realm, the battle carried on and this is why our story also continues.

October 31st was chosen later as the official cut off point mainly for the award of the Battle of Britain Clasp to the allied airmen who had taken part by flying with RAF Fighter Command during that phase of the war. The aerial fighting didn't just come to an abrupt end, but by the arrival of November it was patently obvious even to the Germans, that the Luftwaffe had certainly lost the day battle over England. Even the ever-reluctant Jabos had given up by then, but the Luftwaffe High Command still held onto the faint hope of victory by other, nocturnal means.

Try as they might, Fighter Command could do little to prevent the night-time activities of the Luftwaffe's bombers. As Dowding and Park ignominiously cleared their desks and made way for their successors, the RAF possessed neither specialist night-fighter squadrons, nor night-fighter aircraft at this time, so some of the day-fighter squadrons now saw their Hurricanes or Spitfires painted matt black all over as they suddenly found themselves converting to the totally alien role of night fighters. It was often previously said by pilots that paraonly fools and Owls fly at night. Possibly; but now it was clearly Fools, Owls, the Luftwaffe's bombers and apprehensive fighter pilots.

Although there were some successful night interceptions, what few successes the RAF gained were often achieved more by luck and the use of incendiary bullets rather than accurate judgement in ground controlling. Experiments were conducted with airborne radar using converted Bristol Blenheim aircraft. These were promising, but airborne radar still had a long way to go before it became truly viable. There was even one experiment using a Vickers Wellington bomber as a flying searchlight, but still the Germans continued their nightly work, bringing death and destruction to London and Britain's other major towns and cities.

The only tangible defences after dark were the many Batteries of heavy Anti-Aircraft guns. Although the public were unaware of it, the intense barrages put up night after night by the London guns forced the German raiders to fly higher and thereby diminished the accuracy of their bombing. Its chief "pro-factor" however was the positive effect on civilian morale that hearing the near constant thundering of the guns had. Far from annoying the people, it made the suffering population feel that they were hitting back, which is why the newspapers of the period often attributed any scant night victories to the AA Gunners, rightly or wrongly. British bombing raids on Germany were also given many more column inches in the newspapers than they perhaps merited, for the exact same reason. Bold headlines such as BERLIN BOMBED AGAIN: RAF MOUNT BIGGEST RAID SO FAR somehow seemed to compensate a little for the scenes of devastation surrounding the various news vendors at the time.

Though the Germans certainly succeeded in causing widespread chaos and a not inconsiderable

amount of disruption to British commerce and industry with these night raids, there was one thing they could never break, and that was the spirit of the British people. If the Germans hoped that their continued efforts would cause the British people to crack and sue for peace, they were to be sorely disappointed. “Better Pot Luck with Churchill than Humble Pie with Hitler” as one well-phrased British morale-boosting poster said, which definitely seemed to sum up the nation’s attitude.

One fateful night in November, (that of the 14th) the Luftwaffe’s bombers devastated the heart of Coventry. The bombing had been remarkably accurate, as the Luftwaffe had made further refinements to their paraKnickebein system of target marking. The newer version was called paraX-Gerat. Where Knickebein had just one beam to cross the first, paraX-Gerat had three. The first two intersecting beams were simply countdown markers; it was the third beam that was the bomb release point marker. Although the “Y-Service” knew about paraX-Gerat, they hadn’t as yet come up with an effective counter-measure for this new system before the Coventry raid. Using paraX-Gerat, the Luftwaffe mercilessly pounded the heart out of the city throughout the night.

As the morning after this Hadean raid broke, many hundreds of Coventry’s citizens had lost their homes and their lives that night. But when the smoke cleared, the survivors were not cowed. Nor were they even thinking of suing for peace. Their resolve to beat the callous enemy was simply hardened even further, despite Lord Haw-Haw’s unusually accurate, boastful broadcast the evening after. The citizens of Birmingham, Liverpool, Manchester, Portsmouth, Southampton and any one of a dozen other important British cities all suffered similarly at this time and all ultimately emerged into the ruinous new landscape of the morning after, and felt the same way. There were no repeats of Guernica or Rotterdam here for the likes of Nazi propagandists such as Goebbels and Lord Haw-Haw to gloat over, and it wasn’t much longer till the RAF’s “Y Service” effectively rendered the Luftwaffe’s X-Gerat useless too.

There was one daytime episode in November that was different from all the others and that was Armistice Day, November 11th. Not that the enemy were going to take any special notice of the day’s significance, but what singled this day out from all the others was the appearance over England, in daylight, of the Italian Air Force; whose German allies in the so-called “Pact of Steel” seemed, on this particular day, to be most conspicuous by their absence.

The Regia Aeronautica, as the Italian Air Force was known, sent Five Cant bombers escorted by twenty-four Fiat CR42 biplane fighters, to mount a diversionary raid on Great Yarmouth, whilst nine Fiat BR20 bombers escorted by forty Fiat CR42’s, went after a convoy off Lowestoft.

Already on patrol over the convoy were the Hurricanes of 46 Squadron, which were diverted toward the main inbound Italian formation. Scrambled to join them were the Hurricanes of 257 Squadron, whilst 17 Squadron were sent to deal with the Italian formation that was heading for Great Yarmouth.

About twelve miles off Harwich, 257 Squadron came across the nine BR20’s flying in a tight “V” formation. The Hurricanes were at 15, 000 feet whilst the bombers were some 3, 000 feet below them. Temporarily leading 257 Squadron whilst Squadron Leader Robert Stanford-Tuck was away, was a good friend of Tuck’s: a Canadian, Flight Lieutenant Peter “Cowboy” Blatchford. Blatchford led his Hurricanes down in a beam attack on the enemy’s starboard flank, just as 46 Squadron arrived and went into a beam attack on the Italians’ port flank. The escorting Italian fighters entered the fray and a very confused battle ensued.

Although totally outclassed by the Hurricanes, the obsolete Italian escort fighters nevertheless put up a most determined fight. In the confusing melee, Blatchford ran out of ammunition and in sheer frustration, opted for trying to destroy the top wing of one of the CR42's with his propeller. The impact sheared nine inches off two of Blatchford's propeller blades, but despite the heavy vibration from his now totally unbalanced propeller, he managed to coax his Hurricane back to base.

Ultimately, the Italians lost three BR20's and three CR42's. One of the CR42's landed intact on the tidal flats at Orfordness and its pilot, Sergeant Salvadori of the 18th Squadriglia, was taken prisoner. His aircraft was also smartly recovered; taken away before the tide returned to rub salt into its superficial wounds. Fully restored, Salvadori's aircraft is now on display in the Royal Air Force Museum at Hendon.

After safely returning to base, Blatchford took some of 257 Squadron's jubilant pilots to view the remains of one of their victims, a BR20 bomber, the only one of the three BR20's shot down that crashed on land. Tuck, who had returned as the squadron landed, went with them. As the pilots crawled into the wrecked aircraft they found a large hamper full of typically Italian foodstuffs and a few bottles of red wine. Needless to say, the Hamper was taken away as well as the usual squadron "trophies" and its contents enjoyed to the full. It was partly because of this that the day became known throughout the RAF as the day of the "Chianti Party"; a day that the Germans were keen to remain totally disassociated from.

There was a second "Chianti Party" of sorts on 23rd November when a formation of CR42's crossed the south coast at Dover and flew inland on a fighter sweep. Pounced upon from above and behind by the twelve Spitfires of 603 Squadron, the Italians suffered heavily. Two of the Fiat biplanes fell instantly, almost disintegrating under the withering fire from the Spitfires' battery of eight machine guns, whilst three more CR42's were severely damaged, though they made it back to France. One Italian pilot compounded his injuries when he crash-landed his severely battle-damaged CR42, as he had already been badly wounded by the machine gun bullets from an attacking Spitfire.

One of 603 Squadron's Spitfires suffered a shattered cockpit canopy when Italian bullets struck it, but thanks to the armoured glass windscreen, the pilot was uninjured and the aircraft was back in service the following day. The Regia Aeronautica however, never ventured into English airspace thereafter.

In December, the Luftwaffe returned, and seemingly with renewed vigour, to their self-appointed night-time task of destroying London. Once more, thousands of incendiary and high explosive bombs were rained on the capital, as the Luftwaffe seemed to be trying to recreate the night of the Great Fire of London.

Yet London life, albeit in a slightly different form, continued. People went about their daily lives, in spite of the bombing, because they had to. They went to work in the morning and came home in the evening to some sort of an evening meal. Their nights may have been somewhat different, sleeping in some form of air raid shelter or perhaps hardly sleeping at all, but they carried on. A good many still went to the cinemas, either to watch the newsreels or the latest films. An average cinema ticket was around sixpence and for that you got a good two hours worth of escapism, Luftwaffe permitting, perhaps watching Rex Harrison and Margaret Lockwood in the tense thriller paraNight Train to Munich, a film often seen as the sequel to paraThe Lady Vanishes.

If the cinema lacked appeal, there were always the theatres of the West End. Some of the famous theatres such as The Dominion, and the Theatre Royal had closed as playhouses during this time, but others were still staging productions. Present Arms, a comedy, was to be seen at the Prince of Wales Theatre, or there was The Beggar's Opera, directed by John Gielgud and starring Michael Redgrave at the Haymarket, or for the more discerning theatregoer there were seasons of opera and ballet performed by the Sadler's Wells companies at the Shaftesbury Theatre.

One man, renowned in Theatreland, was returning home in a Taxi from the West End to his studio flat in Gerald Street one night in mid-December: Noel Coward. As soon as the Taxi drew up it was evident to Mr Coward that his flat had become the latest victim of the night Blitz. At the corner of Ebury Street, he saw the burning houses, the street strewn with rubble and the fire crews, silhouetted by the glare of the flames as they bravely toiled to control the many blazes amid the scenes of total devastation.

He recalled in the second volume of his autobiography that he'd arrived home during a lull in the bombing, and noted his own unease at the sudden quietude, where normally was the loud din of explosions. Particularly ominous, it seemed, was the venomous crackling of the flames that were hungrily consuming the buildings. Finding an ARP Warden, Mr Coward asked if he might be of any assistance with the injured. The Warden told him that everybody who could have been saved already had been.

It was then, out of the corner of his eye, that Mr Coward noticed two rather smartly dressed young ladies, painstakingly picking their way across the rubble in impossibly high-heeled shoes, toward where he and the Warden were standing. As they passed close by him, obviously undeterred by the ruinous scene, he heard one of them say to her friend; "you know dear, the trouble with all this is that you could easily rick your ankle" at which point the two women's totally incongruous part in the situation struck a chord with Mr Coward's sense of humour and he literally burst out laughing. He'd found this typically British understatement of the rather grave situation so enchanting, that he simply couldn't help himself. Even the Warden laughed.

This, and other experiences he had of the bombing, inspired him to write one of his best and most memorable songs: London Pride. The lyrics to the song are a series of charming vignettes of various aspects of London life, with this, the last third of the song specifically relating to the night bombing of London:

In our city darkened now, street and square and crescent,

We can feel our living past in our shadowed present,

Ghosts beside our starlit Thames, who lived and loved and died

Keep throughout the ages, London Pride.

London Pride has been handed down to us.

London Pride is a flower that's free.

London Pride means our own dear town to us,

And our pride it for ever will be.

Grey city, stubbornly implanted,

Taken so for granted for a thousand years.

Stay, city, smokily enchanted,

Cradle of our memories, our hopes and fears.

Every Blitz your resistance toughening,

From the Ritz to the Anchor and Crown,

Nothing ever could override

The pride of London Town.

The spirit of 1940 had found a permanent host in Noel Coward, but London Pride, the spirit of the Blitz or ultimately; the national spirit of 1940, were to remain entirely unknown psychological quantities in Germany. Quite why that should have been is unclear, as all were really nothing more than logical extensions of long known British character traits. For the German strategists to simply assume that the British people would inevitably crack under the bombing was a rash assumption indeed.

But there was another, darker side to "Blitz life". Not just in London, but in every other major city that the Luftwaffe targeted. Every city has its criminal fraternity and for this group of people, the Blitz period was a Godsend. The Police had fewer resources as a large number of their ranks were now in the armed forces. They were reliant on reservists who weren't "proper coppers" as such, a fact often exploited by the more organised criminal gangs. Some Police reservists were bribed whilst others were simply intimidated into turning a blind eye to the gangland activities.

Racketeering, or the "Black Market" as it was more often known, was a constant problem for the various city Police forces. Bombed houses were looted for things such as cash or ration books and warehouses were often raided; not just by the Luftwaffe. There were vicious "turf wars" between rival gangs that often resorted to brutal acts of murder in settlement. Another huge problem was impersonation. The more organised, established gangs could easily acquire the genuine steel helmets and service issue gas masks that were carried by the ARP Wardens. Using the confusion of an air raid, these bogus wardens would enlist the help of well-meaning civilians or others in clearing warehouses for them, under the pretext for example, of there being a UXB on the premises. Given that the commodities they were in fact stealing, such as clothes, foodstuffs, tobacco etc, would have been subject to strict rationing, these well-meaning helpers suspected nothing as the apparently genuine official supervised them in what seemed to be an important task.

Many an infamous city gangster of the 1950's/60's served his apprenticeship during the Blitz, but this "Golden Age" for the criminal fraternity did not last long. As 1940 ended and the new year of 1941 established itself, so the night Blitz too, finally began to peter out and the various Police forces were able to turn more attention toward such activities. The raids generally became more and more infrequent, as though the Luftwaffe was at last tiring of this taxing and ultimately futile effort.

Yet it would be a mistake to think that the Luftwaffe had just simply given up. For example, one Saturday night in March, they paid a visit to Waterloo station, showering the area with mixed loads of incendiaries and both large High Explosive and smaller, general-purpose bombs. Because of the extensive damage done to the railway lines and the viaduct that carried them to

Vauxhall and beyond, all trains had to start and terminate at Clapham Junction. The Station Master at Waterloo was a Mr Greenfield, who was a keen diarist. Here are some of the things he detailed about that raid.

"*All lines put out of service 9pm Saturday. Lots of small fires started by incendiaries, which the station staff put out. Examination of viaduct arches at 8am Sunday revealed two large craters under the arches of the Up Main Through and Up Main Relief lines. Bombs pierced boundary wall and footings on the Down Main Local line.*

Up and Down Windsor lines opened to trains 9.37am Sunday. Lines tested and Up and Down Main Local lines opened to trains at 3.15pm Sunday. Crane arrived at 1.50pm and two sets of beams put in on the Up Main Through line; two other sets unloaded and the Down Windsor Local line was opened at 5pm Sunday.

Down Main Through line opened to trains at 9.08am Monday. Normal working of all steam services from 11am Monday. Crane arrived at 8.54am Monday and beams etc put in on the Up Main Relief line. All squared up by 3.15pm and absolutely normal working, steam and electric, by 4pm Monday. NOW BEAT THAT, MR HITLER!"

And that was Messrs. Hitler and Goring's problem in a nutshell. They couldn't beat that, no matter how hard they tried.

On the night of 17th April the Luftwaffe paid another of their nocturnal visits to London, dropping more of their favourite "goodies"; incendiaries and parachute mines. It felt like a big raid, though it wasn't particularly large by Luftwaffe standards, but at 3am, one of their dreaded two-ton mines drifted silently down on its parachute and landed in Jermyn Street. It severely damaged an apartment block named Dukes Court when with a great roar, it detonated. Asleep in bed in his Dukes Court apartment, was one of the nation's favourite vocalists, Al Bowlly. He was killed instantly in the blast. He'd made what turned out to be his last recording just fifteen days previously, playing guitar with his friend Jimmy Mesene as he'd done many times before, under their usual name of Radio Stars With Two Guitars. The song was called When That Man Is Dead And Gone.

Every now and again though, the Luftwaffe could and would still mount a really big raid, such as the one they made on London during the night of May 10th 1941. Exactly one year to the day since they'd started the whole ball rolling by attacking the Low Countries and France, this raid was to prove to be pretty much the Luftwaffe's swansong; their final, despairing fling. Making use of the full moon in a cloudless night sky, the Luftwaffe, in that one night, seemed to drop a month's worth of bombs and incendiaries. The damage was widespread and severe, and once again the train crews of the Southern Railway were in the thick of it.

Particularly heavy fire damage was done to Cannon Street station. To save the trains from being caught up in the fire that had been started at one side of the terminus by the incendiaries, two locos; numbers 934 and 1541, were coupled together by their crews and run out from platform 8 onto the bridge over the Thames, whilst the bombs were still falling. Their plan was to use these two locos to pull the carriages of some of the other trains in the burning station out onto the bridge. As the crews started their work, an inbound empty train stopped alongside and a little ahead of them on the bridge, with another empty train some way behind that.

Suddenly, above the cacophony of other noises, there came that distinctive screaming, whistling sound; as three big High Explosive bombs hurtled down out of the smoke and ember-filled sky. Realising that the screaming bombs were virtually on top of them, the crews of 934

and 1541 leapt to the ground and started running back toward the station. Mercifully, the first two bombs missed the bridge and fell into the Thames below, but the third scored a direct hit on 934's boiler and with a deafening roar, both bomb and locomotive boiler exploded.

On the footplate of the first stopped inbound train, Driver L. Stainer and his fireman, physically ducked as the huge blast rocked their loco and debris of every kind flew everywhere. The fireman thought the bridge was collapsing, as their engine seemed to be rolling backwards, despite the brakes being locked on. Neither man knew at that point that most of the carriages of their train had been thrown over onto their side by the blast and had caught fire.

