

## Chapter 5

### Mid-life Challenges: 1980 to 1989

RAF Innsworth - RAFOS - The CSDE - HQ RAF Germany - Holidays -  
 RAF Wildenrath - Ornithology - Health Problems - More Holidays -  
 Ministry of Defence (AFD) - Tornado Radar Repair Unit.

#### RAF Innsworth, Gloucestershire:

My new job was to be the CSDE Team Leader, detached to Smith's Industries at Bishops Cleeve, Cheltenham. We were allocated a married quarter at RAF Innsworth, near Gloucester, because that was the nearest RAF Station to where I was going to work for the next three years. The new job was very interesting, but before I describe the type of work, it is worth mentioning our social life in that part of the country, because it was a new area for both of us. Cheltenham and Gloucester were quite close and we visited both cities regularly. We also found that it was easy to travel in almost any direction to other places of interest and we started to visit National Trust properties for the first time. Naturally, we got to know the Cotswolds very well and, in the opposite direction the Forest of Dean and Wales.

Just after I arrived at Innsworth I formed an Art Club and a Bird Study Group. One of the ornithological members was Bill Francis, who was to become a tremendous asset to RAFOS in later years. On one particular weekend we found that we had double booked both clubs, so we all travelled to the Forest of Dean and I set up my easel and painted, while Phyl took the other half of the members off to find Pied Flycatchers and other birds of that area. It all worked out very well and we got to know lots of new and interesting people. We were also invited to several RAFOS long-weekend field-meetings, held at Portland Bill and at Chew Valley, organised by Reg and Val Kersley, with strong support from Dave and Ann Bodley, where bird-ringing was part of the regular activities. I also got in touch with the local Severn Vale Ringing Group (SVRG) and often joined them on their early morning bird surveys. For those readers who know nothing about bird-ringing, a very simple introduction follows. Most people will have heard about the Royal Society for the Protection of Birds (RSPB) who have over

1,000,000 members in this country and who manage many bird reserves around the UK. A lesser known birding organisation, but one that has always been close to my heart, is the British Trust for Ornithology (BTO). I have been a Fellow of the BTO for more years than I care to remember and it is the BTO who issue and control licences to bird ringers in this country. Licences are only issued to ringers after they have undergone rigorous training on bird identification, have proved that they have reached the required standard in handling and collecting data from birds in the hand and that they know how to fit the correct type of ring around the bird's leg without harming it. The training normally takes several years, under the guidance of a suitably qualified and experienced ringer, and is a combination of field work as well as academic study.

Ringling starts by carefully catching the bird, usually in a mist-net strung between poles in a selected area. The bird is then carefully extracted from the net, weighed, measured, its sex identified and its age is estimated, as well as recording other relevant information about the bird. If the bird has already been ringed, then the number on the ring is also recorded. This sounds much simpler than it actually is, but good reference books are used by the ringers and the books are updated regularly. When all of the data has been collected, and if the bird has not been previously ringed, a numbered metal ring is carefully selected to fit the type of bird being processed and is fastened around the bird's leg, using a special type of ringling-pliers, so that the bird is unaffected. Each ring has a unique number and that is also recorded, with all of the other data collected from that bird. The sheets of data are then sent to the BTO HQ where the information is fed into a computer. Gradually, over decades, a huge amount of information has been built up on the birds that have been ringed. From the central BTO computer, and from similar centres across the world, we can then start to build up a really strong profile for each species of bird that allows us to be confident about predicting how long each species is likely to live, how far they travel and how fast they can fly, as well as determining the routes and destinations of migrating species. Bird ringling is at the heart of ornithology and it is from that data that we can start to prioritise the protection of habitats for endangered species, or to take other protective measures when we first

notice declines or worrying trends for particular bird species.

I was aware that the SVRG were concentrating on ringing Pied Wagtails, to try and learn more about that species. There was a particularly large winter-roost of Pied Wagtails that would collect at dusk every evening, in an enclosed court-yard within the working complex of offices at RAF Innsworth. Therefore, we arranged for the security clearance for members of the group, to allow them onto MoD property, so that we could target that particular flock of birds over a period of several weeks. Initially, the Pied Wagtails would arrive in ones or twos and sit along the edge of the roof overlooking the courtyard. Gradually the numbers increased as it got darker until there were hundreds of them. All of a sudden, and for no obvious reason, they would then suddenly drop down from the roof and collect in the ornamental shrubs in the centre of the courtyard, where they would roost for the night. Many different species of birds roost together like this, but we are not sure why; perhaps it's a case of safety in numbers, or possibly it's to keep warm by being close together. The mist nets were strung on posts around the ornamental shrubs to catch the birds as they flew down to roost. The project was very successful and the details were written up in detail and a copy of the report was registered with the RAFOS library. The SVRG data was also passed to the BTO and helped to build part of the national profile on Pied Wagtails.

At about the same time we also became quite involved with the Wildfowl and Wetland Trust (WWT) at Slimbridge, on the River Severn, where there was a worldwide collection of geese, swans and ducks. In addition to the conservation and research work carried out by the Trust, I found that it was also an ideal out-door classroom for novices to learn how to identify new species in the wild, particularly for those people who travelled to new areas of the world where unfamiliar birds would be seen. Those initial close contacts with the WWT staff were to come in useful to RAFOS in later years.

### RAFOS Expeditions:

Although we were on official duty during RAFOS expeditions, we were expected to forfeit annual leave for the time that we were absent from our normal work and I was always happy to do so. As mentioned earlier, I was selected to lead a RAFOS expedition to Southern Norway in 1980. We split the group into two teams, with each team staying for one week in a base camp on a wooded hill overlooking a fiord and then one week on an island in the middle of the fiord. All of the survey work was carried out on foot, but travel to and from the island was by a small rowing boat. We carried out a systematic survey of all the birds in the pre-determined areas and produced copies of the final report for the RAFOS Library and for the British Outward-Bound Centre in Norway, who loaned us the camping equipment and gave us general support while we were there. It was a successful expedition, lasting just over two weeks. In 1981 Phyl and I were both selected for the RAFOS expedition to the island of Benbecula, in the Outer Hebrides. After we arrived on the island, and as soon as we walked into the RAF Mess Phyl said "I know that dog". Sitting by the bar was a yellow Labrador that belonged to one of our old RBWG Army fiends, Geoff Gordon. We had no idea that Geoff was based at Benbecula, but it was good to see him, and his dog, again. It was a very intensive expedition and we mapped the whole of the island thoroughly, indicating the bird species recorded in each 1km square on the island. Phyl had the shortest legs on the team and often laughs when she remembers trying to keep up with the tall, fit David Counsell when striding out across the heather and bog moors. David was the Expeditions Member on the RAFOS Committee and was a fountain of knowledge, experience and help to numerous members, over a period of many years.

The following year, in the spring of 1982, I was selected for the RAFOS expedition to Cyprus, which was quite different to the other expeditions that I had been on, because of the Mediterranean climate. Having said that, we did wake up on several mornings to find the ground covered in frost. Once again, we were divided into small groups so that we

could survey as large an area as possible. When we arrived, we touched base with the civilian Cyprus Ornithological Society (COS), as we liaised with them for the ringing aspects of the expedition. On the second day, I was allocated to a team that was to survey the salt-lakes near Limassol, which was renowned for wading migrants. We had a very early breakfast at about 4.00 a.m. so that we could arrive at the lakes by first light. The shore of the dried-up lake was teeming with waders and there were Hoopoes in the pine-woods skirting the lake. We were all busy with our binoculars, recording details of the birds in our notebooks, when a Land-Rover pulled up beside us and the driver asked what we were doing. Our explanation wasn't believed and we were asked to go with them to the local Police Station, which we did. What we didn't know was that behind the pine-trees there was a Cyprus military base. With hind-sight, I suppose it must have looked suspicious seeing a group of people with binoculars and notebooks, particularly at dawn on a cold, frosty morning! We were treated very well, but we couldn't understand why they kept asking where the Falkland Islands were and why the British were there. I answered all of their questions but wondered whether it was some new form of interrogation technique. After the police got in touch with our civilian COS colleagues, who confirmed that we were genuine ornithologists and not spies, they dropped us off to join the other members of the team. It was only after we got back to our base camp that we understood the reasons for the odd questioning by the police. Argentina had just invaded the Falkland Islands, but we hadn't heard anything about it! In spite of my newly acquired "Police Record" in Cyprus, I was elected to the RAFOS Committee in 1982 and then became their General Secretary. One of my first tasks was to produce a detailed breakdown of the 431 RAFOS members. Now I will return to my new full-time job.

The Central Servicing Development Establishment (CSDE),  
RAF Swanton Morley

On the 21<sup>st</sup> of January 1980 I started work at Smiths Industries, Bishop's Cleeve, Cheltenham. I was posted from RAF Wattisham to the RAF Central Servicing Development Establishment (CSDE) at RAF Swanton

Morley, in Norfolk, and then detached to Smiths Industries Aerospace & Defence Systems in Gloucestershire. The role of the CSDE was to support the RAF Engineering Authorities at the MoD (RAF) with the introduction of new aircraft and associated support equipment into the RAF. The support role to the MoD (RAF) Engineering Authorities was complex, but a brief explanation of the way that it worked now follows.