Upon seeing the bomb-blasted engine 934 a short distance away from them, Stainer and his fireman quickly jumped off their footplate and ran across the tracks to the stricken engine, to see if the crew were hurt. Luckily, they found them beside the track, deafened by the bomb's explosion and shaken by the narrowness of their escape, but otherwise unhurt. They quickly separated 1541 from the wreck of 934 and pulled her back to relative safety further onto the bridge. Turning back toward his own train, Stainer saw the devastated carriages still coupled behind his engine. Far from panicking, he and his fireman had sufficient presence of mind to quickly uncouple their own engine from the overturned burning carriages and drive it forward. Crossing the points, they made it to the safer, non-burning-train infested side of the bridge, and out of the immediate danger of the fire. There all three engine crews remained till dawn. Trapped between the burning terminus and the burning wreckage of the trains, they spent their time simply watching the fires.

By the time the sun came up through the smouldering, smoking scene, some of the fires had burned themselves out, whilst others had been extinguished by determined fire-fighters. The bridge was still intact, as was 1541 though she wasn't able to be moved till the wreck of 934 was taken away. The three engine crews now walked along the track and into the bomb-damaged, smoke-blackened interior of Cannon Street station, where they made their way to the Station Master's office. It was there they were informed by the Station Master that although the damage was severe, he knew now that by a miracle, no-one had been killed at Cannon Street that night; as the three engine crews who were standing in his office could now be accounted for.

Something else accounted for that night was three Heinkel 111 bombers, all of which were shot down by French pilots. Pilot Officer Demozay of 1 Squadron shot his down over East London, whilst Pilot Officer Scitivaux and Pilot Officer Emile Fayolle, both of whom were serving with 242 Squadron, had their encounters over the London Docks. All three 'kills' were confirmed.

All through the night and into the morning, the men of the Fire Services had been as stretched as ever, as were all the other emergency services and the uniquely valiant men of the Army's bomb disposal units, who had hundreds of UXB's to contend with. As the smoke gradually thinned out, London resumed its daily business and once more the Southern Railway and London Transport faced yet another day with hundreds of Locomotives and carriages, Buses, Trolleybuses and Trams damaged, destroyed or just in the wrong places. Large sections of the Metropolis had been rendered impassable, direct hits had been scored upon rail bridges and viaducts, causing them to collapse and much of the Tube network also had to be closed as tunnels were blocked by debris and rubble from above.

More than fifteen hundred Londoners now lay dead in the smoking ruins whilst many hundreds lay injured in the hospitals. Yet somehow, the City of London, its people and its public services, had survived; battered but more or less intact. If the people of London had shown a fierce

determination to “carry on” throughout those eight long months of bombing, then the same can certainly be said of the Southern Railway’s resolve to maintain their train services and of London Transport’s determination to live up to their motto; “to carry the people”, throughout the city’s ordeal by fire and explosives.

The Blitz period finally ended that same month, as the Germans decided to forget about England for now whilst they invaded Russia, hitherto their ally. They could always return and finish the “Verdammt Englanders” later, once Russia was out of the way. For now, the dejected Reichsmarschall Goring, somewhat out of favour with his Fuhrer as well as his fighter pilots, opted for a life of self-imposed exile; salving his depression by alternately hunting Stags and taking drugs.

Operation Seelowe, the planned invasion of Britain, remained postponed indefinitely. What remained of the assembled invasion fleet, after RAF Bomber Command’s sustained nocturnal efforts against it, finally began to be dispersed from the French Channel ports, though a good many of the assembled troops would remain throughout 1941, just in case Der Fuhrer changed his mind again, or until they were sent to the Russian Front.

The inescapable fact though, was that the German war machine had just suffered its first defeat, and it was the one that would make possible the final victory four years later. The crowning glory perhaps, as Billy Cotton and his Band proudly sang, was that The king is still in London. All through the Blitz, King George VI and Queen Elizabeth had steadfastly remained in residence at Buckingham Palace. As part of that immensely popular song’s lyric said: *The King is with his people ‘cos that’s where he wants to be.*

That the British people, military and civilian, had stood up to Hitler’s aerial onslaught, showing a truly remarkable degree of courage; made an immense contribution to the victory. The Battle of Britain, and The Blitz, have both indeed left an indelible mark on English history and the English people. That time was a chapter in our history that surely, as Churchill himself once stated, should indeed rank with Trafalgar and the Armada. It was a time of great courage and resolve, a time to be remembered with the utmost pride, but most of all a time to recall for the sheer resilience of the British people, and the unhesitating sacrifices made by a comparatively small number of very young men: “paraThe few”.

The summer of 1940 was their time: a time when those young gentlemen, against all odds, took to the air again and again; and soundly defeated the players, whilst those on the ground stood up to the bombing with just as much courage and fortitude. Were it not for that inescapable fact, this country would be a shockingly different place today. It cannot be stressed forcibly enough that victory in the Battle of Britain, for whichever side achieved it, meant ultimate victory in the Second World War. We of the English-speaking world really ought to bear that in mind far more often than we do.

One man who certainly bore that, and more, in mind; wrote the following in the Daily Mail newspaper, as the world was celebrating VE Day, four long years after the London Blitz ended. He, perhaps more than most, knew the true meaning of “being British” in the very best sense of that tradition, and in the face of certain prejudices. He wrote:

“*Let us try with all our concentrated will, to maintain the spirit that upheld us in 1940. Let us remember... that it was our inherited, stubborn integrity that gave the future of the civilized world a chance and a glimmer of hope.*” So wrote the late, great, Noel Coward.

Epilogue:

The Past And The Present

As we have seen, the whole eventful summer of 1940 started with the Battle of France. The German offensive in the spring of 1940 was, from the purely military point of view, superbly planned and executed. The Low Countries and France were knocked out in record time by a combination of the Germans' devastating new tactics of Blitzkrieg and Gamelin's stubborn insistence upon re-fighting the 1914-18 war.

Gamelin had constantly overestimated the threat that was facing him and by directing his operations from such a rearward HQ whilst relying on slow methods of communication, he failed to recognise that the first week would prove to be so decisive. By the time Gamelin was replaced by General Weygand, it was already too late for France. Seemingly forever on their back foot, it wasn't long before the retreating allies were well and truly caught between the devil and the deep blue sea; trapped at Dunkerque. But then Hitler made what was ultimately his greatest military blunder. By halting the advancing German Army and leaving it to the Luftwaffe at Goring's behest, Hitler set himself on a path that ultimately cost him the war. Militarily, the German Army, with largely inferior equipment but much better tactics, had done superbly well up to that point.

Allied losses at Dunkerque were heavy. A total of some 68, 100 British and French troops were either killed or taken prisoner. The British Army alone lost almost half a million tons of valuable ammunition and stores, such as the 101, 000 tons of Rifles, Field Guns, Bren Guns and Anti-Tank Guns that were left behind, as were over 84, 000 tons in terms of Army vehicles such as Lorries, Armoured Cars, Motorcycles etc. Set against this seemingly overwhelming disaster, was the fact that 558, 226 British and French troops were successfully evacuated by the ships of the Royal Navy and of course, the armada of "little ships".

The Royal Navy lost an incredible total of 243 ships at Dunkerque, which included six destroyers and five minesweepers. It says much for the courageous perseverance of all involved that the vast majority of the troops, two-thirds of them in fact, were actually evacuated from the harbour itself. Contrary then perhaps to the popularly held image, is the hard fact that of the 558, 226 who were saved, only 98, 600 were actually evacuated directly from the beaches.

Charles Lightoller, veteran of both the Titanic and Dunkerque, died in December of 1952, at the age of 78; six years before he was immortalised by Kenneth More in the film A Night To Remember. Charles Lightoller was quite simply a remarkable man. He'd survived four shipwrecks (including that of the Titanic), he'd been marooned on a real desert island, tried his hand at prospecting for Gold in the Klondike and even been a real-life cowboy. During the 1914-18 war, he commanded a torpedo boat and then the destroyer HMS Falcon,a member of the famous Dover Patrol. Later in the war he was given command of the "River" class destroyer HMS Garry, on convoy escort work, which was when he'd rammed and sunk a German U-Boat; the UB110, commanded by Kapitan-Leutnant Werner Furbringer, after his depth-charge attack successfully forced the U-Boat to the surface. Just before the outbreak of World War Two, he'd taken his own boat, Sundowner on a "Cloak and Dagger" trip, surveying the German coastline at the behest of the Admiralty. Then came the Dunkerque evacuation. Charles Lightoller had certainly packed a lot into his 78 years!

The East Kent Maritime Trust now owns his fully restored paraSundowner, and today she resides in Ramsgate Harbour, still seaworthy. paraSundowner had continued her war service as

a coastal patrol vessel and as such she took part in a number of other, though less dramatic, rescues. Once such rescue was particularly ironic; a Walrus flying boat, itself a small air-sea rescue plane, had crashed in the sea after picking up a downed airman. paraSundowner was sent to rescue the already rescued airman and his rescuers! On another occasion, she went to the rescue of a stranded Spitfire pilot who had been forced to make a wheels-up landing in the oozing mud of the Thames Estuary.

In 1990, Sundowner led the other surviving "little ships" across the Channel to Dunkerque to commemorate the fiftieth anniversary of Operation Dynamo. Her Master on that voyage was Captain Tim Lightoller RN, Charles' grandson. Also aboard Sundowner for the trip was former Sea Scout Gerald Ashcroft, then well into his sixties.

But of all the vessels involved in Operation Dynamo, it was the paddle steamer Medway Queen that saved the greatest number of Allied troops from death or capture; over 7,000, but her story didn't have quite the happy ending that Sundowner's has until quite recently.

After the war, Medway Queen underwent a full refit, following which she was handed back to her original owners. She then resumed her pre-war passenger service. Having first entered service in 1924, she was finally retired in 1963 and her fortunes have varied considerably since.

After being used as a floating clubhouse following her retirement, she ended up becoming a sunken wreck. Finally, she was raised and for many years she was moored on the Hoo Peninsula at Damhead Creek, in the shadow of Kingsnorth Power Station, with pumps running constantly to keep her afloat. After all the years since her gallantry in Operation Dynamo, the ship hailed as the "Heroine of Dunkerque", finally secured the necessary grant from the Lottery Heritage fund in 2006, that has now paved the way for her total restoration and a hopeful return to service. However, that grant has to be part-matched by fundraising efforts from the preservation society, so the Medway Queen still needs to help herself. At the time of writing, she is in a dry dock in Bristol, having her new hull traditionally built, in the shadow of Brunel's masterpiece, the SS Great Britain. If you would like to help save her, do please contact the Medway Queen Preservation Society. Their details can be found later in this book.

The place where Hitler took the French surrender, the Carrefour de la Armistice in the forest glade at Compiegne, has been completely restored since the Nazis desecrated it. The allies liberated Compiegne in September of 1944 and in November of that year a ceremony of cleansing was held. German Prisoners Of War had been put to work on the site and had largely restored it by then, though sadly, the original railway carriage, removed on Hitler's orders to Berlin, had been destroyed during a British air raid. On 11th November 1950, an identical carriage was placed in the shelter at the site, which completed the total restoration and an emotive service of remembrance is still held there every year, on the eleventh hour of the eleventh day of the eleventh month; presided over by Marshal Foch's statue, without fail.

The city of Paris was liberated on August 24th 1944, when the tanks and troops of the 2nd French Armoured Division swept into the city from the west, whilst American forces came into the city from the northeast, thus ending four years and two months of German occupation. Hitler had vengefully ordered the city to be destroyed, but the timely intervention of the French Resistance prevented such a catastrophe. The next day there was another parade along the paraAvenue Champs Elysees. This time it was a much happier event, as it was Free French and American troops who were marching through the paraArc de Triomphe , with General Charles de Gaulle leading them, while the German officer commanding the Paris garrison formally surrendered at the paraHotel Maurice.

Of the British Anti-Aircraft and coastal defences mentioned in this book, the coastal defences at Allhallows are still largely intact today. At the outbreak of war in September 1939, 159 Battery of the 53rd (City of London) Heavy Anti Aircraft Regiment, were sent to France as part of the Advanced Striking Force but were recalled to England just prior to the Dunkerque evacuation. Thereafter, they were based at Allhallows from May 1940 till May 1942, when they were posted to India.

Allhallows Primary School now occupies the site of 159 Battery's 4.5-inch Heavy Anti-Aircraft guns, though not completely. Just to the south of the school about a quarter of the concrete foundations of the gun pits and other buildings remained till 2006, when the remainder of 159 Battery's site was sold. Since then a small housing development unimaginatively called "Saxon Ridge" has been built on it. "Battery Park" might have been a more suitable name, if only because of its relevance.

The old Coastguard's cottage at Parker's Corner, just outside of Allhallows village, still stands sentinel on the high ground in the position that made it so ideal for use as Observer Post 1/Bravo 1. It is now a private residence, a dog breeding kennels in fact, but in the field behind the house is an Observer Corps relic of the "Cold War" period. There is an underground Nuclear Bomb Monitoring Bunker there, which was manned between 1961 and 1963 by volunteers of the ROC. The bunker is now inaccessible, the entry shaft having been filled with concrete rubble some years ago, to prevent foolhardy amateur explorers from venturing inside.

Slough Fort, that former coastal defence fort that is now the veteran of three wars, is still intact, (though minus the guns of course) and is today home to the Slough Fort Riding Centre. Three of the fort's four big gun pits can still be seen, as can other 1940 additions such as the searchlight, the range-finding and the fire-control points that co-ordinated the fort's guns. The Fort itself is undergoing a restoration effort largely by local people in conjunction with Bourne leisure, its owners. The line of pillboxes to the west of the fort as well as the remains of the concrete blocks on the west beach, can all be taken in on a circular walk and on a fine summer's day, you really can't help but look at them and hark back to the time that they were built: in the aftermath of Dunkerque, in June 1940.

Although, as Churchill said at the time, "*wars are not won by evacuations*", without the "Miracle of Dunkerque", there would have been no Battle of Britain, only a humiliating "Munich-style" negotiated peace, designed to give Hitler a free hand in Europe, for the time being. But allowing over half a million British and French troops to slip through their fingers and escape back across the Channel was nothing short of a military disaster for the Germans. Had he ignored Goring's boastful claims, listened to his Generals and let his Army press home their tremendous advantage at Dunkerque, Hitler could have eliminated England quickly and Germany would not then have had to fight a protracted war on two fronts simultaneously, a disastrous position for her militarily and one that Der Fuhrer himself was fully cognizant of at the time. His next step, the planned invasion of Russia, could then have been undertaken much sooner and he would then in turn have avoided the fearful Russian winter, which ultimately cost him everything. But in the early summer of 1940, purely because of the outcome of Dunkerque, there had to be a Battle of Britain, just to eliminate England as a base from which the war could be continued against Germany. It was a battle that hitherto; the Germans simply hadn't envisaged having the need to fight.

After his rapid conquest of northern Europe, Hitler earnestly believed the British would sue for peace. On the Germans' paper, Britain's position was utterly hopeless. But the reports Hitler read were of course seriously flawed. During the Battle of Britain, the Germans badly

underestimated British strengths, particularly our aircraft repair and production rates. Because the Germans had a tendency to over-engineer practically everything they built, they based their estimated calculations of British production rates upon their own, meticulous but painstakingly slow output. In turn, the British rather tended to overestimate German strength, basing their estimates of German production upon our own figures, the unknowingly more rapid British production rates. This was fatal methodology for the attacking Germans of course, but ultimately not a real worry to the defending British; a rather similar situation in nature to the more than over-optimistic Luftwaffe pilots' victory claims.

Right from the start of the air battle, the Luftwaffe's tactics were always to try and draw Fighter Command's forces into a disadvantageous combat situation, where the RAF's fighters could be overwhelmed by a superior number of German fighters. Dowding and Park fully realised that aim, and refused to comply with it. It will be recalled that the Battle of France had drained Fighter Command's strength to a near critical level. June, the month of grace, gave Fighter Command and Britain as a whole, a much-needed breathing space; time in which to prepare for the coming battle.

Though Fighter Command's strength was increased during this period, there simply were not the resources available to Park for him to be able to throw large numbers of fighters at the incoming German raiders in any case. Park's measured responses and "Penny-Packet" tactics were absolutely correct for the situation he faced at that time. The fact remains that had Park attempted the use of Big Wing tactics at this stage of the battle, he would have been doing exactly as the Germans wished; a fact that he and Dowding, if nobody else, were both totally cognizant of.

Ultimately, Park's sound tactics of forward interception meant that there was simply not enough time for 11 Group to assemble a three or five-squadron wing of British fighters to intercept a large German formation before, or as it crossed, the Kent coast. Leigh-Mallory and Bader argued that the Duxford Wing should have been scrambled first, to perform the forward interception, then Park's squadrons could have been sent off at almost the last minute to mop up and chase the raiders away.

Quite apart from the fact that the Germans' intended targets were of course Park's airfields and he wanted to break the raids up before they reached such vital targets; what if the Germans had sent another massed raid on the heels of the first? Having thrown everything into intercepting the first raid, the Duxford Wing and those 11 Group squadrons that had intercepted and fought the first raiders would be either landing when the second raid came in, or worse; would be caught on the ground refuelling and re-arming as the German bombs rained down on their airfields.

Given the time and distance factors governing 11 Group's responses during the early phases of the battle, Park's "Penny-Packet" tactics not only fooled the Germans as to the actual strength of the RAF, they also ensured that should the Germans indeed send another raid on the heels of the first, he at least had parasome resources with which to meet it. Therefore, Park did not fall into the trap that the Germans were forever trying to set for him. He was paranot going to put all his fighters into the air at once, as Goring, Leigh-Mallory and Bader wanted, for them to be butchered by the waiting 109's. Nor would Park have them caught on the ground refuelling and re-arming either, if he could possibly help it.

Had the Luftwaffe been properly able to identify and thus specifically single out Fighter Command's airfields, had they also realised the importance of the RDF stations to the British

defence system and then concentrated their efforts solely on such establishments, the outcome of the battle may well have been different, though somehow I doubt it. It was sheer weight of bombs that would destroy a large target such as an airfield. That, plus sustained effort. The Luftwaffe had neither the strength nor the type of aircraft to achieve this aim.

Once the Luftwaffe changed from their tactical target of Fighter Command's infrastructure to the purely vengeful target of London, Park had much more time to intercept, and as we have already seen, he did indeed then use small, highly flexible wings of paired squadrons to great effect, once he had this extra time. Park himself wasn't inflexible, obstinate or intransigent in any way. No commander of 11 Group, RAF Fighter Command, during the summer of 1940 could have afforded to be so, as the nature of the battle itself was constantly changing.

Dowding was undoubtedly the chief architect of the RAF's victory. It was his unique system of air defence, unparalleled and unrivalled anywhere in the world, which saved Britain. Park, in command of the crucial 11 Group and bearing the brunt of the battle, was the master tactician who delivered that victory. That these two outstanding men should have been so badly treated, almost as if they'd lost, rather than won, such an historic air battle, is nothing short of disgraceful.

In 1941, the Air Ministry produced an official booklet about the summer of 1940. Titled "The Battle of Britain", this official account of the decisive air battle runs to thirty-two pages, yet it doesn't mention Dowding or Park once. It was, as Churchill himself disgustedly remarked; "*rather like the Royal Navy producing an official account of Trafalgar, without once mentioning Nelson*".

Dowding was already overdue for retirement at the time of Dunkerque but was asked to stay on further. Given the expected coming air battle and the fact that he was the creator of Britain's unique air defence system, this of course made sound sense. But Dowding had made enemies in high places as he strove to create his system. As he himself once succinctly put it: "...my name stank at the Air Ministry", especially after that epic letter of his of May 15th 1940. He may indeed have given Britain a decisive victory, but it was now political payback time apparently.

On September 30th 1940, he was made a Knight Grand Commander of the Bath, and less than one month after that, the now Sir Hugh Dowding was packed off to America. The Deputy Chief of Air Staff, Sholto Douglas, one of Dowding's harshest critics, replaced him as C in C Fighter Command. Dowding officially retired from the RAF in 1942 and he died in 1970. One of his last outings was in 1968, to go back to his old office at Bentley Priory, there to watch Sir Laurence Olivier portray him during the filming of paraThe Battle of Britain. Dowding was not above giving Olivier a little constructive criticism either! There is a statue of him in London, though situated as it is in a quiet side street, means that it is not at all where it really ought to be. It should rightfully be alongside that of Lord Nelson in Trafalgar Square.

Someone else who ought to have a statue of him in Trafalgar Square and standing shoulder-to-shoulder with Dowding's monument, is of course Keith Park. Park was packed off to RAF Training Command, guilty by his close association with, and unwavering loyalty to, Dowding. His replacement as the 11 Group commander was of course Leigh-Mallory. However fate, or perhaps destiny, had other plans for this brilliant tactician who had suddenly been side-lined.

In 1942, the vital island of Malta was under siege from the Luftwaffe. With hardly any aircraft based there to speak of and being totally dependent on incoming tanker ships for precious fuel,

Park was sent to mastermind the seemingly impossible; the air defence of the island. With a handful of Spitfires flown to the beleaguered island off aircraft carriers, and once more against all the odds, Park and his handful of select Spitfire pilots repeated his Battle of Britain success; by using precisely the same proven, battle-winning, “Penny-Packet” tactics, and the aerial siege of Malta was lifted, no doubt much to the chagrin of his critics.

After World War Two, Park left the RAF and went to Argentina, there to work as a trade ambassador for the Hawker-Siddeley Aircraft Company, creators of the immortal Hurricane. He returned to his native Auckland, New Zealand in 1948, as Hawker-Siddeley’s Pacific representative. When Park eventually retired, he became a prominent member of the Auckland City Council, as well as other local bodies. He was twice knighted and had the unusual honour of having an English railway locomotive, a school in New Zealand and one section of the Auckland Museum of Transport and Technology named after him. Sir Keith Park died on the 6th February 1975, at the age of eighty-two.

As we have seen from Keith Park’s example, the matter of tactics was crucial during the Battle of Britain, and fortunately for Dowding and Park, one of the biggest tactical changes during the battle was in the Luftwaffe’s fighter tactics. At first the Luftwaffe’s fighters used sweep ahead of the bomber formations whilst others provided "top cover" to the bombers. This enabled them to have the dual advantages of height and speed whilst still retaining their independence and their ability to seek the enemy, usually on their own terms. Goring, who really ought to have known better of course, foolishly took all of that away from them at the end of August/beginning of September, by making them all stay close to the bombers, chained like dogs.

The Heinkels and Dorniers cruised at about 180mph, which was about half speed for a Messerschmitt 109. The Junkers 88 was a little faster but still too slow at cruising to be closely escorted. The 109 pilots had to constantly weave about so as not to overtake the lumbering bombers, and when the RAF fighters attacked their now unwieldy formations at something like 300 mph, the 109's had the added disadvantage of being under strict orders to wait until the RAF’s bullets were actually coming at them before they were allowed to accelerate to combat speed and meet the attack. By the time they did, the first RAF attack would be over and there would already be marked casualties among the slow-moving fighters, as well as the bombers, as Ernst Poschenrieder and the other five of his comrades had certainly discovered to their personal cost, on 30th September.

Wherever possible, the RAF’s fighter controllers ordered the Spitfire squadrons to engage the faster 109's and the slower Hurricanes were detailed to deal with the bombers. This wasn't always possible of course, but once London became the target and Goring tied the fighters to the bombers as a close escort, the Luftwaffe's losses really mounted. The Messerschmitt 109 had fuel enough for only ten minutes over London and combat reduced that narrow margin further. By targeting London, the Luftwaffe had further to fly to their target and further to go back home. This meant that the RAF's 11 Group squadrons fought a running engagement toward London until they ran out of ammunition and had to break off, whereupon the southernmost 12 group squadrons entered the fray and gave the shaken German formations a further mauling over London and in some instances, harried them part way home too.

The hapless 109 pilots were continually blamed by the German bomber crews for their perceived lack of protection, but there wasn't a thing the German escort pilots could do about it. Without the necessary long-range fuel tanks and with insufficient ammunition stocks, protracted combat (i.e. up to the target, over the target and providing cover on the return

journey) was simply out of the question for them. From a 109 pilot's point of view, there was not much point in trying to protect bombers over London and all the way back to France, if you'd already expended your ammunition in running battles over Kent on the way in and that dreaded red lamp was warning that you were now perilously short on fuel, too. Quite a few 109's ended up beached in French coastal resorts with empty fuel tanks. A lot more simply ran out of petrol going home before they got anywhere near France and had to ditch in the Channel. The Jagdfliegeren certainly tried hard to look after their comrades of the KampGeschwaderen, but they received scant appreciation of their determined efforts.

Aircraft endurance was something of a problem for both sides. Hurricanes and Spitfires had enough ammunition for just 14.7 seconds of continuous firing. Seven good two-second bursts of fire and a Hurricane's or a Spitfire's guns were all but empty. The 109 wasn't much better equipped, for although it carried a larger stock of bullets, it had fewer guns to fire them, but it did have two 20mm cannons which although prone to stoppages on occasions, were nevertheless a more than useful addition. But just think how quickly any of those fighters would run out of ammunition, shooting at fleeting targets at speeds of 300-350mph.

On top of everything else, the German fighter pilots also had to endure Goring's personal wrath. By unjustly accusing his fighter pilots of cowardice and later converting a third of them to Jabos as a punishment for their perceived failings, Goring simply added a wholly undeserved insult to his fighter pilots' irreproachable injury.

Ultimately of course, the Luftwaffe's real failing was that it simply wasn't a strategic Air Force, it was a tactical Air Force; and for the Germans, England was a strategic target. Given the Luftwaffe's first envisaged role as close support for the German Army's highly mobile armoured divisions; being equipped with precision dive-bombers such as the Stuka and fast twin-engined medium bombers, made perfect sense. This was well illustrated by the successful early campaigns in Spain, Poland, Denmark, Norway, Holland, Belgium and of course, France. Blitzkrieg caught everyone out initially, as we have seen.

But the Battle of Britain was a complete departure from the original role that the Luftwaffe had been designed for; not one of the bomber types used by the Luftwaffe could carry a worthwhile payload of bombs for strategic operations. The Heinkel 111's maximum bomb load with full fuel tanks was a mere 2,134lbs. It took a far heavier load than that to totally destroy a fighter airfield.

What the Luftwaffe sorely needed to attack RAF stations and later, London, was a strategic force of big, four-engined bombers that could carry something like the 13, 000lb payload of an RAF Halifax, and the Germans also needed a suitable escort fighter, one that was their equivalent of the allies' later P51D Mustang, with long range fuel tanks. Thankfully for us, the Luftwaffe had neither throughout the war, as Reichsmarschall Goring had cancelled Germany's four-engined bomber programme some years previously, purely because of his affinity for single-seat fighters and his beloved Me110 Zerstorers, the latter of which was supposed to have been a long range escort fighter in the first place, but which was in the event, not much more than a paper tiger.

In the end, Goring simply got carried away with the Luftwaffe's previous paratactical successes and believed in his Luftwaffe's apparent total invincibility. He never learned the lesson of Dunkerque and by August 1940, Hitler obviously hadn't either, or he would never have trusted Goring's frequently made claim to be able to smash the RAF within a week, or a month. Goring made the former claim just prior to paraAdler Tag in early August. He first made the latter claim

about two weeks later and was still making it in late September; right up to the point when his Fuhrer was finally forced to postpone the planned invasion of England indefinitely.

Goring's stated aim of of what he called Niederschlagen (wearing down) of RAF Fighter Comand ultimately had the reverse effect. British fighter production and repair factories were actually turning out more than double the number of aircraft per week that their equivalent German counterparts were able to. Unlike the Luftwaffe, Fighter Command finished the Battle of Britain with a greater number of front line aircraft than it had started with, so it wasn't Fighter Command that was left worn down and bled white by Goring's Niederschlagen policy: it was in fact the not-so-mighty-after-all Luftwaffe.

Fighter Command's biggest problem up to early September was never aircraft availability, it was pilot shortage. When Dowding made the foriegn squadrons operational, he greatly eased that problem, just when it was needed. The contribution made by the Empire and Commonwealth pilots, the covert American volunteers and those free French who'd managed to escape from the German steamroller, can never be understated. Neither can the contribution made by the airmen of the Polish and Czech squadrons. Their fiercely determined methods of attack were astonishing to the RAF leaders at the time, but despite what often seemed like suicide tactics, the Polish and Czech squadrons' losses remained remarkably low, whilst the losses these squadrons inflicted upon the Luftwaffe remained remarkably high. The only blemish on their otherwise excellent form was that habit of theirs in chasing fleeing raiders back across the Channel. That practice led more than one of these brave airmen to an untimely death.

Compared to the Luftwaffe's airmen, the defending RAF fighter pilots had one simple but hugely important advantage, and here I am not referring to RDF. They flew and fought, with a good many paying the ultimate price, over the green and pleasant land of the country they were defending. This fact seemingly not only inspired them, it had its own very distinct and practical advantage. If they were to get shot down, they were on friendly territory and if they survived unscathed, as quite a number of them did, they could be back with their squadron in a matter of hours and given a replacement aircraft.

This plain fact of course was the reasoning behind the actions of some Luftwaffe fighter pilots in machine-gunning RAF pilots who'd baled out. Reactions to this development were mixed, ranging from anger at the German pilots' murderous intent, to the realisation of the fact that the parachuting airman over his home territory was still going to be a combatant the next day of course. Dowding himself understood that fact, but even if the cold bare fact of the parachuting British airman's combat status was realised and appreciated, it was still seen as being a pretty low thing to resort to.

Luftwaffe airmen who crash-landed or who were shot down over that same green and pleasant land, had no such friendly territory advantage, of course. They were either dead or prisoners of war, so either way they were hors de combat and only one such Luftwaffe airman, Messerschmitt 109 pilot Oberleutnant Franz Von Werra, ever managed to escape from captivity successfully.

Talking once again of aircraft crashes on this green and pleasant land, the story of the pilot of the Hurricane that crashed on 3rd September at Chart Sutton, near Maidstone, is almost a story in itself, one that I've purposefully saved till this point, because this small piece of the huge Battle of Britain jigsaw illustrates exactly the core reason that this period of our island's history is so dear to us; so please bear with me whilst I tell it for you now.

The identity of the gallant pilot, who it will be remembered, had stayed with his blazing aircraft and steered it away from the village school, remained a mystery for years. In 1989, I'd just moved to that area and was intrigued when one Sunday afternoon, I saw a Hurricane and a Spitfire, obviously from the RAF's Battle of Britain Memorial Flight, performing a display over a nearby farm. My curiosity was of course aroused, as I knew the BBMF do not spare the engine hours of their aircraft lightly, so I asked around locally the following day and started to piece together the story, which ultimately turned into a full page article for the local newspaper, commemorating the 50th anniversary of the battle.

During the course of my research in 1989, I came across the following reports in the Kent County Archive at Maidstone:

Tuesday 3rd September 1940, Hollingbourne District A.R.P. Office:

10:42. A British Fighter has crashed in flames on Parkhouse Farm, Chart Sutton. Map reference 21/73.

11:12. The aircraft is still burning fiercely and its ammunition is now exploding. There is no news of the pilot yet.

I also found out, thanks to the helpful locals, that even then, 49 years on from the crash, there is in fact a memorial to this unknown pilot, very close to where the aircraft crashed. It is a peaceful, beautifully kept garden, with a simple wooden cross bearing the inscription "RAF PILOT 3rd September 1940". It was above this little memorial garden that the RAF had been performing their display.

The memorial lies hidden in a shady copse beside an apple orchard, on a south-facing slope that overlooks the one of the most beautiful parts of the county: the Weald of Kent. It is only open to the public once a year and few people outside of the local Royal Air Force Association's Headcorn branch and the people of Chart Sutton village know its location. The whole thing, even now, is still a rather private affair between the local people and the memory of the fallen pilot.

In 1970, the overgrown crash site was cleared and a formal garden constructed. There has been a memorial service every year at Chart Sutton Church ever since, which is usually followed by a display from either a lone fighter or a pair of fighters from the RAF's Battle of Britain Memorial Flight. Tuesday, 3rd September 1940, is a date that Chart Sutton and the RAF have never forgotten.

Despite the fact that a local Police Officer had actually witnessed the crash and managed to log the involved aircraft's number, confusion arose at the time because two more British fighters crashed in close proximity to the first crash site very soon afterwards; one the next day in fact, at neighbouring Amberfield Farm and one ten days later on 14th September, almost unbelievably at Parkhouse Farm again.

The RAF sent a recovery squad to Chart Sutton on September 26th 1940, to clear the wreckage from all three crash sites. Although a local constabulary report to the RAF cited Hurricane P3782 as having been cleared from Parkhouse Farm, along with the fragmented remains of its pilot, plus the remains of the other pilot who'd crashed there on the 14th, that single piece of seemingly unimportant paper then got buried, lost in the general Police archives for years. It didn't come to light again till the mid-eighties, probably during a clearout. It was then reproduced in that epic book, The Battle of Britain Then & Now .

Meanwhile, the removed remains of both pilots were buried in Sittingbourne & Milton Cemetery, in graves marked "unknown British airman". The fighter that crashed at Amberfield Farm had left very little in its wake, having gone straight into the ground, so it is easy to see now, how the confusion over the identification of the three pilots subsequently arose, as aircraft crashes in Kent were of course quite commonplace during that long hot summer of 1940.

That was pretty much how things remained, till in 1980 a museum group excavated the site of the second Parkhouse Farm crash. Forty years to the very day since he'd crashed, Sergeant Pilot Brimble of 73 Squadron and his Hurricane, were exhumed from the Kent soil and positively identified. Also excavated sometime afterwards was the site of the Amberfield Farm crash, which was then positively identified as being that of Flying Officer Cutts of 222 Squadron and his Spitfire. This left the last of the three "unknown airmen" and Hurricane P3782, the number from the now rediscovered police report.

Hurricane P3782 belonged to No. l Squadron, whose records show that on 3rd September 1940, it was allocated to Pilot Officer R.H. Shaw. The squadron log posts both Shaw and Hurricane P3782 as: "Missing, failed to return from a standing patrol" on the morning of Tuesday September 3rd 1940.

There can be little doubt now as to whom the Chart Sutton memorial belongs, but as the engine and cockpit of Shaw's Hurricane are still deeply buried where they fell, there is nothing to base any official identification upon. Despite this, and the fact that the RAF removed what human remains they could find at the time, it has always been regarded locally as the last resting place of this gallant young airman.