In simple terms the Royal Air Force, through the MoD (RAF), has a requirement for new aircraft. The Civil Servants in the MoD Procurement Executive [MoD (PE)] then define the various stages of the projects and place contracts with industry. Industry then builds the new aircraft and the associated equipment. The CSDE helped to introduce the aircraft being developed by industry by working with them, through contracts with the MoD (PE) and the MoD (RAF). Where appropriate, the MoD (RAF) Engineering Authorities then placed teams of RAF personnel within certain key factories and tasked the CSDE to monitor progress on the projects. The aim of those teams was to help ensure that the RAF received the equipment that was expected by them. I was put in charge of a small team who were based in the Smiths Industries factory at Bishop's Cleeve, near to Cheltenham. I couldn't have asked for a more challenging or interesting job at that stage in my new career. We worked in civilian clothes and we had an office in the factory, next to the MoD (PE) representative and just down the corridor from the Smiths Industries Engineering Director; we all worked very well together. There was a good level of trust built up between ourselves, representing the RAF, and the numerous civilian engineering staff at Smiths Industries. The scope of our work was huge and included projects on a wide range of aircraft, including Jaguar, Harrier, Nimrod, VC10 Tanker, Harrier, AV8B and Tornado. Most of my work was associated with the introduction of the new Tornado GR1 and Tornado F3 aircraft.

The Tornado was a tri-national aircraft project with work shared between the UK, Germany and Italy. One of the major problems associated with the development of modern complex aircraft is the time spent on bringing the aircraft into service. That was made very clear to me by senior staff from Smiths Industries. Fairly typically, the Tornado had an initial development time of over ten years from the start of the project to the

delivery of the first aircraft to the RAF. It was pointed out, quite strongly from industry, that this was extremely inefficient because of the rate of improving technology. As soon as the detailed and complex specification had been agreed, possibly taking a few years, then that technology became out of date and the specification needed to be amended. By the time that amendment had been introduced there were even better improvements in technology and another round of new specifications started - it could become an endless loop of changes. It was suggested that a five year span from start to finish would be a more cost effective time-scale and end target. Just before I left Smith's Industries, at the end of my three year tour of duty, I was on a visit to a factory at Warton, where the Tornado was being built, and I saw the mock-up of the latest military aircraft design, which was highly classified. That aircraft was being developed by Britain, West Germany, Italy and Spain - the name of the aircraft was the European Fighter Aircraft (EFA), but it has since been called the Typhoon; at the time of writing this chapter I understand that the first RAF Typhoon aircraft should come into Squadron service, at RAF Coningsby, twenty-four years later! Do we never learn?

One of the projects that I spent quite some time researching, while I was at Smiths, was the automatic testing of electro-optic displays; I will use the Tornado Head-up-Display (HUD) as just one example of the type of work carried out by the CSDE. A simple explanation of a HUD is to think of it as being similar to an auto-cue used by newsreaders on TV. The essential information needed by a military pilot in a modern jet is projected onto an inclined glass-screen, in front of the pilot, so that he can look through the screen to see what is happening in front of the aircraft, but at the same time he can read the technical information projected onto the screen, such as target parameters, without moving his head or refocusing his eyes. The theory of Automatic Test Equipment (ATE) was that each avionic "black-box" removed from an aircraft could be connected to the ATE and then a computer driven system would automatically test the box, diagnose any faults and then tell the operator which items to replace. The idea behind it, because the ATE would be automatic, was to save time and the expense of RAF technicians testing each avionic box manually. That was the theory, but it was our job at the CSDE to make sure that it actually did what was needed

by the RAF, as well as ensuring that it was what industry had been asked to provide. The ATE for Tornado was being developed by a major British contractor, with other sub-contractors, to test all of the different Tornado electronic black-boxes.

In the meantime, the HUD system was built by Smiths Industries and it was just one of the numerous items to be tested on the ATE. The HUD was already in production at Smiths, and worked well, but it needed to be tested at the end of production to prove that it worked before it left the factory and was fitted to the newly built aircraft. Therefore, Smiths Industries designed manual test equipment to do the testing on the HUD system before it was delivered to the major aircraft contractor. In the meantime, the main contractor for the ATE had been given a replica of the Smiths HUD manual test equipment so that they could understand clearly the parameters that needed to be tested. However, instead of developing a truly automatic test system the contractor just connected the manual test rig to their ATE, using the same test procedures as the manual test equipment. The difference was that the HUD test procedure had now been copied into the computer instead of reading it out of a book. What was even more worrying was that one technician now sat in front of the ATE display console and read out the test procedures over headphones to a second technician who sat in front of the HUD manual test rig. The second technician then took the readings from the rig, manually, and relayed that information back over the headphones to the man at the ATE console, who then keyed that information into the ATE computer. In summary: we now had two men working on the ATE, where only one person was used on the manual equipment; the testing of the HUD took longer on the ATE than on the manual system; the ATE could not be used to test other black-boxes while the HUD was being tested, thus forming a queue of boxes waiting to be tested; the additional connections and cables between the HUD and the ATE reduced the overall reliability; more importantly, the testing was certainly not automatic!

That information was fed back to the RAF Engineering Authority at the MoD, to Mod (PE) and to the manufacturers. A few months later the MoD were invited to the factory by the ATE contractor, as they wished to prove that the HUD test procedure now worked. I was also invited to attend the

meeting. The above procedure was demonstrated and MoD (PE) were well pleased with the result. The RAF was then asked to comment and I was put on the spot to explain our very strong reservations. I outlined our concerns, including a completely different way of testing the HUD which could be automated. There was then much mumbling in small groups and the meeting was adjourned while the contractor called in their optical expert. I was then asked to explain our misgivings to him, together with our alternative solution, and he listened very carefully. MoD (PE) then asked the contractor's optical expert to reply, expecting me to be shot down in flames. However, he then told the meeting that he agreed with everything that I had said and the meeting closed abruptly. So it was back to the drawing board, or so we thought. We will catch up with that saga again, much later. This was just one small example of the type of project carried out by the CSDE, on behalf of the RAF and, in my opinion, on behalf of the tax-payers.

One of the most important reasons for modifying aircraft equipment was to meet the urgent or changing needs of the RAF operational staff and aircrew. The 1982 Falklands War was a good example of that in action. However, the big difference in 1982 was the surprise and the speed in the build up of hostilities. Several urgent changes to aircraft equipment were needed for this unexpected conflict and it was clear that the normal route of working through MoD (PE) would not be fast enough. The Air Staff defined their needs, the RAF Engineering Authorities worked with the CSDE and with industry to find solutions; those solutions were then authorised. This new procedure worked very well and there was much talk of using this new, faster and more efficient way of working in the future, thus reducing the delays and frustrations with the conventional MoD (PE) system. Unfortunately, after the Falklands conflict finished nothing appeared to change; either we didn't learn from that, or - the most likely explanation in my opinion - the MoD (PE) civil servants had a much stronger voice than the MoD (RAF).

During my tour of duty at Smiths Industries I had to complete several RAF Service courses. On the 15<sup>th</sup> of September 1980 I was detached for a month to RAF Henlow, to the Officers' Command School, on a manager's course. In March 1981 I enrolled for a correspondence course, at the RAF Staff College at Bracknell, and passed with an "A" grade in September 1982.

Following that, there were more detachments to RAF Wittering to the RAF Armament Support Unit for courses on the Hawker Siddeley Buccaneer and the Anglo-French Sepecat Jaguar aircraft armament systems. I was then detached to RAF Honnington on a Buccaneer aircraft manager's course in November 1982, ready for a posting to HQ RAF Germany in the New Year. We then started packing our belongings once again and made preparations to move to Germany.

#### HQ RAF Germany, Rheindahlen:

When we were posted to Germany on 10 January 1983, we were allocated an "off-base" married quarter, a few miles from Rheindahlen, in the village of Waldniel. It was a pleasant semi-detached house, with three bedrooms, a garage, a large cellar and a pleasant garden. The house was newly built, on a small estate of RAF married quarters and was about half-a-mile from the centre of Waldniel. There was a country track at the back of the house leading to a pleasant wood, which was ideal for short walks. We still had the Morris Marina car that we bought the last time that we were in Germany, ten years earlier. We started to plan for more travel across the continent and soon decided to sell the Marina and to buy a new Vauxhall Cavalier. With the money that we got from the sale of the car we bought two new bicycles, from Holland; I cycled to work each day and we both used our bikes regularly for the next four years. My first RAF Staff job was at HQ RAF Germany, based at Rheindahlen, and we shared the huge HQ building with NATO Military Staff. My staff job covered all avionics and strike/attack armament electrical systems used on RAF aircraft based in Germany. In February I returned to the UK on a Tornado aircraft manager's course, at RAF Cottesmore. The Panavia Tornado was first introduced operationally to the RAF in 1982, as a swing-wing tactical strike aircraft capable of operating just above ground level with a formidable range of weaponry. On 20<sup>th</sup> of June 1984 I returned again to RAF Wittering, this time on a Tornado IDS Unit Certifying Officer's course. It was an exciting time at work and, without going into any details, I was involved with staff work on Buccaneer, Phantom, Jaguar and Tornado aircraft, with regular visits to the operational stations in

RAF Germany.