Robert Henry Shaw was born on 28th July 1916, in Bolton to a family in the textile Business. He was commissioned as a Pilot Officer in the RAF on February 1st 1940 and posted to 11 Group, Fighter Command. On March 11th, he joined No.1 Squadron in France, as part of the force attempting to stem the German advance. The squadron was withdrawn to Tangmere, in Hampshire just before Dunkerque. It was at this time that Robert was inadvertently shot down by the pilot of another British fighter, who had evidently mistaken Robert's Hurricane for a Messerschmitt 109. However, Robert managed to land his damaged Hurricane back at Tangmere and was himself unhurt.

I had the pleasure of meeting Robert's brother when we were introduced to each other at the annual memorial service the year after the local newspaper ran my original story. Unbeknown to me, the paper had traced and contacted Robert's family. His brother, who was completely unaware that Robert's memory had been honoured annually in Chart Sutton for the previous nineteen years, travelled down for the 1991 service. At our meeting, he told me that Robert had been a frequent visitor to Germany before the war and was at first mightily impressed by Hitler's regime. However, during what turned out to be his final visit in 1937, Robert was witness to a public incident that dispelled any illusions he had formed of Hitler's new Germany. He never did say exactly what it was that he'd witnessed, but though obviously tight of lip, he was decidedly firm of jaw. Robert came straight home and joined the RAF Volunteer Reserve immediately.

The exact circumstances of Robert's death have never been established, but it seems likely that he and his flight commander, Flight Lieutenant Hillcoat, probably encountered a pack of "Free hunting" Messerschmitt 109's; ironically, one of the last such hunting pack operations before Goring unwisely tied the fighters to the bomber formations as a close escort. Robert was by

then a seasoned and experienced fighter pilot, but the ensuing dogfight would have been anything but equal. Despite the odds being heavily against them, the pair did not shrink from the fight and Flight Lieutenant Hillcoat was also killed.

The Chart Sutton memorial is the village's way of honouring that last great courageous deed of Robert's in steering his blazing and doomed Hurricane away from the village school. It was his final, desperate act of pure self-sacrifice that has justly made twenty-four year-old Pilot Officer Robert H. Shaw an immortal part of that Kent village.

There are many such cases of these brave airmen who gave their lives but who, unlike Robert, have no memorial, official or otherwise. Thankfully, this situation is somewhat slowly being redressed. As an example; around the Dartford area, if you know where to find them, there are some rather special stones that sit unobtrusively beside the road or by one of the town's parks. Each of these stones has an inscription that tells a similar story, of a pilot who made the supreme sacrifice. That these stones are there at all is testament to the work of such establishments as the Shoreham Aircraft Museum working in partnership with the local Council, to ensure that at least at a local level, those boys are not forgotten.

Therein lays the crux of the matter, for although the Battle of Britain is occasionally resurrected to be remembered and sometimes celebrated, the men who actually fought it are often not; not properly, anyway. Dowding and Park are occasionally dragged out from under the carpet where they were swept, dusted off, given scant appreciation, and more often than not, swept straight back under the carpet again. The same can almost be said of the pilots themselves. If it's a special anniversary or if one of them publishes an autobiography, there's a flurry of initial interest and a clamour to climb aboard the temporary bandwagon. The individual former pilot is soon forgotten afterwards.

The seventieth anniversary sadly saw some examples of this. There were a number of hastily compiled "tributes" in the newspapers, some of which were clearly thrown together in a hurry by young reporters who had little actual interest and scant knowledge, but who had obviously been tasked with "producing something" with time constraints to the fore. One notable event concerned the BBC's use of a photo to head their web page that purportedly showed Battle of Britain pilots walking away from their fighters at the end of another hard day. Unfortunately, the planes in the photo were American-built fighter aircraft that didn't enter RAF service till 1943. The error was spotted and rectified, but not before a large number of people had seen it. There were, lamentably, many other examples of hastily produced articles that ended up lacking all sincerity and paying only lip-service to the reality of the event.

But the seventieth anniversary did see some truly fitting commemorations of course. One such day was the Friday in August when the actor Robert Hardy, who once famously portrayed Churchill, read the full text of the Never in the field of Human conflict speech, as a Hurricane and Spitfire performed a flypast up the Mall in London. The same aircraft also flew a round trip over many of the former Kent fighter station locations, including Riverview Park, Gravesend; in tribute, before then landing at Biggin Hill in a fitting end to a memorable day.

If you were actually to ask any one of those pilots who survived what it is they want from us, their answer is remarkably simple. The don't want hero-worship, they find that thoroughly distasteful. They don't want our sympathy, even those who were badly burned or otherwise wounded, for the same reason. They do not want charity. They simply want us to remember them, and what they did, and most of all parawhy they did it. They too were ordinary people at the time, just like us; but they did an extraordinary thing, parafor us: the future generations. So

is that really too much for them to ask of us, do you think? Because if they and the Battle they fought are only occasionally remembered today, how will they be remembered tomorrow, when the last survivor has finally died?

What of the other "ordinary" people who have featured in this book? James Jenman graduated from medical school at Guy's Hospital, London, in 1946 and spent the next thirty years as a GP in Meopham, Kent. He even returned to the Home Guard when that force was resurrected in 1953 at the time of the Korean War. He was commissioned as a Major and was the Medical Officer of his battalion. Two years later, the Home Guard was officially disbanded, forever. In the latter part of his medical career, James was a Medical Officer with the DHSS. He retired in January 1994 and went to live in Cobham, Kent, just two miles down the road from where RAF Gravesend used to be.

Jane Fisher, whom we last heard of sheltering in the under-stairs cupboard of her home during the bombing of London, was in fact my late maternal Grandmother. Living through the London Blitz had a profound effect upon her, as the sound of the Air Raid Siren was something that would always fill her with dread, even thirty years after the war, when those same sirens became part of the Thames Flood Warning System and had to be regularly tested. She passed away in 2001, aged 91.

Joyce Thomas, the nine year-old girl caught in the explosion of a UXB, was my late Mother-In-Law. Joyce was often asked into local schools in her later years to give talks to the children on what it was like to have survived the bombing; a task she greatly enjoyed. Joyce passed away in August of 2010.

Ex-London Fireman "Diddy", my late paternal Grandfather, volunteered his considerable driving experience to the Royal Air Force, in 1941 when the Blitz ended. He was duly accepted and because of his experience, he was made a Driver IC (In Charge). Posted to Burma, he was subsequently captured by the Japanese and put to work on the infamous Burma-Thailand Railway, "The Railway of Death", where it was later said that one British or Commonwealth prisoner had died for every sleeper that was laid. In fact, the death toll went far beyond that. He was fortunate indeed to have survived such a nightmare, but the Diddy who came home from the war bore all the scars, both the physical and the mental varieties, of what his Japanese captors had done to him. He was no longer medically fit to return to the Fire Brigade, so he worked on the London docks instead. But by then he was a very different man from the outgoing, cheeky-monkey-faced ex-fireman who'd joined the RAF. Sadly, I only knew him in his later years, as a seemingly aloof, rather cold, withdrawn and a somewhat hard man, with a litany of medical problems, who sometimes smiled but rarely laughed. Diddy died in 1988, just two months after he'd lost the last surviving member of his immediate family: his son James, my Dad.

By a strange coincidence perhaps, Gunner Bill Reed, a near neighbour and dear friend of ours, suffered a similar fate to that of Diddy. Bill too found himself along with thousands of his comrades in the nightmare of Japanese captivity, after he was taken prisoner in 1942 when Singapore fell. He too was put to work on the Railway of Death and by a miracle, survived; though he and Diddy never met as they were at opposite ends of the railway. Bill's unique story is told in paraLost Souls of the River Kwai, a book that I had both the honour and the privilege to write and a book that Bill thankfully lived to see published and enjoyed. Like Diddy, Bill is a paraLost Soul of the River Kwai no more. Bill died in Medway Hospital during April of 2005.

Unteroffizier Ernst Poschenrieder, the German fighter pilot from 7/JG53 who was arrested by

Police Constable Jack Matthews following his remarkable crash-landing at Broom Hill, near Rochester; spent the remainder of the war as a POW. He first went to a camp in the Lake District, then for the last four years of the war, he was a prisoner in Canada. The story of his crash-landing did make it into the Chatham edition of The Kent Messenger and Observer, though with most of the details shrouded in a mixture of censorship and propaganda.

The story appeared on page seven of the following Saturday's edition. The local light Anti-Aircraft battery was credited by the paper with bringing him down, which was pure propaganda, but the rest of the article does contain a little truth inasmuch as it gives the true day and time, the direction of his approach and the fact that he was injured, arrested and taken to hospital. Also of interest is the last line of the article: "It is believed that the plane was from one of Goring's crack squadrons." This was certainly true.

Interestingly, it wasn't the first time that 7/JG53's "White 12", Me109 Werk No. 5175, had been crash-landed either. Just ten days prior to being so expertly flown into Broom Hill, she had been crash-landed by her regular pilot at Boulogne after being damaged in combat with RAF fighters over the Channel. She'd been retrieved, repaired and returned to service with JG53 remarkably quickly.

Ernst recovered from the injuries he sustained in the Broom Hill crash and in fact he returned to England fifteen years later, in 1955, to thank both Sarah Kortwright who'd protected him, and the doctor who'd treated him after the crash. He traced the hospital doctor fairly easily and thanked him most profusely, but Sarah had returned to her native Aberdeen in Scotland. Undeterred, and with a little help from his new-found English friends, he managed to track her down, went up to Scotland armed with a bouquet of flowers, and promptly took her out to dinner.

Ernst never met PC Jack Matthews again though, and after he'd retired from the force, Jack died in the mid 1960's. Ernst, having later retired from being a successful timber merchant in Stuttgart, Germany, returned to visit England again in May of 2005. The purpose of this visit was to see aviation artist Geoff Nutkins, at the Shoreham Aircraft Museum in Kent, there to sign a set of limited edition prints of a painting and some pencil sketches that Geoff had done, commemorating the day he was shot down. Geoff recalls that Ernst sneaked in via the side entrance and stole a blanket off the washing line, which he spread out on Geoff's lawn. He then proceeded to do ten slow, proper, "marine-style" press-ups. As Geoff came out, the ninety-four year-old former German airman stood up and formally introduced himself. He then invited Geoff to do ten similar press-ups! Ernst became a frequent visitor to the museum's events. Sadly, Ernst Poschenrieder died on 13th August 2009, aged ninety-eight. He was not, as might have been expected, killed by old age, but rather unexpectedly, by a car.

Pilot Officer Emile Fayolle, one of the French fighter pilots who'd escaped to England and joined the RAF, survived the later stages of the Battle of Britain and the Blitz, but did not survive the war. On 13th September he and his friend Francois de Labouchere, joined Peter Townsend's 85 Squadron at Church Fenton. Emile then moved on to 145 Squadron, thence to Douglas Bader's 242 Squadron, where he scored his first RAF victory. He then went to 611 Squadron, flying the Hurri-bomber : a cannon-armed, bomb carrying, fighter-bomber version of the Mk IIc Hurricane. It wasn't long before he personally took a heavy toll on enemy shipping. Emile seemed to take particularly well to 611 Squadron's role, becoming something of a specialist in the rather risky art of fast and accurate low-level attacks.

When the RAF formed 340 Squadron, the first all-Free French squadron, as part of the Ile de

France fighter group, he and his great friend Francois de Labouchere naturally joined the unit. Promotion soon followed. As well as the Heinkel 111 he'd shot down on 10th May 1941, he also had confirmed a FW 190 on 3rd May 1942 and a JU88 on 11th May 1942. His tally of enemy shipping stood at 25 by then.

At the end of July 1942, Emile was given command of 174 Squadron. On the Dieppe operation of 19th August 1942, his first one as Commanding Officer, his Hurricane took a hit from defending German anti-aircraft fire after he'd led his squadron of Hurri-bombers fast and low into the attack. His battle-damaged aircraft lost height and crashed in the Channel on the way back to England, not far from Worthing. Emile was still in the cockpit.

But that is not quite the end of this remarkable Frenchman's story. By the strange vagaries of the English Channel's currents, Emile's body was eventually washed ashore in his native France. The Germans recovered it and given that he was wearing the uniform of an RAF Squadron Leader but with some French insignia, they presumed him to have been a Canadian. Emile's body had been in the water for some time and was in no real state to be positively identified, so the Germans buried him in a grave marked "Unknown RAF Squadron Leader".

It wasn't till 1998, after much laborious research had been done, that Emile finally got a headstone of his own. He is buried at Hautot-sur-Mer (Dieppe Canadian) Cemetery and is commemorated on the London Battle of Britain memorial, with all the other gallant countrymen of his who'd flown and fought with the RAF in the Battle of Britain. His fighting prowess had earned him a total of four medals including the DFC and the Croix de Guerre.

Following her successful spell of fundraising beside the wreck of Albert Friedemann's Messerschmitt outside the cinema in Welling, Ennis Mowe, in late 1941, blatantly lied about her age, falsely obtained a driving licence, and joined the London Ambulance Service. She soon became Britain's youngest-ever Ambulance Driver, a fact not realised till long afterwards at her official retirement! Her father had by then given up the unequal paternal struggle with his fiercely independent daughter. Ennis eventually married, becoming Ennis Smith, and she carried on "doing her bit" in just about every conflict that has involved British servicemen ever since. Her last such activities were based around the organisation and distribution of Christmas parcels to our troops stationed in Bosnia. Ennis never allowed her age to be a deterrent to her determination.

Ted Perrin, the nine-year-old boy from Hartley who'd witnessed John Gurteen's fatal crash, had many amusing anecdotes that he told me during our long telephone conversation. One of them concerns the constant alerts and the noise of the bombing during the night Blitz, which made him so tired by keeping him constantly awake that on the one night when he finally fell into a deep sleep, a bomb landed dangerously close to his family's house and he slept right through the explosion! The soldiers from a nearby searchlight unit, who'd come to help, finally woke him up. At first they thought him to be an unconscious casualty. Their house was badly damaged in the explosion and Ted's family was moved out. It was another six months before their home was declared habitable again.

Dick Bottley, who as a fifteen year-old boy had witnessed the episode involving the pilot of the Dornier 17 that Ray Holmes rammed over London on September 15th 1940, was until fairly recently still with us and living near Orpington, Kent. The Battle of Britain held a special place in Dick's heart, along with Tall Ships, but Dick's relationship with the grace and beauty of deep water sailing ships is altogether another set of stories/old sailor's yarns!

One question that I asked of everyone I interviewed was: Did you ever think at the time, that we would actually be invaded? The answers were all very similar, even though not one of the interviewees knew each other. They all agreed that the situation and the prospect of a German invasion didn't seem real. They knew it was real of course, but somehow they thought that they'd "muddle through" in the end. Naturally, there were more extreme views to be had. Ennis Mowe said "over my dead body!" which was typical of her! But it was Faith, she who looked after some of the Gravesend fighter pilots in such a wonderfully feminine way, who told me that while she saw how desperate the fighting was, she never really thought the Germans would actually be able to invade. "I just thought they (the Germans) had a bit of a cheek really, flying over here and dropping their bombs on us like that. I always thought our boys would hold them back, no matter what, and once we started bombing them back I thought; well, that'll teach them!"

In truth, the Battle of Britain was ultimately won by the people of Britain. The RAF's fighter pilots bore the brunt of the battle directly of course, but they could not have done so without the ground crews who kept their fighters flying, the radar operators, the men and women of the Royal Observer Corps, the ops room plotters, or the fighter controllers. They in turn depended on utility workers such as telephone engineers, electricians, plumbers and gas mains repair men, to quickly undo the damage done by the Luftwaffe to vital installations. Without the many repair workshops spread out all over the country and the munitions workers and of course the aircraft manufacturers, the pilots would soon have run out of fighter planes and bullets anyway and absolutely none of the above would have been at all possible if it were not for one collective body: The British Public. If the civilian population had cracked under the strain of the bombing and forced the British Government to sue for peace, as Hitler had fervently hoped, then the Battle of Britain would have been fought in vain. The valiant efforts of Britain's Merchant Seamen and their colleagues of the Royal Navy escorting them, who braved the U-boats to keep essential supplies of food and materials coming in from abroad, would also have been in vain. Make no mistake; the civilian population was just as much in the front line as the pilots were. The Luftwaffe targeted them, their homes, their workplaces and their infrastructure in their attempt to crush England.

There was no such thing as a "safe job" anywhere in England during the summer of 1940, which is why the train crews, signalmen, station staff, engineers, workmen, cleaners; in fact the hundreds of men and women of the Southern Railway also deserve mention here. By the end of the war, it was clear that of the big four railway companies, the Southern Railway had borne the brunt of the enemy action. The network possessed some 2,135 route miles which had seen a staggering total of 3,637 separate incidents, ranging from bomb damages, fighter attacks on trains, UXB's and such incidents as a parachute mine that came to rest propped up against the signal box at London Bridge station. The signalmen stayed at their posts, methodically clearing the lines they controlled, whilst the mine was made safe by the Royal Navy's disposal squad. (It was a maritime mine, so the Army wouldn't touch it!). The above figures mean that the Southern Railway shouldered an incredible 170 such incidents per 100 miles of track; and still they kept their trains running.

They had also run an impressive total of 1, 429 trains specifically employed in taking the BEF to France and then bringing them home after Dunkerque. In the course of the war up to May 1941, 189 of their locomotives had been badly damaged by enemy action, but remarkably only one was ever written off as being completely destroyed; their amazing workshops repaired the lot, bar that one. 153 carriages had been destroyed by the enemy, whilst a further 4, 040 had been damaged, but again repaired. They'd lost a total of 169 freight wagons with a further 1,

355 damaged but repaired. As to their infrastructure, fourteen bridges had been totally demolished by bombs, forty-two bridges were seriously damaged, whilst a further 143 bridges had been less seriously damaged, but ALL were repaired or rebuilt. A total of more than sixty-five bombs had landed on Waterloo mainline station alone, doing incredible damage to the building, platforms and track, but Waterloo was never totally closed to traffic for more than thirty-six hours at any one time. Meanwhile, their engineering workshops had not only to contend with the regular maintenance work and all the extra repairs due to enemy actions, but they also made aircraft parts, tanks, repaired ship's equipment and built new locomotives and rolling stock, some of which were for other railways!

A total of eighty-five of their staff received national honours for their work during the war, ranging from one knighthood, one CBE, three OBE's and fifteen MBE's, to fifty-five BEM's. For Gallantry on the Railway, seven received the George Medal, twenty-five the BEM, one the MBE and forty-two received commendations. For Home Defence duties (including Home Guard) two received the George Medal, one a CBE, six the MBE, four the BEM and one a special commendation. The levels of service, fortitude and gallantry shown by the Southern Railway during this time, must set some kind of record I should think, and it is not one that is ever likely to be equalled by any latter-day train company as far as I can see.

William Joyce, aka Lord Haw-Haw, was captured at the end of the war. After a trial of sorts, he was convicted of Treason and sentenced to death. There were many at the time who felt this was unjust. After all, as thoroughly detestable a person as he undoubtedly was, Joyce had at least provided a wealth of comedy material throughout the war, so therefore he'd actually boosted the nation's morale. Hardly a treasonable act.

Joyce had in fact lied in order to obtain a British passport before the war. He was American by birth and had spent his formative years living in Ireland. Having duly acquired German citizenship, it seemed therefore on the surface, that he could hardly have committed Treason toward a country that wasn't his. But his fraudulently obtained British passport was used against him at his trial. If he was using it prior to 1937 to call himself British, then defecting to the enemy, Germany, as a British passport holder, was treasonable. He was duly hung at Wandsworth Prison in London in 1946, the last person ever to be executed for Treason in this country.

Baronet Oswald Mosley by contrast, ended up being knighted. Despite his undoubted charisma, his attempts to revive his political career post-war were unsuccessful. He died peacefully on 3rd December 1980 at his home in Orsay, France. He was cremated in Paris and his ashes were scattered on the pond at Orsay. He died aged eighty-four.

Throughout the whole of the war, National morale was vital, and to that end Jane soldiered, (or dizzily blundered!) on for many years. Throughout the Battles of France, Britain, North Africa, the Atlantic, right up to the D Day landings and finally to VE Day. Be it the cartoon strip or the equally successful stage shows starring the beautiful life-model, Chrystabel Leighton-Porter, for it was she who mostly posed for the cartoon strip in the first place, paraJane kept the nation's and the troops' spirits up. Chrystabel herself was actually married to an RAF fighter pilot, a fact that was a closely guarded secret at the time. paraJane finally and literally sailed away into the setting sun with her long-standing, long-suffering cartoon boyfriend, Georgie, in 1959. At the time of her final farewell, the gorgeous, leggy, charmingly dizzy blonde who had contributed so much to the war effort, was apparently still aged twenty-six! If you want to know her full story, paraJane: A pin-up at war by Andy Saunders will fulfil your requirements. Full details can be found in this book's bibliography section.

Although Jane's vital statistics were never released, the vital statistics of the titanic air battle were. The Luftwaffe lost a total of 2,662 pilots and aircrew killed during the official Battle of Britain period (July 10th to October 31st), 551 of whom were flying either Me109 or Me110 fighters. They lost a further 967 aircrew who were taken prisoner and there are still another 638 Luftwaffe airmen who remain "Missing In Action". The battle also cost the Luftwaffe a total of 1,887 aircraft, of which 873 were fighters, Me109's or Me110's.

The RAF lost a total of 1,023 aircraft. During the Blitz period, 43,000 people were killed in the bombing of various British cities and towns. If the Luftwaffe had possessed proper, four-engined bombers, capable of carrying heavier bomb loads, then heaven alone knows what that casualty figure might have been.

When all is said and done however, figures are cold things; it is the actual persons they represent that count. With that in mind, perhaps the last words of this book should therefore be a reminder of the everlasting debt of gratitude that every citizen of this country primarily owes to the RAF airmen, of many nationalities, who fought the Battle of Britain; 537 of whom lost their young lives in the battle, whilst a further 422 of them were wounded; many badly burned. Their average age at the time was just twenty-two and a good many of those fighter boys who survived the summer of 1940 did not ultimately survive the war.

It is highly improbable that we shall ever see the like of them again; people are just not made that way anymore. But were it not for their great effort and selfless sacrifice, Operation Seelowe, once it was launched, could possibly have been successful, though frankly, there was always a gulf between German aims and German abilities on that score.

It is by no means an easy task to get an army across the Channel and the German plans simply viewed the Channel as a wider than usual river to be crossed. With respect to the German planners of that time, the prospect of crossing the English Channel in a hastily collected fleet of largely unsuitable craft was not the same as their successful rapid crossing of the Meuse during their French campaign. The RAF was very much a force in being and apart from putting up a determined fighter opposition, let us not forget that Bomber Command were relentlessly bombing the assembling invasion fleet. Also, the Royal Navy, then the most powerful fleet of warships in the world, would not have sat idly by watching the German armada cross!

But there was always the chance, and if the Germans' planned assault had been launched and, despite the odds, was ultimately successful; then your immediate ancestors, always assuming that they'd been allowed to remain here and not been deported to mainland occupied Europe, there to work as slave labourers, would now be speaking and reading only in German, as would you; and you certainly would not be reading a book such as this. In an England under Nazi control, the authorities would never have allowed such a book ever to have been written. Your "choice" of reading material would have been confined to state-biased, state-produced and state-approved publications only.

So enjoy your freedom and all that comes with it, but never forget for as much as one minute, that it comes to you courtesy of Hugh Dowding, Keith Park and "paraThe Few". It was they who surely earned it for you all those years ago, when in true English style the gentlemen soundly defeated the players, with the stalwart backing of a veritable army of home supporters! Remember too, that September 15th is "paraBattle of Britain Day". Look up and celebrate it, howsoever you wish, because as I said earlier, you are parafree to do so. Given that then, is it really too much to ask that we properly remember those who gave us that freedom? If you live in the counties where these events took place, look up; for the Battle of Britain was fought and

won in the very skies above your head. If you are in the countryside, look at your surroundings. Those green fields, those areas of woodland, those acres of farmland, they were all worth fighting for. Breathe the air in deeply and savour it; it's ours and it's free because not so very long ago, some ordinary people extraordinarily ensured it would be so.

Another way to do such might be to visit either of the two national memorials that are specifically dedicated to all these gallant airmen. Both are the works of dedicated groups of people; people who also truly believe that those airmen should not be forgotten. One is the memorial garden at Capel Le Ferne, near Folkestone, Kent. The other is the memorial on Thames Embankment in London. Details of both are to be found in the last section of this book.

Or you could simply do what I do each September 15th: Take a pint of Spitfire Ale out into the garden and drink your own, personal toast to The Few. Raise your glass toward their distant battlefield; the sky. Above all, as you look up into that now peaceful azure canopy, remember Churchill's famous words: "Never in the field of Human conflict, was so much owed, by so many, to so few"; for with each passing year "The Few" grow steadily and inevitably fewer, yet those momentous words ring every bit as true today as they did when the great man first spoke them, more than seventy years ago; during the long, hot, Summer of Swallows and Merlins.

Appendix 1:

Gravesend Aerodrome

Gravesend aerodrome was born during the heyday of public interest in aviation in the late 1920's and early 1930's. The original site was nothing more than two fields off Thong Lane in Chalk, which was used by some aviators of the day as an unofficial landing ground. One such pilot was the Australian aviator Captain Edgar Percival, who often landed his own light aircraft there when visiting his brother, a well-known Doctor in Gravesend. It is widely thought that it was Percival, who was after all a frequent user of those fields, who first suggested the actual building of an airport there.

Whether he did or whether he didn't, the two men who founded the airport's holding company, Gravesend Aviation Ltd., in June of 1932, were Mr T A B Turnan and Mr W A C Kingham. A local builder, Mr Herbert Gooding, was engaged to build the Control Tower/Clubhouse building. In September of that year, with the construction work well advanced, Herbert Gooding and a man named Jim Mollison (the husband of the British aviatrix Amy Johnson), joined the Board of Directors of Gravesend Aviation Ltd.

The Mayor of Gravesend, Councillor E. Aldridge JP, officially opened the newly constructed airport as "Gravesend-London East", on Wednesday 12th October 1932. To mark this Gala occasion, the National Aviation Air Days Display Team, led by Sir Alan Cobham, visited the new airport and gave flying demonstrations to thrill those people present. Also on display for visitors was a curious flying machine called the Autogiro, a sort of cross between a helicopter and a small aircraft, that had been built for a Spanish aviator by the name of Senor Cierva.

At the time of its opening, Gravesend airport covered 148 acres. Its two 933 yard-long runways were grass and the airfield buildings comprised the combined Control Tower/Clubhouse, two smallish barn-style hangars and some other, small ancillary workshop and stores buildings. Located in open countryside on the high, relatively flat ground on the western side of Thong Lane, between the Gravesend-Rochester road and what is now the A2 (Watling Street), Gravesend airport boasted an Air-Taxi service and a flying school among its amenities.

In November of 1932, just one month after the airport's opening, Herbert Gooding took over as Managing Director of Gravesend Aviation Ltd. It seems likely that Mr Gooding had effectively been "saddled" with the airport that he'd largely built. The original Directors, Messrs. Turnan and Kingham, possibly had run out of cash with which to pay Mr Gooding for his construction work. They disappeared at this time, probably having paid Mr Gooding with their own company shares. Jim Mollison, though married to Amy Johnson, had never been anything more than a "sleeping" director anyway, so it fell solely to Gooding to try to recoup his investment by making the airport a commercial success.

The original idea behind the airport had been to encourage the rapidly expanding European airlines to use Gravesend as an alternative London terminal to the often-fogbound Croydon airport, and this Gooding now set out to accomplish. Although a number of airlines such as KLM, Swissair, Imperial Airways and even Deutsche Lufthansa did indeed make use of Gravesend, they didn't utilise it on anything like the scale that had been hoped for. Perhaps it was thought at the time that Gravesend just wasn't quite close enough to London, geographically.

Then in 1933, a year after the airport had been officially opened; Captain Edgar Percival established his aeroplane works in the small hangar next to the flying school. It was from here

that he started to turn out the Percival Gull and Mew Gull aircraft. These were possibly the finest light and sports aeroplanes respectively, of their day, and in fact pilots flying these aircraft set many inter-war aviation records. Such pilots, for example, as Alex Henshaw, (who later became a Spitfire test pilot), Sir Charles Kingsford-Smith, Amy Johnson, and another well-known aviatrix, Jean Batten, as well as Edgar Percival himself.

During this time, a much larger, third hangar had been constructed by A.J. & J. Law Ltd. of Merton, alongside the existing two. This new hangar, forever referred to as the "Law hangar", was 130 feet wide and 100 feet long, with integral offices and workshops running down each of its two sides. The Law hangar was completed in the early part of 1934 and prominently bore the legend "GRAVESEND LONDON EAST" above the hangar doors.

In December of 1936, Captain Percival moved his business to Luton. This may have seemed like a disaster for Gooding and his Gravesend airport at the time, but as luck would have it, a company called Essex Aero Ltd., moved into Percival's vacated premises almost immediately and stayed at Gravesend, building a thriving business from aircraft overhaul and maintenance, though their real forte was the preparation of racing aircraft and the manufacture of specialist aircraft parts.

Business at Gravesend airport was positively booming when Gooding sold the place to Airports Ltd., the owners of the recently built Gatwick airport. It was felt that if anyone could make a proper commercial success out of using Gravesend for its originally intended purpose, these people could. They certainly tried, but in the end sadly, even they couldn't, and they quickly offered the site to Gravesend Borough Council, for use as a municipal airport. There followed protracted negotiations over terms, price, etc., all of which were suspended when, because of the increasingly ominous rumblings from Adolf Hitler's Germany, the Air Ministry stepped in.

It was the expansion of the Royal Air Force that ultimately saved Gravesend. In 1937, No 20 Elementary and Reserve Flying Training School was established at Gravesend to train pilots for the RAF and the Fleet Air Arm.

The training of service pilots began in October of 1937. The school operated the De Havilland Tiger Moth and the Hawker Hart at that time. Accommodation for the instructors and the student pilots wasn't exactly salubrious. For the most part, they used the clubhouse, together with rooms in some of the local houses.

Meanwhile, as the trainee service pilots learned their craft daily, (and not without accident!) the civil aviation side of Gravesend continued, with record attempts to the fore. In 1938, the twin-engined De Havilland Comet, G-ACSS that was used to set a record for the flight to New Zealand and back, was fully prepared for its successful record attempt by Essex Aero, as was Alex Henshaw's Percival Mew Gull, which he used the following year to make a record-breaking flight from England to Capetown and back. Both of these record flights departed from Gravesend and were well publicised at the time.

But in the same year that Alex Henshaw set his record, war with Germany looked to be a near certainty and the Air Ministry duly set in motion the formalities needed to requisition Gravesend airport, in the increasingly likely event of war.

When war indeed came that September, No 20 E&RFTS was relocated, Airports Ltd surrendered their lease to the Air Ministry and the RAF duly took over Gravesend airport as a satellite fighter station in the Hornchurch sector. Essex Aero however, stayed; taking on a vast amount of contract work for the Air Ministry. Among the items they soon found themselves making, were

fuel tanks for Spitfires.

The first fighter squadron to be based at what was now RAF Gravesend was 32 Squadron, who moved in with their Hurricanes in January of 1940. They were followed by 610 (County of Chester) Squadron with their Spitfires, who helped cover the Dunkerque evacuation. Following the deaths in action of two successive commanding officers within a short space of time, 610 Squadron was moved to Biggin Hill in July and 604 Squadron moved into RAF Gravesend temporarily with their Bristol Blenheims, whilst training as a night fighter unit. Also on temporary detachment from their usual base at Biggin Hill at this time, were the Spitfires of 72 Squadron.

It was during this time that the two decoy airfields at Luddesdown and Cliffe were completed, to help protect Gravesend. It was thought to have been an obvious matter to the Germans that the RAF would take over the airport at the commencement of hostilities. After all, the Germans certainly knew that Croydon airport was now a fighter station.

Accommodation was always to remain something of a problem at Gravesend. The clubhouse of course had some rooms, but nowhere near enough to house an operational fighter squadron's complement of pilots, let alone the ground crews, station maintenance crews, or even the administration staff. In the end, most pilots were billeted either in the Control Tower/Clubhouse accommodation, or at nearby Cobham Hall, the ancestral home of Lord Darnley. (In fact, Lord Darnley nearly lost his home during the Battle of Britain. Not to German bombs, but to the hi-jinks of some of 501 Squadron's pilots, who nearly burned the place down letting off steam one slightly drunken evening!).

The station's Ground crews were billeted at either the Laughing Waters Roadhouse (the original site of which is now occupied by The Inn on the Lake) about one mile up Thong Lane, or just the other side of Watling Street in the somewhat spartan accommodation encampments, where "home" was a village of Nissen huts hidden in Ashenbank Woods. (Nothing remains of these encampments today save for three of the large underground Air Raid Shelters). Those who could not be accommodated in the huts were billeted in Bell tents pitched around the airfield perimeter. No doubt this was fine during the spring and summer, but not so good during the winter.

On 27th July 1940, 604 and 72 Squadrons moved out and 501 Squadron took up residence, being based there throughout the greater part of the Battle of Britain period, during which time the sector boundary was changed so that Gravesend then came under the aegis of Biggin Hill. 66(F) Squadron arrived to relieve 501 in September, but as the Battle of Britain raged and German bombs mercilessly pounded Fighter Command's other airfields, Gravesend got off lightly, especially compared to the sector command station at Biggin Hill.

Although the Luftwaffe reconnaissance branch belatedly photographed Gravesend airfield again in November of 1940 and updated their target identification sheet, (Gravesend was given the target designation paraG.B. 10 89 Flugplatz) one can only conjecture that prior to that, the decoy site at Cliffe must have performed its role superbly. The fact that only two German bombs ever landed on RAF Gravesend during the entire Battle of Britain period, and then only in passing, would seem to support this, as the decoy airfield at Cliffe was bombed many times. Each time the Germans bombed the decoy airfield at Cliffe, with its equally fake Hurricanes dispersed around it, RAF work gangs would fill in the craters. This activity seemed to convince the Germans that Cliffe ought to be bombed again, and again. In the meantime, the real fighter station at Gravesend was left virtually unmolested. On the only occasion when Gravesend

airfield was specifically targeted, the Germans bombed the wrong side of the road and missed the airfield completely.

Given the fact that during the pre-war period, Lufthansa flights had regularly made use of Gravesend airport to deposit passengers, it seems all the more astonishing that the Luftwaffe were seemingly unable to find the place again when distributing their stock of bombs. Ultimately, the night decoy airfield at Luddesdown also attracted little attention from the Luftwaffe either.

In October, at Churchill's insistence, 421 Flight was formed at Gravesend from a nucleus of 66(F) Squadron's pilots. In recognition of their origin, 421 Flight's aircraft wore the same squadron identification letters as 66(F) Squadron's aircraft, (LZ) but with a hyphen between them.