Another really interesting part of the job was being seconded to the NATO Tactical Evaluation (TACEVAL) Team. That was during the height of the "cold-war" period and NATO exercises were always being planned or put into practice. All Units had to be ready to go to war and an alert system gradually increased the tempo as anticipated hostile action approached. Key Units had to prove that they could cope and be on a war footing at short notice; this was tested by regular TACEVAL visits to NATO stations. A few weeks before the exercise there would be a general warning to the station concerned that they were in the "window" for a TACEVAL; that was quite realistic, as in real life there would be a general increase in the alert state if hostilities were expected. The NATO TACEVAL team would be briefed in secret, prior to the exercise date, and would assemble close to the base that was to be evaluated just before the exercise was due to start. At some predetermined time, usually in the early hours of the morning, the TACEVAL team would arrive at the base and present a message for the Base Commander stating that his base was being evaluated. The TACEVAL team would then disperse throughout the base, to prearranged locations and would either observe or inject incidents, to a preset plan, to test the reaction of all personnel and aircraft missions on the base. The evaluation would last for several days, with everyone wearing Nuclear, Biological & Chemical (NBC) kit; the final stage would be in full NBC conditions, with all personnel wearing respirators for many hours. At the end of the exercise the TACEVAL team would meet and co-ordinate their findings. A report was then written, with a relevant grade for the base, which was given to the Base Commander, with copies to NATO and other appropriate HQ staff. It was an excellent way to see how our NATO colleagues worked, both on the TACEVAL team and on their own bases. I don't believe that I was ever biased, but I was always proud of the RAF's professional approach, both on the TACEVAL team and on our own RAF bases when being evaluated. Although I worked hard when on duty, we also made sure that we made the most of our recreation time.

We enjoyed attending the opera house in Dusseldorf and some of the most memorable nights for me were attending the four cycles of Wagner's "Ring Cycle". Although I thoroughly enjoyed the whole series, I

became very concerned at the end of the last night's performance when the encores and standing ovations started. It felt as though mass hysteria was breaking out all around me and I'm afraid that I had to leave when they reached the twentieth curtain call and there was no sign of it ending! I felt extremely uncomfortable for several days after that and the memory is still very strong. At weekends we would often go off to explore places that we hadn't seen on our first tour in Germany, ten years earlier. The difference was that this time, during school terms, there were only two of us to consider, as the three boys were all at boarding school in England. I should explain that I'm referring to "English" week-ends, which lasted from Friday evening until Sunday night; it was said that NATO staff described Wednesdays as the day that interrupted two good weekends, but I'm sure that wasn't quite true! We had one enjoyable weekend in France, in the Champagne area, and several trips to Central and Northern Germany. We are told that "All work and no play make Jack a dull boy", so we found lots of other activities to keep us busy!

We soon made contact with the Rheindahlen Bird Watching Group (RBWG) and joined in their weekend visits in Holland to nature reserves at De Groote Peel, Flevoland and the Island of Texel. De Groote Peel was the closest of those reserves, as it was only about thirty miles to the north-east of Rheindahlen. The wide variation of habitat, from lakes and large drains to woodland, meadow and heath, attracted a good range of different birds and we recorded over two hundred different species. A very different area was Flevoland, to the east and north of Amsterdam; it was part of a project to dam off the Zuyder Zee and to reclaim part of the sea. There were three main reasons for damming off the Zuyder Zee: first, to give greater protection against flooding; second, to improve water management; and third, to increase employment and food supply. In the 1950s, the increase in population and the shortage of space in the Netherlands brought new thinking into how the polders should be used. The founder of the Flevoland project was Dr. I C Lely; therefore, the new town of Lelystadt was named after him; it had a population of 50,000 in 1982, with final plans for 100,000 inhabitants. An additional benefit of the land reclamation was the introduction of a wonderful new area for wild birds. When we first visited this area in the

mid 1970s the air above the huge reed beds was alive with Harriers, in all directions. That potential asset was soon recognised by the authorities as an important spin-off. Subsequently, nature reserves were constructed in the varied habitat to include a bird sanctuary at De Kievitslanden; a stop-over for migrants at Pleisterplaats, complete with a bird-ringing station; a sanctuary for geese at Ganzengouw; a swampy area near Harderwijk; a sanctuary for harriers called Burchtcamp; and an area at "Wildwallen" planted with hedges.

On one particular visit, Phyl and I had a long weekend exploring Flevoland and, as usual, late on the Saturday evening we started to look for somewhere to stay for the night. We eventually came across an isolated restaurant and we were pleased to see that it also advertised bed-and-breakfast. It was one of the best meals that we ever had and the surroundings couldn't have been more friendly or comfortable. Unfortunately, the over-night accommodation was at the other end of the comfort scale: it was clearly a hostel used by workmen during the week and we were allocated a stark room with two single, iron bed-frames and, down the corridor, a communal wash-room with cold water. Well, as I said at the time, it was better than sleeping in the car, although Phyl wasn't convinced! On another winter visit to Flevoland I remember being almost overwhelmed by the size of the huge ice formations at the edge of the shoreline; it was like being in a scene from the Polar Regions. I don't know how the ice formations were made, but I assume that the huge expanse of water must have frozen and then the strong winds and the tide must have broken it up and driven it up onto the shore, where it then started to pile up and re-freeze.

In contrast to that dramatic scene, the island of Texel was always relaxing. We had many visits to Texel, particularly in the spring when we would see the last of the wintering geese and duck, as well as the arrival of the migrant waders and summer passerines. Texel is the largest of the Wadden Islands, which skirt the north-west coast of the Netherlands and is about fifteen miles long and six miles wide at its broadest point. We would catch the ferry from Den Helder, about forty-five miles north of Amsterdam, and we usually stayed at De Cocksdorp in the north of the island. There was a wide range of different habitats on the small island and that made the variety of different bird species so interesting. Typically, we would record well

over one hundred different species of birds on each visit, but the total number of different birds recorded on the island was about 310 in the mid 1980s. There were six major areas on Texel worth mentioning. The first was about half-way up the east coast, where there were a number of pools and ponds, with little islands at the foot of the dyke; this brackish environment attracted a large number of marsh and grassland birds to nest and forage. Typical birds found there were Redshank, Greenshank, Spotted Redshank and Avocet, with other occasional waders and duck. One of my favourite areas was slightly further north, still on the east coast, where the grassland between two former estuaries attract waterfowl and grassland birds. That was a marvellous area to watch the huge flocks of wintering Brent Geese, as well as numerous waders, geese, ducks and swans. Moving slightly inland, there were several pools that attracted breeding Avocet, Plovers and Tufted Duck, but what I found most memorable on one of our spring visits was a huge lek of displaying Ruff, with the males all having different patterns and colours in their breeding plumage. Moving west, to the centre of the island, was the Waalenburg polder which was ideal for marsh and grassland birds, such as duck and waders, including Black-tailed Godwit, Redshank and Ruff. There were also two reserves in the south-west of the island that covered a very wide range of habitat including dense undergrowth, damp meadows, reed-beds, small lakes, drift-sand dunes and a tidal sea-bay that was part of an old estuary. Because of that varied landscape it made it one of the most interesting areas in Europe to see a wide variety of different birds in such a small area. In addition to the birds already mentioned, that was a good place to see breeding Purple Heron and Spoonbill.

#### RAF Wildenrath:

By December 1984 I was on the move again, but this time it was only just down the road from HQ RAFG, to RAF Wildenrath. On the 1<sup>st</sup> of January 1985 I was promoted to the rank of Squadron Leader and became the Officer Commanding Electrical Engineering Squadron. I had four Flights in the Squadron: three of them were RAF personnel: the Avionics & Photographic Flight, the Phantom Missile Control System Flight and the

Ground Radio Flight; the fourth Flight were army personal - K Troop, from 21 Signals Regiment, who were responsible for all the communications and computer land-lines on the base. Again, it was a very interesting tour, but I don't wish to go into specific details about our work. Each of the Flights made major contributions to the running of the base and it was a busy but enjoyable tour of duty. One incident that involved many of us for several months was monitoring the effects of the Chernobyl Nuclear Disaster. By coincidence, Phyl and I were on leave at the time of the disaster, bird-watching near the north-east German border, as you will hear later.

When I was posted to RAF Wildenrath we were allocated a very pleasant on-base married quarter and we soon settled into the social life of the station. Most of my colleagues were aware of my ornithological and artistic interests, but they were of a minority interest to most of them. That changed quite quickly, purely by chance. Most readers will be aware of the disruption to commercial airports in the winter when there are heavy falls of snow. Certainly, while we were there, the winters in Germany were far harsher than those in the UK and it was not uncommon to have heavy snow for weeks on end. For the military, particularly during the period of the Cold War and in Germany, it was essential to keep the airfields open and the runways clear of snow. There was a well rehearsed snow-clearance procedure and teams of personnel were put on stand-by rosters throughout the winter months, ready to be called-out at very short notice. There was a huge range of vehicles allocated for airfield snow clearance, ranging from fuel-tankers with snow-ploughs, to purpose built runway vehicles that scooped-up the snow, chopped it up and then expelled it from a chute in a high stream that landed several yards away from the edge of the runway. Another device was a jet engine, with a control capsule for the operator to sit in, mounted on the front of a fuel-tanker; the carefully designed jet of hot air would be used to remove any remaining snow and ice from the runway and taxi-way areas. Like most procedures, prevention was better than cure and it was essential to start snow clearing before it got too deep. It was on one particularly cold, winter week, with bright sun-shine and blue skies, when I noticed an unusual bird in the pine-trees on the Station; it was a Nutcracker. The Nutcracker is a member of the crow family, about the size of a Jackdaw,

but with light-coloured speckles on its body-feathers. It is associated with the Russian Steps and the mountainous Alps rather than Central lowland Europe. I mentioned this to my boss and said that we could expect some bad weather if the Nutcracker was this far north and west. Unknown to me, and in spite of no such warnings from the sophisticated meteorological office, he then raised the snow-alert team to a higher priority. Within a few hours we were in the middle of the heaviest snow-fall that I had ever seen. My boss seemed to take quite an interest in my unusual hobby from then on!

Our RAF aircraft were housed in Hardened Aircraft Shelters (HAS) and tradesmen were trained in "Battle Damage Repair" techniques for the aircraft. Naturally, if we were at war, normal repair schemes would be put on hold as the aircraft would be urgently needed for operational tasks. Therefore, we had to develop effective, temporary battle damage repair procedures so that aircraft could be returned quickly and safely to service. Similarly, the other support functions in the Engineering Wing had to find new war-time procedures. In our case, the Electrical Engineering Squadron was based in a conventional brick-built "soft" hanger, on the edge of the airfield, and was vulnerable to air attack. Therefore, we drew up plans to deploy most of the second-line support equipment to less vulnerable sites around the Station. Unfortunately, the Phantom Missile Control System (MCS) test rig was very large and complex and could not be easily deployed at short notice. Several years earlier, a spare MCS test rig had been fitted into the back of a lorry, for quick deployment to a safer environment, and it appeared to be a very good solution – at least it looked good on paper. When the TACEVAL Team saw it (which incidentally included my brother Brian, who was a serving Warrant Officer at RAF Rheindahlen at the time) they handed the technicians a radar module and asked them to test it. Their bluff had been called, because the condensation inside the vehicle made it too dangerous to switch on the test-rig! That was the purpose of the TACEVAL Team, to prove whether or not plans were feasible, and the idea was then abandoned. The initial idea was correct; it was the solution that was wrong. I was keen to find a practical solution to that existing problem and we eventually found one by working closely with our colleagues in the Mechanical Engineering Squadron. The whole MCS rig was mounted onto an old flat-bed bomb-

trolley and was used in our Squadron Avionics Bay for normal day-to-day work. As soon as the War Alert was sounded, the rig would be covered by a weatherproof frame, towed across to one of the operational squadron's Hardened Aircraft Shelters, connected to the mains electricity supply and we were back in business. The procedure worked well, was endorsed by the next TACEVAL visit and the idea won awards for the Squadron, under the "Inventions and Ideas" scheme, from HQRAFG and from the MoD back in the UK. Now, let's get back to playtime again.

#### Holidays and Ornithology:

Most of our weekend breaks and major holidays involved bird study, as that was a hobby that Phyl and I both enjoyed. It also gave us the added opportunity to visit new places and to meet new people on the continent. We found the German people very easy to get on with and, with one exception, we were always made welcome. One particular weekend we decided to explore an area of central Germany, close to the East German border and booked into a busy, attractive looking hotel. We were the only non-Germans staying there and every time we ventured into the public rooms we were met with a frosty reception and a wall of silence, verging on hostility. There was obviously some sort of seminar being held over the weekend and it was clear that we were not welcome. We booked-out the next morning! On another occasion, when staying in Austria, we became friendly with a couple from Vienna. Eventually, they became very serious and wanted to know what English people thought about Austrians. In our experience, most people have fairly strong views about Germans but no particular views about Austrians. We then explained that to them, but they became even more persistent with their questioning. Eventually, we discovered that their daughter had just finished her degree in Vienna and she was thinking about taking a post-graduate course in England. However, her parents were very worried about how she would be treated in England because of the strong Nazi movement that was gaining support in Austria. That was the first time that we became aware of a modern Nazi cult and no one else had ever discussed that subject with us. We re-assured them that their daughter

would be made welcome in England and that she would almost certainly enjoy the experience. We then wondered whether the earlier incident, in central Germany, was also associated with a Nazi seminar. I must stress that this was a very unusual experience and certainly was not typical.

We decided to re-visit Austria and to explore the four regions of that we hadn't been to before: Styria, Carinthia, Lower Austria (including Vienna) and Burgenland. Styria is in the south-east of the country and has borders with five other regions of Austria, as well as with Yugoslavia in the south. The landscape varies quite dramatically from the Dachstein and Tauern mountains in the west to rolling hills, and then steppe in the east. Carinthia is the most southerly region, with the spectacular Karnische Alps on the Italian border and the Karawanken mountain range on the Yugoslavian border. It was in this area that Phyl and I decided to climb up to the snow-fields on the mountains on one of our holidays. We had been walking for several hours and we hadn't seen a soul. Then, to our surprise, a group of elderly French walkers appeared from above us and asked whether we were from Holland. We explained that we were English. "Oh", they said, and after carefully looking all around, quietly said "We were on your side"!

Lower Austria is the large region in the north-east of Austria and the Czechoslovakian border lies to the north. One of the most significant features of this border is the mighty River Danube that enters Austria at Passau on the border with Germany. The 1,770 mile long Danube is the second-longest river in Europe and almost twice the length of the River Rhine. It rises in the Black Forest and then, after crossing the south of Germany, flows through Austria, Hungary, Yugoslavia, Bulgaria and Romania, to eventually enter the Black Sea. We both really enjoyed visiting a gem of a building, Melk Abbey, on the River Danube between Salzburg and Vienna. Melk had a long and important part to play in Austria's early history. The Abbey was founded by the Benedictine Monks in 1089, at the entrance to the Wachau - a picturesque stretch of the River Danube. By 1130, there was an active scriptorium and the library held a priceless collection of medieval manuscripts from that time. The Abbey School was then founded in 1166, but the abbey had a turbulent history with a major fire in 1297 that destroyed the building and then a dramatic decline in influence during the

European Reformation. It was completely rebuilt between 1702 and 1736 and the marvellous frescos on the library ceiling, and in the marble hall, were by Paul Troger. If you are passing that way, then do take the time to stop and visit Melk Abbey.

In general, our holidays were never planned in detail before we left home; we would just decide on a general location, such as eastern Austria, load-up the car and then set off. The big advantage was that we didn't have to meet any dead-lines for arrival or departure and we could adapt from day to day, as the mood took us. After we left Melk we decided to stay in Vienna, as that made quite a change from our usual countryside pursuits. Because we didn't usually visit cities we decided to go to the Tourist Information Office and told them what we wanted; they reserved a hotel and told us where to find it. As soon as we arrived we had misgivings and by the time that we were shown our room we knew that it was not for us – it was awful. We then cancelled our reservation and set off to find a different place to stay, in our usual way. We drove to a small village north of Vienna and looked around until somewhere caught our eye. It was a charming house, with an elderly lady as the owner, and as soon as we saw the room we agreed to take it for a few days. The lady explained that she couldn't give us an evening-meal, but pointed-out a good restaurant near-by. We had a very good dinner and, as it had been a long day, we went straight to bed when we returned. We then realised that we didn't know where we were to go for breakfast, but decided to sort that out in the morning.

We had a good night's sleep and I was having a wash in my altogether, at the hand-basin in the bedroom, when the door burst open. The lady of the house greeted us with a cheerful "Gutten Morgan", brought in our breakfast and laid it out on the table while she stood chatting to Phyl. I was dressed and ready before breakfast on the following mornings! We drove to the outskirts of Vienna each day, parked the car in an open square, and then travelled into the city on a tram; that was the first "park-and-ride" that we had used and it was excellent. After several days we were told that we were parked next to the Communist Party HQ, which was probably not very diplomatic as our car had British Forces Germany registration plates. Not surprisingly, there was much to see in this 2,000 year old city of culture, with

a wealth of churches, palaces, museums and other architectural jewels. We had a really enjoyable time with visits to the usual tourist places such as the City Hall, the Imperial Palace, Heldenplatz, the Palace Gates, the National Theatre, St. Stephen's Cathedral and the Spanish Riding School. I was also keen to visit the Vienna Museum of Modern Art, but after about an hour I asked Phyl if she would mind if we went somewhere else; I'm afraid that most of the art was just beyond my understanding, and to Phyl's. However, we soon made up for that and we both enjoyed our visits to the Schonbrunn Palace and the Belvedere Palace.

Burgenland was the eastern most region of Austria, and it soon became one of our favourite bird-watching areas in Europe. Most people conjure up pictures of the mountainous Alps when Austria is mentioned, but are surprised to find that most of eastern Austria is about as flat as Holland, because it is on the western end of the vast Hungarian plain. We always concentrated on the area to the south of the town of Rust, around Europe's largest steppe lake – Neusiedler See. We stayed in Illmitz, with Storks nesting on the chimneys, as it was a quiet village on the eastern side of the lake and it was in an ideal centre to work from when studying the local and migratory birds. Neusiedler See is in a National Park which had a long-term aim of preserving its range of different habitats. Several climatic zones meet there. It lies between the Alps and the Euro-Asiatic plains, and the area includes the huge salt-lake of Neusiedler See in addition to many small saltwater pools, meadows, wetlands, salt marshes and large reed beds. We would visit the local Biological Station regularly and were made welcome by Dr. Grüll, but we will hear more of him later. The variety of birds in that area was outstanding and included many different species of herons, geese, storks, waders, birds of prey and passerines. However, the most unusual and spectacular was the Great Bustard, which we found on the Hungarian border.