With the manifest failure of the Luftwaffe's daylight offensive, 66(F) Squadron and 421 Flight moved out of Gravesend at the end of October, and 141 Squadron with their Boulton-Paul Defiants moved in. They were joined soon afterwards by the Hurricanes of 85 Squadron, a former day-fighting unit led by Squadron Leader Peter Townsend, to take up the challenging role of night-fighting. These two squadrons stayed at Gravesend throughout the remainder of 1940. Townsend's squadron moved out just after New Year, leaving 141 Squadron as the resident unit into the spring of 1941, though another Defiant-equipped squadron, 264 Squadron, joined them for a short time while the Luftwaffe continued with their efforts to destroy London by night. When the Luftwaffe finally abandoned that enterprise late in May of 1941, the night fighters moved out and Gravesend once again saw the Spitfires of several different day-fighting squadrons based there to carry out offensive sweeps over occupied France.

In 1941, the height of the control tower was raised by one level and during more major works that were carried out during 1942 and 1943, the two existing 933-yard grass runways were extended. The north-south runway was lengthened to 1, 700 yards and the east-west runway to 1, 800 yards. The station's storage facilities were also enlarged and runway lighting was finally installed, as was Summerfield runway tracking, in an attempt to combat the autumn and winter mud. Also enlarged was the ground crew accommodation camp at nearby Ashenbank Wood.

In December of 1942, 277 Squadron, an RAF Air-Sea Rescue unit, duly took up residence. An unusual unit inasmuch as they flew a variety of aircraft at the same time. They had the amphibious Supermarine Walrus, which one would expect given the nature of their work, but they also had Westland Lysanders, (an army co-operation aircraft), Boulton-Paul Defiants and Spitfires. They were stationed at RAF Gravesend for a total of sixteen months, making them the record holders for the longest stay of any squadron at Gravesend.

The enlargement and improvement of the station made possible the accommodation of three squadrons and in fact, three fighter squadrons of the USAAF were stationed at Gravesend for a while. Having longer, better runways also meant that battle-damaged heavy bombers returning from raids on Germany now stood a reasonably good chance of making a successful emergency landing at Gravesend, too.

In the early part of 1944, 140 Wing of the 2nd Tactical Air Force was based at Gravesend with their Mosquito fighter-bombers. The Wing comprised two Australian squadrons and one New Zealand squadron. The Wing's task was that of "softening up" targets prior to the Normandy landings. With the success of the D-Day landings, 140 Wing continued their operations but

shortly after D-Day, a new menace totally curtailed the station's flying activities.

On 13th June, the very first V-1 "Doodlebug" landed at nearby Swanscombe, having flown almost directly over RAF Gravesend. In the coming weeks, the sheer numbers of these high speed pilot-less rocket-bombs passing very close to, if not actually over the RAF station, meant that flying from there was now a hazardous undertaking. 140 Wing moved out.

With the aircraft gone, RAF Gravesend became a command centre for the vast number of barrage balloon units that were brought into the surrounding area to help deal with the V-1 menace. The station also became a local air traffic control centre, to ensure that no friendly aircraft fell foul of the balloons. The V-1 campaign petered out toward the end of 1944 as the advancing Allied armies rapidly overran the launching sites and five months into 1945, the war ended.

With the end of the war, Gravesend was put into a care and maintenance state and surplus service equipment was stored in the Law hangar for a while. Only Essex Aero continued to work there, as they had throughout the war, eventually taking over the Law hangar, too.

Although Essex Aero tried hard to carry on from where they had left off just before the war, the nature of civilian aircraft and aviation had changed a great deal. Air racing and record-breaking was no longer in the public eye, as they had been in the thirties. The Air Training Corps now ran a gliding operation from Gravesend, and Essex Aero continued to make specialist aircraft parts and revolutionary Magnesium Alloy products, but the biggest problem facing them was the fact that Gravesend Borough Council steadfastly refused to grant the necessary planning permission that would allow the wartime runway extensions to be properly incorporated into the post-war aerodrome.

In April 1956, unable to work on the more numerous but ever-larger civilian aircraft types, because the pre-war dimensions of the airfield would not permit them to land there, Essex Aero went into liquidation.

In June of 1956, the Air Ministry relinquished their lease on the airfield and demolition and clearance work began in 1958. First to go were the two Barn-style hangars. The Law hangar was dismantled and re-erected on Northfleet Industrial Estate, minus its offices and workshops, where it served as a bonded warehouse until the late 1990's. The rest of the buildings, except the Control Tower/Clubhouse, which became the site offices of the developers, were bulldozed to make way for a massive new housing estate, known today as Riverview Park. In 1961, the control tower was finally demolished and the last houses were built where it had stood. No visible trace of the once vital fighter station was left to remind anyone of what had been there.

Yet RAF Gravesend had one last, hidden, reminder of its presence left to reveal. In April of 1990, many of the houses on the estate had suddenly to be evacuated when an unusual item was found buried in one of the gardens.

Fifty years previously, in June of 1940, the prospect of a German invasion looked very real. As we have seen, measures were taken to protect the airfield such as the setting up of the two decoy fields and the building of perimeter defence positions. Another, since totally forgotten measure, was the laying of "pipe mines" that would be exploded to deny the use of the airfield to the Germans should they succeed in invading England. It was one of these mines that had been found.

It transpired that Dolphin Developments Ltd, the building contractors who had constructed

Riverview Park, were completely unaware of the presence of these mines and had happily built the entire estate on top of them. The original plans of the minefield were finally procured and the Royal Engineers were called in to locate and remove the rest of the mines. Once this operation had been successfully completed, the very last wartime vestige of RAF Gravesend had been removed.

Yet the story of RAF Gravesend doesn't quite end there. When "Cascades" Leisure Centre was built on the eastern side of Thong Lane, almost opposite where the main entrance to the RAF station once was, they put up a plaque of remembrance to the station and the pilots who had lost their lives flying from there during the Battle of Britain. The original plaque was initially located on an outside wall. Unfortunately, the name of the first of those pilots, Phillip Cox of 501 Squadron, was somehow shamefully omitted.

The plaque stayed there, despite the inglorious error, for many years until 2003; when Sunday 2nd March saw the dedication of an all-new memorial to commemorate RAF Gravesend, the part it played in the Battle of Britain and a new plaque commemorating all fifteen of the pilots who died in combat whilst flying from the airfield during the battle.

The memorial itself is a large Black Marble plaque with Gold lettering, bearing both the RAF and the Fighter Command crests; one set either side of the gilded legend "RAF GRAVESEND". The plaque is set into a purpose-built, stone-clad wall outside the gates of the Leisure Centre, and faces the houses that now stand close to where the airfield's main entrance once was. The new plaque, finally listing all fifteen pilots, can now be found on the wall in the reception of the Leisure Centre, along with other displays which include a brief history of the airfield and the two squadrons that flew from there during the Battle of Britain. A few years later, photographs of all of the fifteen pilots were put into a collective frame and added to the display.

There was a full dedication ceremony flanked by standard-bearing parties of ATC (Air Training Corps) cadets from the two local units, 402 Gravesend and 2511 Longfield Squadrons, led by Flight Lieutenant Tony Barker, the Commanding Officer of 2511 Squadron. The Reverend Group Captain Richard Lee, lead the service of dedication and thanksgiving. Also included was a short history of the airfield read by Ron Neudegg, a founder of the Gravesend Airport Research Group. The Right Honourable Chris Pond, MP for Gravesham, then read the lesson, before Sergeant Steve Maher of the Central Band of the Royal Air Force sounded the 'Last Post' on the bugle. At last was paid a truly fitting tribute to a once vital fighter station and the fifteen pilots who lost their lives while flying from there.

One last, but still little-known fact however, is that if you know where to look, you will find the graves of two of those fifteen pilots quite nearby, in Gravesend Cemetery. The graves are those of Pilot Officer John Wellburn Bland of 501 Squadron, and Pilot Officer Hugh William Reilley of 66(F) Squadron.

The fortunes of the place where the pilots used to relax, The White Hart, have been as up and down as the aircraft those pilots flew. The pub the airmen knew was opened on October 19th 1937, just as the RAF moved into Gravesend Airport and started to train service pilots there. It was a new building, replacing one that had stood there for over a century, which was itself a replacement of the much older original building. The new White Hart was owned by Truman's Brewery and Daniel Pryor was the first Landlord of this newly built inn. Daniel's association with the airfield's pilots probably started with those being trained at No 20 E&RFTS. By the time Daniel's Den was playing host to the pilots of 501 and later, 66(F) Squadrons' pilots, a direct line had been set up from the airfield to the pub, to warn pilots of imminent air raids (and probably

visits from high-ranking officers!). Daniel Pryor's tenure lasted till 1943. After a succession of further Landlords, the building was demolished in 1999 to make way for the Harvester Pub and Restaurant that occupies the site today.

In what is surely a strange quirk of fate, more actually remains of the fake airfield at Cliffe marshes, despite the bombing, than the real one at Gravesend, today. At the site of the decoy airfield, the southwest and the western parts of the access track remain, as does the fake control point. The control point is accessible from the track and is a two-roomed, brick-built bunker with a concrete roof. The bunker is entered via a small, door-less corridor. The two rooms are at the end of the short corridor, one on each side. The left-hand room has light, due to a square hatch in the ceiling, the cover of which has long since been removed. The right-hand room is smaller and completely dark, as the whole bunker is window-less. There is nothing inside the bunker today except for a small amount of rubbish and the seemingly inevitable graffiti that adorns the walls. The three-quarter-mile-long grass runways that never actually were, are today home to grazing cattle.

Apart from the bunker, there is no lasting or purpose-built memorial to the part played by the dummy airfield, even though it saved untold damage being done to the real fighter station at Gravesend, not to mention the corresponding casualties that would have been sustained among the personnel stationed there. Sadly, RAF Cliffe is now but a little-known and seldom remembered place. Above all, like the vital fighter station it once protected, it is yet another example of this country's disappearing heritage.

Appendix 2:

The Fifteen Gravesend Pilots And Their Squadrons

The fifteen pilots featured on the plaque of remembrance in Cascades Leisure Centre, Thong Lane, Chalk, are listed here; along with brief biographical notes, in the order in which they died; followed by a brief history of their squadrons.

FROM 501 SQUADRON:

Flying Officer Phillip Anthony Neville Cox: Originally from Brighton in Sussex, Phillip joined the RAF as an aircraft apprentice. He won a scholarship to the RAF College at Cranwell and was sent there in 1935 as a Flight Cadet. He graduated in 1937 and was posted to 43 Squadron at Tangmere. He joined 501 Squadron as a Flight Commander in June of 1940, when the squadron was reforming after returning from France. On 20th July, Cox claimed a Messerschmitt 109 destroyed and shared in the destruction of another. Feldwebel Fernsebner, flying a Messerschmitt 109, killed him in combat on 27th July over Dover harbour. Phillip's Hurricane crashed into the sea and his body was never recovered. Phillip Cox was twenty-five when he died.

Flying Officer Kazimierz Lukaszewicz: A former Polish Air Force pilot who successfully converted to flying Hurricanes at No. 6 Officer Training Unit (OTU) and joined 303 Squadron at Northolt on 26th July 1940. He was posted to 501 Squadron on 7th August. On August 12th, he was posted "Missing" after a combat with Messerschmitt 109's off Ramsgate. Kazimierz was twenty-seven at the time of his death. His body was never recovered.

Pilot Officer John Wellburn Bland. John Bland came from Bristol and was a member of the Auxiliary Air Force before the War. He received his call to full-time RAF service on 24th August 1939. After finishing his training, John was posted to 601 Squadron at Tangmere. On July 11th, he shared in the destruction of a Dornier bomber. The following day, he was posted to 501 Squadron. On 29th July, he shot down a Stuka over Dover and although his Hurricane was damaged by return fire, he made it back to Gravesend. He was shot down and killed by Gerhard Schopfel on 18th August. John was thirty years of age at the time of his death and is buried in Gravesend Cemetery.

Flight Lieutenant George Edward Bowes Stoney. George joined the RAF in 1929 and after learning to fly he joined the staff of a special reserve squadron, No. 502, as a flying instructor. After a spell in an Army co-operation squadron, George went onto the reserve list in 1934. He was recalled from the reserves at the outbreak of the war. By July of 1940, George was a Flight Commander with 501 Squadron. On 29th July, he shot down a Stuka and on 11th August he shot another one down. He was killed in combat on 18th August; shot down by Josef Fozo. George was twenty-nine at the time of his death and is buried in Sefton, Lancashire.

Pilot Officer Pawel Zenker. Another of 501's Polish pilots; Pawel joined the squadron at Gravesend on 7th August. On 12th August, he shot down a Stuka and on 18th August, he shot down a Messerschmitt 109. He was posted "Missing" on 24th August when, during combat with a formation of Dorniers and their fighter escorts, he determinedly chased an enemy aircraft back across the Channel. Pawel was twenty-five at the time of his disappearance and no trace of him or his Hurricane has ever been found.

Flying Officer Arthur Thomas Rose-Price. Arthur was born in Chile in 1919, and joined the RAF on a short service commission in March of 1937. He joined 38 Squadron in January of 1938 and

was made a Flight Commander in January of 1940. He then became a flying instructor in April. He joined 501 Squadron at Gravesend on the morning of 2nd September and flew the morning patrol with them. He did not survive the afternoon patrol. He was shot down and killed in combat off Dungeness. The body of twenty-one year-old Arthur, who was the brother of the film actor Dennis Price, was never recovered.

Pilot Officer Hugh Charles Adams. Hugh came from Oxted in Surrey and joined the RAF Volunteer Reserve in 1938. He was called up at the start of the war and after finishing his training he was posted to 501 Squadron on 17th July 1940, as a Sergeant Pilot. On 2nd September, he shot down a Messerschmitt 109 after which, he was himself shot down. He was killed in action on 6th September when his Hurricane crashed near Elham, Kent. Twenty-two year-old Hugh is buried in a churchyard in Tandridge, Surrey. His commission as a Pilot Officer was "Gazetted" on the same day that he died.

Sergeant Pilot Oliver Vincent Houghton. Oliver was born in Coventry in 1921. Ever an "air-minded" boy, he first worked as an aero fitter. In 1938, he joined the Civil Air Guard and flew at Whitley aerodrome in Coventry. In March of 1939 he joined the RAFVR and was called to service two days prior to the outbreak of war. He completed his flying training at RAF Sealand and was posted to 615 Squadron at Kenley in June of 1940. He then went to 32 Squadron at Biggin Hill in July and then to 501 Squadron. He was shot down and killed in combat over Ashford on 6th September. Hugh is buried in a churchyard in his native Coventry. He was just nineteen years of age at the time of his death.

Sergeant Pilot Geoffrey Wilberforce Pearson. Not very much is known of young Geoffrey Pearson. He joined 501 Squadron in August and failed to return from combat over the Ashford area on 6th September. His Hurricane crashed at Cowleas Farm, near Kempton Manor and Geoffrey was killed in the crash. At the time of his death, Geoffrey was twenty-one years of age and he is buried in a churchyard at Lympne, Kent.

Their Squadron: 501 (County of Gloucester) Squadron started out as a squadron of the Royal Auxiliary Air Force before becoming a fully operational fighter squadron in 1939, when it was equipped with Hurricanes. The squadron was sent to France in May 1940 to reinforce the fighter contingent of the Advanced Air Striking Force. 501 Squadron saw a lot of action in the lead-up to the Dunkerque evacuation and destroyed a large number of enemy aircraft. The squadron was one of the last to be recalled from France.

After a short break based at Middle Wallop in order to rest and reform, the squadron was moved to Gravesend, which was by then a satellite station in the Biggin Hill sector. They fought with distinction throughout the Battle of Britain and though, as we have seen, they suffered some heavy losses, they also had some noteworthy successes. One of 501's pilots, Sergeant Pilot J H "Ginger" Lacey, famously became the top-scoring RAF pilot of the Battle of Britain.

The squadron converted to Spitfires in the early part of 1941, though they never returned to Gravesend. They joined in with other squadrons to fly the offensive sweeps and escort missions (the so-called "Circuses" and "Rhubarbs") that were the workaday operations of most fighter squadrons at that stage of the war, flying successively the Mk II, Mk V and Mk IX Spitfire.

In 1944, there came a change of equipment and a change of role for 501 Squadron. They gave up their beloved Spitfire IX's for the new Hawker Tempest and their new role was that of Doodlebug-chasing, a notoriously dangerous job that required superb flying skills and nerves of steel. It says much indeed for the calibre of the squadron's pilots that they succeeded in

destroying 100 V-1 rockets during the summer and autumn of 1944.

In the winter of 1944, 501 Squadron took their Tempests to Europe and joined the 2nd Tactical Air Force, taking an active part in the final fighting of the war in the European Theatre. The squadron, whose aircraft bore the identification letters 'SD', was disbanded in April 1945.

FROM 66(F) SQUADRON:

Flight Lieutenant Kenneth McLeod Gillies. Kenneth joined the RAF on a short service Commission in March of 1936. On completion of his flying training he was posted to 66(F) Squadron at Duxford in December of that same year. He shared in the destruction of a Messerschmitt 110 Zerstorer on 20th August and also shared in the destruction of a Dornier bomber eleven days later. On 7th September he was appointed to command 'A' Flight and on 15th September he shot down another Dornier. Three days later he shot down a Heinkel 111 and on 27th September he shared in the destruction of three Dorniers. He was posted "Missing" after intercepting a Heinkel off the east coast on 4th October 1940. His body was washed ashore on 21st October. He was buried in Lancashire and was twenty-seven years old at the time of his death.