The Great Bustard is an endangered species with a world population estimated at 45,000, but with only about 3% remaining in Central Europe. It is the largest species of European bird and the males, weighing up to 44 pounds, are also the heaviest flying bird in the world. The females are much smaller, weighing up to about 11 pounds, and tend to be more gregarious

than the males. Great Bustards inhabit open, flat or slightly undulating, treeless cereal farmland and were fairly common in Lincolnshire and the UK in the 18<sup>th</sup> century, but became extinct in Britain by 1832. The main reasons for the Great Bustard's decline include hunting, crop-spraying, ploughing fields in the autumn and then new planting for the spring, stubble-burning and, more recently, collision with power-lines. The males develop a colourful breeding plumage which they exhibit to flocks of other Great Bustards at traditional display areas, known as leks. Tufts of modified feathers, so called moustachial feathers, grow at each side of the male's beak, increasing each year and finally reaching up to eight inches in length. The most dramatic part of the male's breeding display, at the lek, is when they twist their normally reddish-brown wing and tail feathers to reveal a huge, almost totally white, bundle of quivering feathers. Our sightings were from an observation post on the Austria border, watching the bustards displaying just over the fence in Hungary. Many of the local people wanted to know why we didn't visit Budapest as it was such a beautiful Hungarian city and not far away. That was not possible for us because it was still during the period of the *Cold War* and Hungary was on the other side of the *Iron Curtain*. We wouldn't have believed it if we had been told at the time that we would be studying Great Bustards in Hungary nine years later, but we will hear about that in the next chapter.

The attractive villages surrounding Neusiedler See were set amongst large vineyards, but they had a major problem with huge roosts of Starlings. The starlings, that numbered from tens to hundreds of thousands in a single flock, were eating and destroying the grapes. The owners of the vineyards had a fairly simple, but effective, way of dispersing the Starlings. They employed a pilot and a small plane fitted with a siren; the aircraft would swoop down over the vineyard with the siren switched on and as soon as the huge flocks of Starlings took to the air he would fly straight through the flock. That method was in complete contrast with the RAF, who spent a good deal of time and research determining the best way to avoid bird-strikes. At the end of each holiday, we usually topped up what little room we had left in the car with bottles of wine to take home, including some of the rare and delicious dessert wines such as Trockenbeerenauslese and Beerenauslese,

of which we still have two small bottles left from 1981. I have promised Phyl that we will drink them when this book is ready to be published! There was quite a scandal during the years that we were visiting Burgenland, caused by some local Austrian wine producers. As we crossed the German border on one visit, the frontier guards asked where we were going. When we said that we were going to Burgenland they immediately started laughing and wanted to know if we were going to stock-up with anti-freeze. It transpired that the alcohol content of some of the Austrian wine was being enhanced by adding anti-freeze. We understand that it was discovered quite accidentally after a local wine producer was questioned over his tax returns. He had been claiming tax relief on large amounts of anti-freeze throughout the long hot summer. Initially, the authorities thought that he was just being greedy and claiming for anti-freeze that he wasn't using. However, the wine producer protested his innocence and explained that he was indeed using it to add to his wine. When he was told that he couldn't do that, he wanted to know why not, because everyone else in the region was doing the same! We were reassured by the people that we knew that there was no problem with the bottles of wine bought locally, as they all drank it; it was the bulk wine-tankers, heading for the central European super-markets, which were being targeted. The Hohewand was a dramatic cliff-face to the west of Burgenland, at the start of the Alps, and it was a renowned place to find a small, attractive, but secretive bird called the Wallcreeper. On our way back from one of our holidays we decided to stay there for a couple of days. It was a really attractive area, but the hotel was quite a lot more expensive than we had budgeted for. However, the manageress said that it wouldn't be a problem as we could stay next-door, in a relative's beautiful alpine house that catered for bed-and-breakfast guests. The room was marvellous, with a balcony off the bedroom looking out over a dramatic landscape. Breakfast was served on the lawn each morning while we watched the local birdlife, including resident Nutcrackers; it was like something out of a dream. We never did see any Wallcreepers, but that didn't bother us at all.

On one of our other holidays, a year or so later, we decided to have a more traditional touristy holiday, instead of the usual outdoor, bird-orientated break. This time we toured Bavaria, in south-east Germany and

had some really interesting days out. Eventually, we decided to visit the extravagant castle of Neuschwanstein. It was built by the Bavarian King Ludwig II, between 1869 and 1886, at huge expense. The castle was in the neo-late Romanesque style, with turrets and mock medievalism; the interior styles ranged from Byzantine, through Romanesque to Gothic. It was a real fairy-tale fantasy come true. To give some idea of the scale of the outrageous spending, the woodcarvings in Ludwig's bedroom took fourteen carpenters four-and-a-half years to complete. There were 170 steps up and down on the tour of the castle, so it was not for the faint-hearted. Naturally, being a tourist attraction, we had to stand in a long queue to get in. We were standing there patiently when we were both amazed and delighted to see a tiny Wallcreeper fly up and down the outside wall of the castle; that made our day!

We had another pleasant surprise one day when our friends, Dave and Anne Rennison, asked if we would like to join them for a week at Lake Garda, in Italy. They had booked a villa for the family, but there was still plenty of spare room, so we accepted their invitation. Before we set off I had checked our work schedule and, as it was coming up to a quiet spell after several particularly hectic months, I decided to take four weeks leave in one block – which was very unusual. We drove down to Austria and stopped over-night near Innsbruck. The next morning we set off for the Brenner Pass, crossed over the Alps, and then down the beautiful valley to Lake Garda. We had a very relaxing and enjoyable time, exploring the area around the lake as well as spending an interesting day in Verona. It also gave me the chance to do some drawing as well as sightseeing.

We said goodbye to Dave and Anne, when our week at Lake Garda came to an end, and Phyl and I set-off towards the south-west with the aim of eventually ending up in the Pyrenees. We headed for the Genova, on the Mediterranean coast, and then followed the coastline to Monaco, Nice and Cannes, but neither of us felt the urge to stay in any of those celebrity places. We then cut across-country to Marseille, but quickly turned back out of the city as we were not too impressed with it. We then headed towards the Camargue, as that was on our route to the Pyrenees. We found a small hotel near Martigues, where we stayed for the night and had a good dinner and an

excellent night's sleep. I'm afraid that neither of us spoke French, but we managed to get along quite well. As we were booking out of the hotel the next morning the manager introduced himself and spoke to us in perfect English. He asked us where we were going and then gave us a complimentary copy of the Michelin Guide of the area, for which he refused to accept payment. He couldn't have been more helpful and we took that as a good omen for the next part of our holiday. We had an enjoyable look around Arles, but decided to move down into the Camargue and to stay in Saintes-Maries-de-la-Mare. We found a small hotel and booked-in for three nights so that we could have a good look around. The whole area was enchanting and we decided to stay for five more days. The Camargue was the result of the 505 mile long River Rhone reaching the Mediterranean. The Rhone rises from the Rhone Glacier, runs through Switzerland and Lake Geneva, before cutting a valley between the French Alps and the Massif Central to Lyons, Avignon and Arles, where it branches into the Grand Rhone and the Petit Rhone. Over eons of time, the sediments carried by the Rhone formed banks at the mouth of the rivers while the sea successively remodelled the silt to build up a dune system, which then gradually separated the lagoons from the sea. That gave rise to a great variety of habitats, which gives the Camargue its unique character.

The water, salt, the flatness of the area, together with the abundance of strong winds, are the principal components that formed the landscape. The delta is an internationally important area for migrating birds and over 300 different species have been recorded during a typical year. Now you may understand why we both wanted to visit the Camargue and I will try to briefly describe the area, starting at the coast and working inland. First, there were extensive beaches, with sand-dunes, and we could walk for miles on the golden sands without seeing a single person. Next there were the salt pans, free of emergent vegetation, but always interesting because of the Flamingos, Avocets and other salt-water loving birds. Further inland were brackish lagoons and the lower salt-steppe where large numbers of duck, such as Teal, Pochard and Wigeon over-wintered and wading birds were attracted to the abundance of aquatic invertebrates. The next extensive habitat was the fresh-water marshes, surrounded by reed beds that were the

haunt of Marsh Harriers. On the higher ground there were summer pastures for bulls and horses and those areas attracted seed-eating passerines. Finally, on the alluvial deposits left by the Rhone, copses had grown up giving shelter to the exotic Rollers, Hoopoes, Bee-eaters, Herons and Egrets. Time seemed to fly by and we were still enjoying the Camargue so much that we decided to cancel our plans to move on to the Pyrenees. We saw the hotel manager again and explained that we wanted to stay for another week. He looked at us hard, smiled, and then spoke to us in English for the first time and said that the hotel would close in September - for the winter! We assured him that we wouldn't be staying that long and he happily booked us in again. We then started to travel further inland and visited historic Avignon and numerous picturesque villages; I just wished that I had taken my paints with me as well as my sketch book.

Eventually, we had to think about returning home and we decided to follow the Rhone Valley. We started our journey north, through Orange and Valence, but we then decided to divert into Switzerland, with a brief visit to Geneva because Phyl had always wanted to go there. When we left Geneva, we decided to have an overnight stop in Villars-Les-Dombes, to the north-east of Lyon, as that was a wet-land area between the Rivers Rhone, Saone and the Ain, that also had a good reputation for its bird-life. The town was quite deserted when we arrived in the late evening and we were wondering where to go when we saw a prominent sign on the large building in the square saying "Hotel de Ville". To my naïve embarrassment, I now know that it doesn't mean Town Hotel but Town Hall. However, an attractive young lady soon came to the rescue and asked if she could help. I explained that we were looking for somewhere to stay for the night and she told me to remain where I was while she made a telephone call. I collected Phyl before the young lady came back and we were then told to drive along a particular road for about two miles and a lady would be waiting for us at the roadside. True to her word, the lady was waiting and she showed us to a wonderful apartment on the second floor of a huge converted barn. It was so good that we decided to stay for three nights instead of just the one.

Our land-lady directed us to a bistro where we had a good meal and we then unpacked the car and went to bed. We had been lying there for only

a few minutes when we both heard a strange whizzing sound; I put on the bedroom lights to find a bat flying round the room. We hastily dived under the sheets to discuss what to do next; "we" then decided that I should switch off the light, crawl along the floor to open the windows and then wait until it had gone! The scheme worked, but I think that we both had half an ear open all night, just in case it came back. The next morning we could see large cracks in the huge beams across the ceiling and we assumed that was where the bat came from. We tried to explain this to our land-lady the next morning, but I had no idea what the word for *bat* was in French and she didn't seem to understand our English, German or our gestures. Each morning, over breakfast, our hostess would produce a local map and tell us where to go for the day. It was a really enjoyable end to a long holiday, but it was time to go back to work.

In addition to our holidays, and weekend visits to nature reserves in Holland and Germany, we became very involved with local groups of German and Dutch environmentalists, working on various projects in the area. One particular project was trying to save migrating frogs, toads and lizards when they crossed the roads that separated their hibernating woodland in the winter from their breeding-ground lakes in the spring. It was an interesting project and I didn't realise until then that the start of the amphibian's migration was triggered when the temperature and humidity both reached a critical point. When that happened, thousands of those small creatures moved en-mass to reach their breeding ground as soon as possible, which was a hazard to motorists, but an even bigger hazard to them! The interim solution was to dig a long ditch on the wood-land side of the road and then to line the road-side wall of the ditch with smooth plastic sheeting. When the migrating amphibians dropped into the ditch they then turned either left or right and followed the ditch until they fell into sunken buckets, which we had prepared earlier. One of the local members monitored the temperature and humidity all of the time and when the critical points were reached he telephoned all of the people on his list; that was nearly always between one and three o'clock in the morning! We all then leapt into action and arrived in time to carry bucket-loads of frogs and toads across the road so that they could continue safely on their way to their breeding ponds and

lakes.

The long-term solution was to bury pipes under the road so that the frogs and toads could continue on their journey without our help, and we could then dispense with the buckets and the unsociable hours. However, even that wasn't as simple as it may sound. Another part of the project was working with the University of Köln to find the optimum types and size of pipes. Further back in the woods there were about eight different types of buried pipe system, with varying diameters, lengths, materials and linings. There were funnels leading into each type of experimental pipe-line, with bucket traps at both the start and the finish. As the amphibians started to go down the tunnel there was a ramp over the "start" bucket and they would drop down off the top of the ramp and continue along the tunnel. If, for any reason, they didn't like that type of tunnel they would turn back and drop into the "start" bucket, which was underneath the ramp. If they liked the tunnel then they would finish-up in the "end" bucket. We then collected the numbered buckets, counted the number of specimens, recorded the relevant details and then let the amphibians on their way again. The project leader analysed all that data, over a long period, and eventually a clear type of optimum pipe was identified. The pipes were then installed under the road as a permanent long-term solution and another project had a happy ending.

We were also heavily involved in clearing two lots of overgrown woodland in local nature reserves. The most interesting one was at Schloss Krickenbecker where we were clearing overgrown woodland to make a suitable habitat for Bluethroats to return and breed. Bluethroats are a close relative to our Robin, but had been recorded only rarely in the UK. There are two races of Bluethroat; the Scandinavian race has a white spot on its blue breast, but the birds that we saw were the Continental race, with a red spot. Those enjoyable weekends took me back to my Forestry Commission days, with blazing fires on cold winter days. The project took several months to complete, but again it was another success and we enjoyed working with the local conservationists. However, I was in trouble one weekend when a party of us were going off to work in the reserve at Krickenbecker. Naturally, we didn't want to just abandon our families for the weekend, so I explained that there were some wonderful walks in the area and lots of things for the

children to do, in the touristy area, while we were working. At the end of the day we were met by a very red-faced mum and her children who were not too pleased - I hadn't told them about the mosquitoes, which had been feasting on them all day! Naturally, from time to time, there were some language problems when working with our continental colleagues, but nothing that we couldn't sort out. However, I was a little taken back one day by a German doctor who was organising a weekend visit to a spectacular Cormorant roost in the middle of a forest in Holland. He suddenly turned to me and said "You will pick me up from my house at two o'clock tomorrow morning". Perhaps he just got the first two words the wrong way round; I gave him the benefit of the doubt, picked him up and we had a very enjoyable weekend. Towards the end of my time in Germany, we were working on a nature reserve next to RAF Wildenrath, again clearing a large area of woodland that had not been managed for many years. We got to know the local people who lived nearby, but they couldn't understand why we worked so hard and why we worked without getting paid for it!

A couple of years later, in the autumn of 1985, RAFOS decided to mount an expedition to Neusiedler See, in Austria, and I was asked to co-ordinate the field activities and the accommodation, because I had local contacts and knew the area well. We booked a cluster of simple cottages, surrounding a courtyard, to use as our base at Illmitz. The next important task was to contact Dr. Grüll, at the Neusiedler See Biological Station to see if there were any projects that we could help them with. There was a positive response and we were tasked with collecting as much data as we could on the birds using specific wetland areas around Seewinkel, such as Warmsee, Lange Lacke, Zicksee, Worthen Lacken, Stundlacke, Zicklacke, Fuchslotlacke, Ober Stinkersee and Unter Stinkersee as well as the south-eastern part of Neusiedler See. We also made contact with Dr. Duda from Vienna and he introduced us to the ancient Riverine Forest area of Marchegg, on the banks of the River Danube and on the border with Czechoslovakia. Although there was the baroque-style castle of Schloss Marchegg, built in 1733 for Prince Eugene of Savoy, we were more interested in the bird life of the forest. Storks migrated from South Africa to Marchegg each spring, and then flew back again in the autumn, with a round

journey of over 12,400 miles each year. However, the most numerous species on the day that we visited Marchegg with Dr Duda were mosquitoes – in their millions! Not only was Dr Duda an accomplished ornithologist, but he had also recently won the World Championships to find the best boomerang thrower! It made quite a change from birds and aeroplanes in mastering the technique of flying a boomerang, but we had lots of fun trying. I still have the boomerang given to us by Dr Duda and this has reminded me to find it before the next visit of our grandchildren in Cornwall.

Another visit was to northern Germany, on the border with East Germany, where we were studying Cranes and Storks in the spring of 1986. We were puzzled because there was a lot of unusual activity in all of the towns and villages that we visited, as the German authorities were digging-up the contents of the small gardens and taking away their vegetables. We then found out that they were worried about the nuclear fall-out from the Chernobyl atomic power station accident and they were removing locally grown foodstuffs as a safety precaution! I was very pleasantly surprised at the end of my tour in Germany to be presented with two volumes of *Die Vogels des Rheinlandes*, by the group that I had been working with, as a thank-you for my involvement with them. That was followed, a few months later, by a letter to the MoD from the German *Arbeitsgemeinschaft Biotopschutz im Kreis Viersen*, awarding me a medal and acknowledging their thanks for the conservation work by British Service personnel in Germany between 1983 and 1987.

#### The Start of Health Problems:

At the end of 1984 Phyl had an operation, at RAF Hospital Wegberg, to remove a lump from her neck. In the spring of 1985 she suddenly became quite ill. Within a few weeks she was virtually chair-bound, but she had been really fit and active up to that stage. Phyl was then referred to another specialist at the Wegberg hospital and, after several tests, she was then sent for scans to a German private clinic in Mönchengladbach. The results from the scan appeared to be inconclusive and the consultant then tried all sorts of medication for about a year, but to no avail. Phyl then became even more

ill and was flown back to the UK and was admitted to hospital at RAF Halton in 1986 for more tests, as they thought that the medication that she had been given may have damaged her kidneys. John and Cath visited Phyl while she was at Halton, which cheered her up, as did an invitation to dinner by Agnes Attwood, the wife of one of our RBWG doctor friends. It was while she was in that hospital that another doctor, who knew Tony Attwood, stopped to talk to Phyl during his ward checks one weekend. He was certain that Phyl was suffering from rheumatoid arthritis and said that he would write to the consultant at Wegberg when Phyl returned to Germany. Within a short time of returning to Germany Phyl saw the rheumatologist who confirmed that she had both rheumatoid and oesteo-arthritis, but that it was too far gone to stop it progressing; she then started on new medication to try and control the pain and to regain her mobility.