Pilot Officer George Henry Corbett. George came from British Columbia, Canada and joined 66(F) Squadron on 26th July 1940. He was shot down during combat with German fighters over East Grinstead on 9th September, baling out with slight wounds. He shot down a Junkers 88 on 27th September but had the misfortune of being hit by our own Anti-Aircraft fire, causing him to crash-land his Spitfire at Orpington. He walked away from the crash-landing unhurt. He was shot down in combat by Adolf Galland on 8th October and was killed when his Spitfire crashed on Bayford Marshes. George was twenty-one at the time of his death and is buried in a churchyard in Upchurch, Kent, not far from where his aircraft crashed.

Sergeant Pilot Rufus Arthur Ward. Rufus was born in 1917 in Croydon and first worked as an aircraft engineer. He joined the Auxiliary Air Force in 1936, and then transferred to the RAFVR the following year. He was called to service upon the outbreak of war and received his "wings" in May of 1940. On completion of his training, he converted to Spitfires and was posted to 616 Squadron at Kenley on 5th September. He was posted to 66(F) Squadron on 27th September and joined them at Gravesend. Rufus was shot down in combat with Messerschmitt 109's over Rochester on 8th October. His Spitfire came down very near to Valley View Road at Borstal. Rufus was twenty-three when he died and is buried in a cemetery in his native Croydon.

Sergeant Pilot Charles Albert Henry Ayling. Although Charles is listed under the 66(F) Squadron pilots on the Gravesend memorial plaque, he really belongs in a class of his own as he was with 421 Flight at the time of his death. However, for the sake of continuity, I too include him here. Charles was an ex-RAF apprentice and was also a pilot prior to the war. At the time war broke out, he was with 43 Squadron. On 7th June 1940, he was forced to crash-land his Hurricane at an airfield in France, which frankly, was not a good situation to be in at that time. Undaunted, he managed to stay one step ahead of the rapidly advancing Germans and escaped from another airfield in a Hurricane that had already been abandoned there as it was badly damaged before Charles got his hands on it. Despite pre-existing battle damage that included the aircraft having a punctured wing tank and thus being rather low on fuel to say the least, Charles managed to coax this war-weary Hurricane across the Channel to a successful wheels-down landing at RAF Tangmere. He was posted to 66(F) Squadron at Gravesend on 10th September and on 8th October was transferred to the newly formed 421 Flight. He was killed three days later when his Spitfire crashed at Newchurch following combat with enemy fighters over

Hawkinge. Charles was twenty-eight at the time of his death and is buried in a cemetery in Pembroke.

Pilot Officer Hugh William Reilley. Hugh Reilley was born in Detroit, Michigan in 1918. His father was American and his mother was a Scot. Perhaps it was this combination that made him the colourful character that he evidently was. His family moved to Ontario, Canada in the late 1920's, shortly after which his parents separated. Hugh went to live with his mother but she died in 1930, whereupon his aunt and uncle took him in. After leaving High school, he worked at the local Golf Club and also at a local winery, but in May of 1939, he and a friend decided to leave Canada for England. He lied about his nationality, obtained a Canadian Passport and joined the RAF on a short service commission. In late October found himself at No. 2 Elementary Flying Training School. By August 1940, he'd completed his flying training and after converting to Spitfires he was posted to 64 Squadron at the beginning of September. On 15th September, he joined 66(F) Squadron at Gravesend and on 27th September, he shot a Messerschmitt 109 down. He was shot down in combat by German fighter ace Werner Molders over Westerham on 17th October. His Spitfire crashed at Crockham Hill, killing twenty-two year-old Hugh. Ever one to play on his accent, Hugh was always telling any girl he wanted to impress that he was an American volunteer pilot from somewhere near Hollywood! Apparently, quite a few impressionable young ladies had fallen for this "line". More than one young lady tearfully came forward claiming to be the steady girlfriend of the deceased young American pilot, despite the fact that Hugh had married a girl in England and she'd borne him a son, Chris, just before he was killed.

There was some confusion over Hugh's nationality at the time of his death, as of course he'd lied about it to avoid the wrath of the U.S. State Department, who had to be seen to be upholding American neutrality. We now know that he wasn't the only American to have done this. Whereas it was previously thought that the only American fighter pilot to have been killed flying for the RAF in the Battle of Britain was Billy Fiske, it is know known that there were at least three including Hugh Reilley. Hugh is buried in Gravesend Cemetery, a long way from his home but extremely close to the grave of 501 Squadron's John Bland.

Pilot Officer John Romney Mather. John was born in Blackheath, south London in 1915 and educated at Dulwich College. He joined the RAFVR in 1937 and like many others he was called to full-time service at the outbreak of the war. Posted to 66(F) Squadron in June of 1940, he scored his first combat success on 10th July when he shared in the destruction of a Dornier bomber. On 2nd September he shared in the destruction of a Heinkel 111. He was shot down in combat on 18th September, baling out unhurt over the Thames Estuary. On October 27th 1940, he was killed when his Spitfire crashed at Half Moon Lane, Hildenborough. The cause of the crash is still unknown but Oxygen failure was strongly suspected at the time. John was twenty-five at the time of his death and is buried in a churchyard in Ifield, Sussex.

Their Squadron: 66(F) Squadron was formed at Duxford before the war, from a Flight of 19 Squadron. They were equipped then with the Gloster Gauntlet, a biplane fighter. 19 and 66(F) were the first two RAF squadrons respectively to be equipped with Spitfire Mk I's and it was these two units that were used to iron out any teething troubles with the revolutionary new fighter plane. After covering the Dunkerque evacuation, the squadron was moved to Coltishall in Norfolk, coming back south in August of 1940 to take part in the Battle of Britain, during which the squadron destroyed twenty enemy aircraft.

In December 1940, 66(F) Squadron performed the first "Rhubarb" missions, (fighter sweeps over enemy territory), and in April 1941 the squadron moved to Perranporth, there to re-equip

with Spitfire Mk V's. In April of 1942, the squadron was still flying "Rhubarbs" but in August of 1942, 66(F) provided fighter cover for the Dieppe operation. In 1943, the squadron re-equipped with Spitfire Mk IX's and was part of 132 Wing of the 2nd Tactical Air Force.

After covering the Normandy landings, the squadron was based in France and fought over Europe almost till the end of the war. The squadron was disbanded on 30th April 1945, having shot down a total of 82 enemy aircraft. The squadron's aircraft all bore the identification code 'LZ'.

Appendix 3:

Comparison From The Cockpit

Spitfire v Me109.

Most books that have been produced about the Battle of Britain have an appendix relating to the aircraft types that the RAF and the Luftwaffe operated at the time. Whilst it can be useful to know what each aircraft looked like, ultimately the pages relating to each aircraft in such books are usually a line drawing of the aeroplane followed by simple lists of technical or performance data for each type, which is often fairly meaningless and ultimately rather dull.

You might recall from this book's introduction that I have done a certain amount of amateur flying in my time and one question ANY student of the Battle of Britain who has had any experience of piloting an aircraft wants an answer to is this: What were those aircraft like to fly and fight with?

The fighter pilots of the time, both British and German, had more than a passing interest in each other's aircraft. Every pilot had his own theory as to which was the better aircraft, the Spitfire or the 109. (The poor old Hurricane never got a look-in!) Without having either aeroplane to fly, one can only compare them on paper at this remove, with reference to the respective cockpit interior photographs.

If one compares the external appearance of the two aircraft, it cannot be argued with that the Spitfire is a thing of grace and beauty, a thoroughbred of the air, whose very shape seems to belong naturally to the skies and whose secondary purpose was to go to war. This is hardly surprising as its lineage goes back to the sleek Schneider Trophy racers of the late twenties and early thirties of course. The 109 by contrast, had no such heritage. It looks totally purpose-built for war: A no-compromise, gloves off, out and out fighting machine; which of course, is exactly what it was. This starting point for drawing comparisons is perfectly illustrated by the following:

In September of 1941, a young American pilot who was flying Spitfires with the RCAF, Pilot Officer John Gillespie Magee Jnr., wrote a poem home to his parents after completing a high-altitude test flight in a Spitfire Mk V. He said that the poem started coming to him at about 30,000 feet and was finished by the time he landed. He wrote:

Oh! I have slipped the surly bonds of Earth

And danced the skies on laughter-silvered wings;

Sunward I've climbed, and joined the tumbling mirth Of sun-split clouds - and done a hundred things

You have only dreamed of - wheeled and soared and swung

High in the sunlit silence.

Hov'ring there, I've chased the shouting wind along,

And flung my eager craft through footless halls of air.

Up, up the long delirious, burning blue,

I've topped the windswept heights with easy grace

Where never lark or even eagle flew-

And, while with silent, lifting mind I've trod

The high untrespassed sanctity of space,

Put out my hand and touched the face of God.

The poem, called High Flight, evokes the flight of the Spitfire for many, to perfection. Nothing so poetic has ever been written to describe the flight of the

109. Sadly, Magee was killed three months after writing High Flight, when after having been forced to bale out, his parachute failed to open.

During the Battle of Britain, both sides managed to capture more or less intact examples of each other's fighters. Both sides also had a supply of crash-landed written-off aircraft that could be cannibalised for spares, so each was able to build at least one working example for respective evaluation purposes. The Messerschmitt 109 that the RAF used was given the serial number paraDG200 and was extensively flown by experienced RAF fighter pilots in mock combat situations. The information gleaned was of great use to those pilots who found themselves in fighter versus fighter combat later. paraDG200 survived the war and after serving in both the Luftwaffe and the Royal Air Force, she has been fully restored to her original Luftwaffe condition and markings and can today be seen at the RAF Museum, Hendon. In the following text it is the Spitfire Mk 1a and the Messerschmitt 109E, which flew and fought against each other in the Battle of Britain, that are compared directly.

The Spitfire Mk1a and the Me109E3 were quite similar aircraft in many ways. In terms of speed, the Spitfire reached its maximum of 354 mph at 18,500 feet. The Me109E attained its maximum speed of 348 mph at 17,500 feet. Any articles that quote the 1940 Spitfire's maximum speed as being 364 mph, are almost certainly quoting the maximum speed attainable without combat loadings. An aircraft's maximum speed also varies with altitude, and both the Spitfire and the 109 made their best speeds at very similar altitudes, as mentioned above. At extreme heights such as thirty thousand feet, the 109's speed didn't fall off as noticeably as the Spitfire's did, so at these altitudes the 109 certainly had the speed advantage over the Spitfire. However, combat at such extreme altitudes was usually reserved for those Spitfire pilots who were trying to destroy high-flying singleton Luftwaffe reconnaissance aircraft, not 109's. At sea level and up to about five thousand feet, it was definitely the Spitfire that had the slight speed advantage.

It is a well known fact that the Spitfire could turn much more tightly than the

109. Both aircraft were quite capable of pulling such high "g-forces" in turning that the pilot would "grey-out" as the blood drained from his head. The pilot who would emerge victorious from such a tight turn in battle was usually the one who'd managed to stay conscious the longest and in any case, only the most experienced Luftwaffe pilots tended to push the 109 to its turning limits. The roll rate of the 109 was decidedly inferior to that of the Spitfire, especially at high speed. Because you have to roll an aircraft to turn it, this meant that the Spitfire pilot again had a distinct advantage at the start of any turning action during a dogfight. Aerodynamically speaking, the Spitfire had a markedly lower wing loading than the 109, which is what gave it the better turning circle.

Both the Spitfire and the 109 got progressively harder to control at high combat speeds, requiring ever greater physical strength on the stick from the pilot as the speed increased.

However this particular problem was much worse in the 109, so during the 300+ mph combat speeds typical of the Battle of Britain, the Spitfire pilot would thus have had an advantage. By all accounts, the 109's elevator control was particularly heavy at high speed. The Spitfire could be pulled out of a dive with such high "g" forces that the pilot could easily black out momentarily. The 109's heavy elevator control at high speed meant that the German pilot would not be able to haul his plane out of such a steep high speed dive anywhere near as quickly as the Spitfire pilot could and the confined cockpit of the 109 did not allow much freedom of travel for the stick, anyway, especially backwards.

In 1940 there was no such thing as servo-hydraulic controls, and fly-by-wire was the best part of another sixty years away. In 1940, it was pure muscle-power that a pilot used to haul his aircraft around the sky. The comparatively tiny cockpit of the 109 meant that its pilot simply couldn't use all of his strength on the stick, whilst the roomier cockpit of the Spitfire permitted its pilot to move the controls much more freely. The big spade-grip atop his stick meant that the British pilot could use both hands to great effect if he felt the need. It can therefore be seen that the Spitfire was a far more paraaerobatic fighter than the 109, which for a skilled pilot, was a tremendous advantage in combat situations. Given that the RAF had a history of aerobatic display flying which the Luftwaffe didn't, aerobatics was a skill far more likely to be found in Spitfire and Hurricane pilots anyway.

But there was one very straightforward evasive manoeuvre that the 109 could perform, which the Spitfire simply couldn't: "The Bunt". Shove the 109's stick suddenly forward and the "Augsburg Eagle" dropped straight into a shallow power dive, thanks to the direct fuel injection of the DB601 engine. Do the same to a Spitfire 1a, and the sudden "negative g" experienced as the nose dropped would cause the floats in the Merlin's carburettors to close, momentarily cutting off the engine's fuel supply. So the Spitfire embarrassingly slowed as its engine coughed through temporary fuel starvation, whilst the 109 streaked away.

When it came down to slow flying, the 109's mainplane had a unique design feature; its leading edge slats. These slats gave the aircraft a much lower stalling speed, particularly if the landing flaps were lowered. The pilot had no control over these leading edge slats as they extended automatically as the airspeed fell away. With the flaps down and the slats extended, the 109 wouldn't stall till the airspeed dropped to an incredibly low 61mph, a quality that undoubtedly helped Ernst Poschenrieder to pull off that remarkable crash-landing at Broom Hill. The Spitfire had a tendency to drop a wing as she stalled at about 75-80mph, and then go into a spin, whereas the 109 remained stable. Thus the 109's stall characteristics could be used by the pilot, whereas the Spitfire had no usable stall quality for the pilot to use.

To be fair, the Spitfire gave its pilot plenty of warning that a stall was coming. Due to the Spitfire's elliptical wing form and pronounced dihedral angle, the disruption to the airflow over the wing wouldn't develop at the wingtips, such as would occur with more normal straight-type wings. The pilot who was in tune with his aircraft would feel this trembling shudder developing near to his feet and with a quick glance at the ASI, (Air Speed Indicator, the aircraft's "Speedo") for confirmation, he'd know to ease forward on the stick at that point to avoid a complete stall and the inevitable spin that would follow.

From the point of view of pilot visibility, the Spitfire's bulged sliding cockpit canopy gave the pilot a far better view than the 109's. The 109's canopy was a heavy, box-like affair, with lots of thick framework that rather impeded the pilot's view, and instead of sliding backwards like the Spitfire's, it hinged to one side. There were a couple of good points with the 109's canopy though, one of which was its front windscreen panel. It was surface treated so that rain, or

even oil mist thrown back from the engine, would disperse from it quickly in the slipstream. Also, the opening part of the canopy was made of a better quality Glass Reinforced Perspex than the Spitfire's, which suffered from a tendency to pick up marks and scratches rather easily.

The Spitfire's sliding canopy could be left open, so affording the pilot the ability to lean his head out sideways to either hand and get a better view while taxiing. This was not possible with the 109's hinged canopy of course, but like the Hurricane, the 109 pilot sat a little further forward in his machine than the Spitfire pilot did, giving the 109 pilot a slightly better view downwards. Also like the Hurricane, the 109's nose curved downwards a little, so aiding the pilot's view forward when taxiing.

In terms of firepower, the Spitfire was armed with eight .303 calibre Browning machine-guns, four guns in each wing, but unlike the Hurricane's closely grouped sets of four, the Spitfire's guns were spread out along the wing. Each gun had 300 rounds of ammunition consisting of a mixture of ordinary bullets, tracer, incendiary and armour-piercing rounds. The De Wilde type incendiary round could certainly cause the fuel tank of an enemy aircraft to explode and this type of bullet was later of tremendous use to RAF night-fighter pilots. The guns were traditionally aligned so that the bullet streams converged on a single point about 400 yards in front of the aircraft, but RAF pilots soon found that the best results were obtained if they shortened this distance down to about 250 yards. The decision to arm the aircraft with eight machine guns stemmed from a pre-war calculation as to the number of rounds likely to prove fatal to a modern bomber type. Although it was not based on any calculation relating to fighter versus fighter combat, the RAF pilot at least stood a reasonable chance of hitting something with eight guns blazing away, but .303 was rather a small calibre for the needs of high speed air fighting!

The 109 had two machine guns of similar performance to the British fighters' Brownings, but mounted in the top of the engine cowling and synchronised to fire through the propeller, World War 1 style. The magazines for the 109's machine guns held 1,000 rounds each, which meant the German pilot had three times the amount of bullets per machine gun as his British counterpart, but of course he only had two such guns. The 109's secondary armament was two 20mm Hispano cannons, which despite their having a low muzzle velocity, a rather slow rate of fire and only sixty rounds per gun, were nevertheless a more than useful addition, as the 20mm cannon shell was a remarkably destructive projectile. Interestingly, the weight of fire from a three-second burst from either aircraft was exactly the same: ten pounds; thanks to the 109's heavy calibre cannons.