Towards the end of 1986, about six months before I was due to return to the UK, Phyl and my Wing Commander both asked me why I was limping when I walked. I wasn't aware that I was and thought nothing more of it. A few weeks later we were doing our mandatory annual three-mile fitness run when I realised that there was something very wrong, I couldn't run normally; I also noticed that I could no longer stand on my toes. I decided that it was time to see a doctor and he carried out several tests, but he didn't know what the problem was. The pressures at work were very heavy again, but the doctor agreed to make more enquiries and to arrange for more investigative tests. We were now coming towards the end of our tour of duty in Germany and we started packing our boxes for our return to the UK.

I had just been through several months of intensive work and, together with Phyl's illness, we were both ready for a good break before we returned home. After some persuasive talking to my boss, Phyl and I both spent a wonderful Christmas in Berlin before returning to the UK. Berlin has a long history going back to the 12<sup>th</sup> century and by the early part of the 20<sup>th</sup> century it was the second-largest city in Europe. To keep the background information easy, we will concentrate on the recent history, after the fall of Hitler and Berlin in 1945. Initially, just before the end of WWII, it was agreed that Berlin would be divided into four sectors, each sector would be separately controlled by Britain, America, France and Russia. However, after

the war Russia occupied all of East Germany, leaving Berlin as an isolated city, like an island, in East Germany. In 1948 the USSR increased pressure on the three Western Allies by closing all road and rail links to Berlin, thus cutting off essential supplies to and from the three western sectors, resulting in the Berlin airlift. From July 1948 to May 1949 the Western Allies transported over 1.7 million tons of supplies to Berlin, with 213,000 flights. The Russians then accepted that their tactics were not working; they also realised that they were having the opposite effect on world opinion to that which they expected. Eventually they agreed to lift the blockade and a new Four Power agreement was reached.

The Federal Republic of Germany (West Germany) and the German Democratic Republic (East Germany) were formed in 1949; the Soviet sector became East Berlin and the other three sectors became West Berlin. It was an uneasy agreement but effectively Russia controlled East Berlin and the three Western Allies controlled West Berlin. By 1958 Nikita Khrushchev was demanding that the Western Allies should withdraw from Berlin completely, but the Russians intended to remain there. The Western Allies had consistently promised the West Berlin population that they would not be abandoned and hence they didn't withdraw. By 1961 East Berliners were defecting to the West Berlin at such a rate that the Russians started to erect a wall between the East and the West. The wall was steadily "improved" until there were 28 miles of concrete-slab separating the two halves of Berlin. Behind the wall was a brilliantly illuminated fire-free zone of raked sand (the death strip), lighting masts, a patrol road, guard dog runs, contact alarm fence and watch-towers at regular intervals. Between 1961 and 1985, at least 72 people lost their lives trying to escape; 55 were shot dead by border guards and 113 people were shot and wounded. Despite those deadly measures, just less than 5,000 people did manage to flee to the Western part of the city, but the West also observed over 3,100 people arrested while trying to escape. That brief summary may help to set the scene for our visit to Berlin.

It was certainly another interesting time in the *Cold War* history for us. We were well briefed before visiting Berlin, to make sure that we didn't cause any diplomatic incidents. Although we were going into East Germany,

we were only permitted to speak to, and recognise Russian authorities. We had to report to the East German border post at Helmstedt, where our papers, passports and other documents were checked by the Russians. We then had a finite time to drive along the Berlin corridor and then to check-in again with the Russians in Berlin, to ensure that we hadn't deviated from the c100 mile autobahn corridor. The hotel that we stayed in was run by the British Army and it was certainly five-star standard; as we arrived in Berlin it started to snow, making it feel like a real Christmas scene. To explore the City we usually walked, but sometimes we joined conducted coach-tours and at other times we used our car. Some of the highlights included trips to art galleries, museums, the theatre, ballet, the Berlin Philharmonic Orchestra, the Olympic Stadium and the Berlin Zoo, as well as general sightseeing around the city.

The most memorable occasions were our visits to East Berlin, via Checkpoint Charlie. There were no problems in us visiting East Berlin, as it was part of the international agreement that members of the armed forces could visit the other sectors, providing that they were wearing their uniforms. Again, we were well briefed and, naturally, I wore my RAF uniform throughout our visits to East Berlin. Obviously, I was quite conspicuous but the trips were very interesting. The first thing that struck us, particularly in the middle of such a large city, was the lack of cars and the wide empty roads. Probably the most impressive road was the tree-lined avenue *Unter den Linden*. We thoroughly enjoyed our visit to Museum Island and the displays were breath-taking. However, after leaving one of the museums I had that strange feeling of being followed. I looked over my shoulder just in time to see a tall man in a trench-coat, with a turned-up collar, and wearing a trilby-hat pulled down over his eyes, nip into a doorway. I thought that my imagination was running away with me, but after checking regularly for the next couple of hours, he was still there. It was just like something out of an old film, but we realised that he had his job to do and so we smiled to ourselves and enjoyed the rest of the day. We visited the huge People's Palace with its bronze-tinted glass frontage, but whenever we asked the local people for information or directions, we sensed that they were very uncomfortable; perhaps they had also noticed our companion, so we decided

not to bother them any more. One of the things that we were told that we must do in East Berlin was to go to one of the big hotels for dinner. The hotel that we chose was very grand looking and the dinner and service was outstanding. At the end of the meal we decided to go to the toilet before setting-off back across the border. As soon as we reached the rear of the restaurant it was as though we had moved into another world; the corridors and toilets were very stark and when we moved along the corridors there was always someone watching us. We had an uneventful crossing back through Checkpoint Charlie and arrived back at the hotel, which still looked like a scene from a Christmas card in the snow. We had Christmas dinner in the hotel and then watched a firework display from the roof in the late evening. It was a wonderful break and a memorable end to our third tour of duty in Germany. We returned to Wildenrath and found that I had been posted to another RAF staff job, but this time it was to the Ministry of Defence, in London.

#### Ministry of Defence (Air Force Department)

On the 2<sup>nd</sup> of February 1987 I was posted to the Ministry of Defence (Air Force Department) – [MoD (AFD)], to the Directorate of Tornado Engineering and Supply (DTES). The first thing that we had to decide was where we were going to live, so that we could get our packing boxes on the move and to set up home again. In the end, we moved into a large married quarter in Stanmore, to the north of London. Stanmore was on the Jubilee Line so I could travel into central London on the tube each day. Another advantage was that RAF Stanmore Park was fairly close, so we could still enjoy life in the Officers' Mess and Phyl could get involved with the activities that the wives organised. The married quarter was a detached four bedroom house with a large garden. I spent most of my spare time in the first year raking the lawn to get rid of the thick moss; the moss was then packed into one of our very large cardboard packing cases that we used when we moved house. We stored the box of moss in a corner of the garden, under a large oak tree and when it was full I decided to put it into the back of the car and to take it to the local tip. Unfortunately, it was far too heavy to move - even with

the help of three other people, so we left it where it was. We were amazed to watch it gradually disappear the following spring. A pair of squirrels decided that it would make ideal material for their new dray in the oak tree and the whole lot, including the huge cardboard box, eventually ended half way up the tree; it was still there when we left two years later! I had hardly been back in the country when I received a call from the RAFOS Chairman asking if I would join the RAFOS Committee again. He was keen to create a new post, to co-ordinate RAFOS field activities, which I gladly accepted. I had known Andrew Seymour for several years in Germany (he was the RAF Provost Marshall) and he was well aware of my passion for using our ornithological experience to gather useful data for national organisations, rather than just "twitching" and making personal list of birds seen. RAFOS was to make good use of that new post during the next few years.

In the meantime, I had been called back from my de-embarkation leave for tests on my legs at RAF Wroughton Hospital, in Wiltshire. The consultant was a neurologist and there were numerous tests: dyes were injected into my legs and spine; electrodes were connected to my head and my feet to measure nerve reaction times; and a lumbar puncture was taken to analyse the fluid in my spine. Unfortunately, the lumbar puncture did not go well; it wasn't until I was driving back from Wiltshire to London after the tests that I realised just how ill I was feeling. I had the most dreadful headache and I wanted to stop but just couldn't think where to go for help. Somehow I managed to get home and Phyl called out the doctor, who was a civilian GP. He was furious, as he said that this wasn't the first time that he had seen this happen recently! As I recovered, I noticed that my hearing was incredibly sensitive. I could hear the slightest conversation from people a long way off, not that I was particularly interested in what they were saying; the disadvantage was that any loud noise, such as passing traffic, was almost unbearable. I was off work for about a week and the symptoms gradually disappeared over a period of about six months.