The Spitfire and the 109 were also very similar in the sense of the level of protection they gave to their respective pilots. Back armour for the pilot was added to both fighters quite early in the war. The main difference though was probably in the position of the fuel tanks in the two aircraft. As we have already seen, the Spitfire had its reserve fuel tank in front of the pilot, between the engine and the cockpit. If the tank was hit, particularly by an exploding cannon shell, it meant that it would be blazing fuel gushing back into the cockpit, thus causing the terrible burn injuries to pilots that were covered earlier in this book.

The 109 had its fuel tank situated behind and below the pilot, which at first glance hardly seems to be any better, but it did mean that if the tank was hit even by an incendiary round, the blazing fuel would be unlikely to gush into the cockpit. If the ingress of such a bullet did cause a fuel tank explosion though, the 109 would usually come apart, as Albert Friedemann's did.

For landing, the two aircraft both had an outward retracting undercarriage with quite a narrow

track. Being hinged directly to the fuselage, the 109's was quite clever in its concept, but it was a continual source of problems. A large number of 109's were damaged or written-off all through the war in landing accidents. The low speed landing characteristics of the 109, given its clever wing edge slats, were somewhat different from more typical aircraft, but the main problem was the awkward wheel geometry, which often caused the 109 to "bicycle round" on landing, particularly if one wheel touched down first. This made the 109 a paravery unforgiving aircraft to land, especially for the novice pilot. The Spitfire had a better, straighter wheel alignment and wider tyres than the 109, though the wheel-track was still rather narrow, but it was still more tolerant toward a slightly awkward landing or the relative clumsiness of a novice pilot than the 109 was.

In overall terms of fighting ability, the two aircraft were fairly evenly matched. Generally, it would be fair to say that victory was likely to go to either the best pilot, and in the aerobatic sense, the Spitfire pilot had a distinct advantage if he was skilled; or the pilot who held such tactical advantages as superior height, speed of attack or of course surprise. But probably the best comparison can be found in the words of one ex-Battle of Britain Spitfire pilot, who once told a German contemporary at a reunion: "*The good thing about the Spitfire was that just about anybody could fly it; she was a lady. The thing with the 109 was that you had to be a really good pilot, to be able to fly it properly.*"

When all is said and done, I rather get the feeling that is probably it, in a nutshell. The German pilots largely remained true to the 109, for all its faults. Those who flew the Spitfire largely preferred their mount, though there were some who considered the 109 to be the better combat machine, in terms of pure punching power.

For me, personally, there is no comparison! I freely admit to being biased. But then, you have to remember that if nothing else, the Spitfire's designer and I share a name, don't we?! "*Mitch*".

Bibliography

Air Ministry, The. The Battle of Britain. HMSO, London 1941.

Bishop, Patrick. Fighter Boys. Harper Perennial, London 2004.

Brickhill, Paul. Reach For The Sky. Collins, London 1954.

Brooks, Robin J. Kent Airfields In The Second World War. Countryside Books, Berkshire 2001.

Codevelle, Colonel. Armistice 1918. Friends of the Armistice of Compiegne, France 1959.

Coward, Noel. Future Indefinite. (Second volume of his autobiography). Heinemann, London. 1954.

Darwin, Bernard. War On The Line. (The Southern Railway At War). Middleton Press, West Sussex. Third Reprint 1998.

Glancey, Jonathan. Spitfire. The Biography. Atlantic Books, London. 2006.

Gravesend Airport Research Group, The. Gravesend Airport in Photographs . Published by Frank R Turner, Gravesend, Kent, 1997.

Johnson, Mike. PS Medway Queen: From Dunkirk to Dry Dock. Medway Queen Preservation Society, Kent, 2009.

MacKenzie, S P. The Home Guard. Oxford University Press, 1995.

Middleton, Drew. The Sky Suspended. Secker & Warburg, London 1960.

Mitchell, Vic and Keith Smith. South Coast Railways. Middleton Press, West Sussex.

Mitchell, Vic and Keith Smith. Southern Main Lines. Middleton Press, West Sussex.

Mitchell, Vic and Keith Smith. Branch Line to Allhallows. Middleton Press, West Sussex. www.middletonpress.co.uk

Peeke, Mitch & Bill Reed. Lost Souls of the River Kwai. Pen & Sword Books Ltd. Barnsley, Yorkshire 2004.

Plummer, Russell. The Ships That Saved An Army. Patrick Stephens Ltd.

Price, Alfred. The Hardest Day. Granada publishing, London 1980.

Ramsay, Winston G. ed. The Battle of Britain Then & Now. Battle of Britain Prints International, London 1980.

Ruddy, Austin J. British Anti-Invasion Defences 1940-1945. Historic Military Press, West Sussex 2003.

Saunders, Andy. Jane: a Pin Up at War. Pen & Sword Books Ltd, Barnsley, Yorkshire 2004.

Smith, Victor. Front-Line Kent. Kent County Council, Maidstone 2001.

Stenson, Patrick. Titanic Voyager. The Odyssey of C.H. Lightoller. Halsgrove/Endurance Publications, Cheshire, 1998.

Townsend, Group Captain Peter. Duel of Eagles. Weidenfeld & Nicholson, London 1990.

Wood, Derek & Derek Dempster. The Narrow Margin. Hutchinson & Co. Ltd. London 1961.

Wynn, Kenneth G. Men of the Battle of Britain. Gliddon Books, Norfolk 1989.

Filmography

I've put these here purely because they are my own personal favourites.

The Battle of Britain. (1969) Full colour epic with an all-star cast, real aircraft and real flying scenes. This is often hailed as being the Battle of Britain film, particularly as the screenplay was based on The Narrow Margin by Messrs. Wood and Dempster. The film follows the course of events from Dunkerque to a couple of days after September 15th. Sir Laurence Olivier is very convincing as Dowding and really does look like him, while Trevor Howard's resemblance to Keith Park is frankly as uncanny as James Mason's resemblance to Rommel or Donald Pleasance's to Himmler was. German actor Hein Reiss is excellent as Reichsmarschall Goring, too. The film has a cast of thousands that also include the likes of Kenneth More, Harry Andrews, Michael Redgrave, Michael Caine, Robert Shaw, Edward Fox, Ian McShane, Ralph Richardson, Max von Sydow, Curt Jurgens, Christopher Plummer and Susannah York, to name just a few. Incidentally, some of the location shooting was done at Hawkinge, before the aerodrome was finally demolished.

Angels One-Five. (1953). An absolute classic from Ealing Studios, this wonderful Black and White film propelled Jack Hawkins and John Gregson to well-deserved stardom. Michael Denison also stars and look out for that old stalwart actor Sam Kydd, too. The film follows a squadron of Hurricane pilots during the summer of 1940 and is set on the fictional fighter station of RAF Neethley in the Borough of Bramley. One doesn't have to be a genius to realise that these are merely pseudonyms for RAF Kenley, a satellite of Biggin Hill and the Borough of Bromley. The actor who played the station's fighter controller was Cyril Raymond, who actually was a Fighter Controller during the real battle.

Some say this is arguably the finest film tribute to "The Few" as the film's Director, George More O'Ferrall, was actually stationed at Fighter Command HQ during the Battle of Britain, so he was able to bring a fantastic degree of realism to his fictional fighter station and its characters. The special effects are not a patch on today's technical wizardry of course, but this doesn't detract from what is still a very moving film. The characters are all totally believable, the storyline is just as good and for those of us who were not around in 1940, I think it probably does offer the best idea of what it was like to be in an operational fighter squadron during the Battle of Britain. An added bonus is that the film was actually shot on location at RAF Kenley, before the aerodrome was partially demolished, and the filmmakers had the use of real Hurricane aircraft (on loan from the Portuguese government) at the time, too. Personally, my favourite squadron character is Flight Lieutenant "Batchy" Salter, played to perfection by Humphrey Lestocq; who was a former fighter pilot himself and someone whom older readers may indeed remember from the early BBC television shows Merry-Go-Round and Whirligig. An interesting sub-point is that at the time he was portraying "Batchy", Humphrey himself was at an age where he'd have been too old to have been his character!

Dad's Army: The Movie. (1971). Captain Mainwaring and the Walmington-on-Sea Home Guard platoon in all their glory! If you want to sample that Bulldog spirit of 1940 recreated to perfection, tempered with the equally British ability to laugh at ourselves, then you simply must see this film! Whatever you do, "Don't panic!"

Places To Go, People to See

If you have enjoyed reading this book, then here is a small selection of slightly more unusual, "off the beaten track" attractions in England that you may also like to visit.

Battle of Britain Memorial. Capel Le Ferne, Nr Folkestone, Kent. The memorial park was brainchild of Geoffrey Page, a former Battle of Britain Hurricane pilot who was badly burned in combat on August 12th 1940. Situated off the B2011 on a cliff top overlooking the English Channel, this is a lovely place and well signposted. There is a tearoom by the main entrance to the free car park, next to which stand a full sized replica Hurricane and Spitfire, either side of the flagpole, which is the original flagpole from RAF Biggin Hill. There is also the memorial wall, which bears the name of every pilot who served with RAF Fighter Command during the battle. Further into the open garden is the pilots' memorial; a large statue of a Battle of Britain pilot sitting in quiet contemplation, looking out over the Channel. Admission is free all year round but the tearoom is only open at weekends during the summer months. Voluntary donations toward the upkeep of the memorial and the surrounding gardens are invited by way of the donations box near the flagpole.

Battle of Britain Memorial. Thames Embankment, London. This is almost as much a testament to the tireless work of Bill Pond, founder of the Battle of Britain Historical Society, as it is to those who took part in the battle. The money needed to fund such a project, some one and a half million pounds, was raised entirely by the society's efforts and most lamentably, without any kind of government backing whatsoever. The monument stands within sight of the Houses of Parliament and almost directly across the Thames from the London Eye. I'm not going to describe this beautifully artistic masterpiece of the sculptor's craft, far better is that you go and view it for yourself. The Battle of Britain Historical Society's contact details are: Battle of Britain Historical Society, 6, Church Road, Wiggenhall St. Mary, Kings Lynn. PE34 3EH. Telephone: 0845 1300 599.

Shoreham Aircraft Museum. High Street, Shoreham village, Nr Sevenoaks, Kent. Geoff Nutkins' museum has often been described as "the best kept secret in the Darenth valley". However, I'm quite sure that he won't mind if I tell a few more people about this wonderful place. The museum has artefacts from many of the aircraft mentioned in this book. There are displays relating to John Gurteen's Hurricane, Sergeant Brimble's Hurricane, Ernst Poschenrieder's and Albert Friedemann's Messerschmitt 109's and Ray Holmes' epic fight with that Dornier over central London on September 15th, to name just five. If you do visit, be sure to check out Projekt Schnellbomber, too! The museum also has a charming and atmospheric tearoom serving homemade cakes and refreshments and is open every Sunday from 10:00 till 17:00, from May through to the end of September. There is also a small gallery where you can see some more of Geoff's excellent paintings on display. At time of writing, adult admission is an absolute bargain and children under 16 get in free anyway! Shoreham village is located off the A225 between Eynsford and Otford, Kent. Telephone: 01959 524416. Website, www.shoreham-aircraft-museum.co.uk .

Battle of Britain Memorial Flight Visitor Centre. RAF Conningsby, Lincolnshire. A unique experience, as this is the home of the RAF's Battle of Britain Memorial Flight. The Flight operates one Lancaster, five Spitfires, two Hurricanes, a DC3 Dakota, and two De Havilland Chipmunks, (an aircraft I've fond memories of from my Air Cadet days!) all of which are airworthy. Visitors are shown around the Flight's hangar by knowledgeable guides as technicians work on the Flight's aircraft, one of which, a MkII Spitfire, is actually a survivor of the Battle of Britain and still bears the repair scars of her involvement. For full details of this

attraction, visit their website: www.lincolnshire.gov.uk/bbmf or Telephone: 01526 344041.

Brenzett Aeronautical Museum. Ivychurch Road, Brenzett, Romney Marsh, Kent. Situated on a former wartime fighter station, the museum is run by a dedicated team and has many displays of artefacts from crashed aircraft, including some of the items that were once part of the former London Air Museum's collection. (However, I sincerely doubt if my original stencil-writing is still on the display cards after all this time!) The museum is well signposted and lies off the A2070 Ashford to Brenzett road on the Ashford side of Brenzett roundabout. For full details of opening times and admission prices, telephone: 01797 344747.

Broomhill Park. King Arthur's Drive, Strood, Kent. The field where Ernst Poschenrieder force-landed his Me109 is now a very pleasant park, well marked on the map. A lot of trees have been planted in the middle of the open area since the war, but the place where Ernst's fighter came to rest is the hollow just below what is now the children's play area. He came in over the trees at the far end of the car park. Stand in the hollow, (the place where "White 12" came to rest is the large bald spot in the grass), then look through the left-hand corner of the play area and up the slope through the tree line. Be honest and you can't help but admire Ernst's flying skills, as a normal runway for such a fighter aircraft was half a mile long, and level!

Chartwell. National Trust property. (Home of Sir Winston Churchill). Westerham, Kent. Wonderful gardens, beautiful views, uniquely interesting displays and all pretty much as the great man left it. For further details, admission prices and opening hours, call the information line on: 01732 866368 (info-line) or 01732 868381(property).

Kent Battle of Britain Museum. Aerodrome Road, Hawkinge, Nr, Folkestone, Kent. Situated not far from the Capel Le Ferne memorial, on what remains of the old fighter station of Hawkinge, this museum is simply a "must see". A lot of the epic 1969 film The Battle of Britai n was shot at Hawkinge and a number of full sized replica aircraft that were used during the filming are in the museum's collection. There are comprehensive displays including artefacts from crashed aircraft, uniforms and even a recovered V-1 Doodlebug. The museum is entirely self-funding. For further details, visit their website: www.kbobm.org or Telephone: 01303 893140.

London Transport Museum. 39, Wellington Street, Covent Garden, London. A fascinating place where you can try your hand at driving a tube train, as well as taking in the many buses, trams, trolleybuses, taxis and underground train displays. Website: www.ltmuseum.co.uk

Medway Queen Preservation Society. The Medway Queen, once hailed as the "Heroine of Dunkerque", is currently undergoing restoration, which is near completion. Parts of her were in the Historic Dockyard at Chatham and her hull was in a Bristol shipyard being totally rebuilt. She is now back home in the River Medway, moored at Gillingham Pier. For details, contact: Noreen Chambers, 72, Bells Lane, Hoo St. Werburgh, Rochester, Kent. MQPS website is www.medwayqueen.co.uk .

Museum of Kent Life. Situated just off the M20/A229 near Aylesford, just outside of Maidstone. A thoroughly enjoyable day out exploring 28 acres of the many aspects of Kent life throughout the last 150 years. Particularly pertinent to this book is of course the 1940 house, which visitors are permitted to explore. Website: www.kentlife.org.uk Or telephone 01622 763936.

Romney, Hythe & Dymchurch Railway. New Romney Station, New Romney, Kent. The RH&DR is still a unique and very popular tourist attraction. Details of Train times, fares and special events can be found on their website. The armoured train is still run during certain special

events. Website: www.rhdr.org.uk or Telephone 01797 362353.

Royal Air Force Air Defence Radar Museum. RAF Neatishead, Nr Homing, Norfolk. The museum traces the history and development of Radar. Displays include a Battle of Britain Operations Filter room, a 1942 "Ops room", Radar vehicles, Space defence exhibition and a "Cold War" display. Website: www.radarmuseum.co.uk Telephone: 01692 633309.

Slough Fort Riding Centre. Fort Road, Off Avery Way, Allhallows, Rochester, Kent. A rare chance to see not only the old Napoleonic fort itself, veteran of three wars, but also the many horses housed there. Slough Fort offers pony treks, hacks, pony parties for children, riding instruction, you name it. There is a cafe and if you feel like a little walk (or ride) the old pillbox defence line starts less than a quarter of a mile further along the track at the end of Fort Road. Bit of advice if you are going to visit, Fort Road is just as the Army left it; an unmade and unadopted road, ideal for a Land Rover but best taken carefully in a saloon car! The entrance to Fort Road is on the left, just before the entrance to the Allhallows Holiday Park.

Southampton Hall of Aviation. Albert Road South, Southampton, Hampshire. Home to a number of interesting aircraft, not the least of which is Supermarine S6a seaplane N248, which was part of the Schneider race winning team of 1929. (It's 1931 trophy-winning counterpart, the S6b N1595 can be seen in the Science Museum, London). Telephone: 02380 635830 for opening times and further details.

Spitfire & Hurricane Memorial Museum. Manston, Ramsgate, Kent. Situated on the site of the former RAF fighter station at Manston, the museum is home to a Mk. XVI Spitfire and a Mk. IIc Hurricane. There is also a teaching/study area as well as a library and the Battle of Britain tapestry. Admission is free but as the museum is totally self-funding, you are politely directed toward the excellent gift shop! Further details can be found on their website: www.Spitfire-museum.com or Telephone: 01843 821940.

Tangmere Aviation Museum. Tangmere aerodrome, Chichester, West Sussex. Another museum sited on a former Battle of Britain airfield, this one has a beautiful full-scale replica of K5054, the Spitfire prototype. There are also displays relating to the airfield's part in the Battle of Britain of course. For full details, Telephone: 01243 775223.

White Hart, The. The favoured "local" of the pilots based at RAF Gravesend. The original building was demolished in 1999 to make it into a larger "Harvester" restaurant/pub. The establishment serves a selection of ales and the restaurant is up to the usual standard for such an establishment, though sadly, the present pub has no memorabilia relating to the airfield. The restaurant is on Rochester Road, close to the Lion Roundabout, at Chalk, just to the east of Gravesend.