Phyl had also been having difficulties with walking for about a year, with severe pain in her knees, but eventually the medication seemed to help. She was going through quite a good period, with virtually no pain, when her consultant suddenly decided to put her onto a series of gold injections,

for no apparent reason. Six months later she became quite ill again and the GP that I had seen earlier was again very concerned, as he could see no reason for the gold injections. Phyl was then taken off the injections and gradually recovered; we had the feeling that she was probably being used as guinea pigs for medical trials, as no logical reasons were ever given to us for those injections. Meanwhile, my legs were getting much worse and I had drop-foot supports fitted to both feet and I had to start using a walking stick. The tests at Wroughton continued and I was also referred to the London Hospital and to the Frenchay Hospital, in Bristol, for more tests and an MRI scan. It was a long diagnostic process, but after about three years the consultant told me that he now knew that I definitely didn't have Motor Neurone Disease. He said that I wouldn't have still been sitting in front of him if it was, but I'm pleased that I didn't know what he had been thinking of for the past three years. Eventually, it was confirmed that I was suffering from Post Irradiation Lumbo Sacral Neuropathy; apparently, motor neurones in the lower part of my spine had been destroyed, most probably when I received radiotherapy treatment after the malignant teratoma had been removed a few years earlier. The prognosis was that my legs would gradually get worse and that, eventually, I would not be able to walk at all.

Commuting in and out of London each day on the tube was awful. After a while, I found that it was easier to leave home at about six o'clock in the morning, to beat the rush in to work, and then to wait for the rush to ease-off before returning home in the evening - between seven and eight o'clock. Commuting normally was bad enough, but it was particularly difficult with legs that wouldn't work properly; falling over became an occupational hazard, which I soon accepted. However, one day my legs gave way while I was on the underground escalator; I rolled to the bottom and then couldn't get up off the floor. I then realised that all of the people coming down behind me didn't know that I was there until the last minute and then they had to jump over me, looking very surprised! Eventually, possibly after they had seen my walking stick and realised that I wasn't drunk, several people picked me up and I was on my way to work again. On another occasion, on my way home, I was just getting into the underground train when the doors closed. I was still standing on the edge of the platform, but my walking stick was

trapped between the doors. I was hanging onto the other end, still standing on the platform, and I couldn't let go of my stick, as I wouldn't have been able to move without it. The next thing that I knew was that the rubber ferule had come off the bottom of the stick, and was now inside the train, and I was trying to keep my balance while the train rushed away. I recovered and went to move back from the edge of the platform when I realised that I had another problem; my walking stick now had a bare metal ferule on the bottom, normally covered by the non-slip rubber covering, and the underground floors were polished marble. As soon as I put any weight on the stick it just slid away from me. It was a very slow journey home that night!

Although the commuting was awful, the work was inspiring. When I arrived at DTES the RAF were going through another rationalisation scheme. I was in the Engineer Branch but we worked closely with our colleagues in the Supply Branch. In the old days, "Supply" buildings were known as "Stores" and there was always banter about the "blanket stackers" and their policy of not issuing the last critical item on the shelf, otherwise they would have none left. Supply certainly sounded better than Store. Modern thinking then suggested that "Logistics" could cover both engineering and supply aspects and it wasn't long before there was talk of merging the two branches as one. There were strong reservations about the ability of someone with a supply background making engineering decisions, particularly when we were talking about aircraft safety. In my new MoD staff job, I was to be the RAF's Engineering Authority for the Tornado Automatic Test System. I then discovered that the Wing Commander that I would report to was a Supply Officer. My initial reservations soon evaporated, as Carl Goss was a bright young officer and I couldn't have wished for a better person to work with. When I arrived on my first day he asked me if I would be willing to do two jobs, as one post had been vacant for some time and there was no prospect of it being filled for some considerable time, to which I agreed. This second job was to be the Engineering Authority for all Tornado Aerospace Ground Equipment (AGE). I had to smile at the sign on my office door, as I hobbled in with my white hair and walking stick; it said "AGE CONCERN"!

You may remember that at the beginning of this chapter I mentioned some problems with Tornado Automatic Test Equipment, so my new primary

job may have started to ring a bell. The Tornado Automatic Test Station (TATS) - incidentally, that was the official abbreviation and not mine - was the end result of the Automatic Test Equipment being developed by industry for the Tornado Head-Up-Display and for most other Tornado avionics systems. In the mean time, the design and development of the TATS had moved on to another major contractor and the majority of the Tornado avionics black-boxes were being tested on it. I started work with a fresh mind and with no preconceived ideas; naturally, after all those years the earlier problems would have been resolved and things would be much different. How wrong I was. I won't bore you with all of the details, but after about a year of research in my new job, and after visiting the TATS Development Team at REU Henlow, as well as the operational Tornado Stations, serious alarm bells were ringing.

Naturally, I kept everyone informed of my research, including the MoD (PE) who was responsible for delivering the equipment from the main contractor to the RAF. There were regular meetings with the main contractor, usually at their factory under the chairmanship of MoD (PE). One of the major problems was that when a discrepancy in the TATS testing procedure was identified by the RAF, the contractor would be tasked by MoD (PE) to come up with a modification to the TATS to eliminate the problem. By the time that the problem was researched, and a modification program was approved and implemented, up to a year may have passed before it was discovered that it still didn't work. That would then trigger the need for yet another modification - the loop appeared to be endless and it was clear to me that we were pouring money into a bucket that had no bottom. Moreover, the TATS was still not really an automatic test station, as it was still using manual test procedures for the majority of the black-boxes, like the one used for the Head Up Display that had been seriously criticised eight years earlier. Moreover, there were still significant queuing problems with black-boxes waiting to be tested on TATS, because the tests took so long. Most of the operational stations were still using their interim manual test systems, to work around the TATS queuing problems, and were satisfied with them.

As the Tornado was a tri-national project, Engineering Officers from the Air Forces of the three nations (Germany, Italy and the UK) were

seconded to a co-ordinating group called NAMMA, based in Munich; that had a similar function to the one that I had at the CSDE, when attached to Smiths Industries from the RAF. The next time that I visited Munich on Tornado business I decided to ask my opposite number in the RAF, who worked at NAMMA, what he knew about the TATS history. He was new in post and had already decided to write a detailed brief on TATS for his new incoming boss and he agreed to let me know what he discovered. The next time that I saw him he said that he had abandoned the idea of a report because he was horrified at how much the TATS system was costing and because of its poor track record. I was never told how much it cost, but he indicated that we could have bought a whole squadron of Tornado aircraft for the same price! I then decided to ask my fellow German and Italian Air Force Engineering Officers how they were coping with TATS. It was only then that I found out that the Germans had already cancelled TATS years earlier, because they were also dissatisfied with it, and the Italians were noncommittal. I gained the impression that the Italians weren't using TATS at that stage, and hence they wouldn't have known about the problems. Those points had never been mentioned to me by MoD (PE) and I began to wonder why. Eventually, I produced an in depth report recommending that TATS be gradually phased-out of service and then decommissioned. There were screams from MoD (PE) with threats that, because of the tri-national agreements, it would have major political ramifications. They also lobbied industry quite hard and other departments within the MoD (RAF). Finally, they wrote to my Director and said that if the TATS recommendations were to go ahead then they felt that they would have to brief the Minister. We also had a few senior Civil Servants working for us, in the finance side of DTES, and my view of them suddenly improved dramatically when I read their reply to MoD (PE). It was a very short letter saying that they would be delighted to help with the brief to the Minister! All of a sudden MoD (PE) decided not to brief the Minister and things began to change.

My boss was reluctantly persuaded to agree to a Steering Group being formed, chaired by MoD (PE), to investigate my paper, but he made sure that there was a deadline of six months for the Steering Group to report back. At the end of the six months no errors were found in my report and no

case had been made to change our recommendations. However, MoD (PE) then wished to extend the Steering Group investigation for another six months. I think that they realised that my three year tour of duty was coming to an end and that they would then be able to start again with a new face; a classic delaying tactic, but they didn't get their way. I was very surprised one evening, after a meeting in Munich, to be taken quietly aside by a very senior Civil Servant within MoD (PE) who had never spoken to me before. He had, by all accounts, a brilliant mind and had been with the MoD (PE) department dealing with TATS since its inception. He asked me whether I really understood what I was doing. When I confirmed that I did, he said that he would like to give me some friendly advice. He then strongly implied that he was not having this conversation, but stressed that if I pursued the line that I was taking, then I would never be promoted if I remained in the RAF and that I would never be offered a responsible job if I went into industry! I then explained that I was paid to do the job that I had at present and that I was doing that to the best of my ability. Shortly after that discussion, he moved away from the post that he had held with MoD (PE) for so many years, but I have no idea where he went. In the end, my report was accepted in full and the recommendations were implemented, so another job had been completed to our satisfaction, but why had we wasted so much time and taxpayers money? In spite of the hard work, there was still time for holidays.

#### Holidays:

Because we were both finding our mobility severely impaired, for the first time, Phyl and I decided that we would take a couple of holidays on semi-organised package tours. We still had the urge to travel and so we chose places that we were not likely to drive to in the future. The first was to Morocco, in 1988, and we flew from Gatwick to Tangier. As we were circling ready to land, we were amazed to see what appeared to be huge lakes of water spreading for miles into the distance. After we landed we realised that we had been looking at acres of wild, blue flowers. The abundance of flowers was breath-taking and we can recommend a visit to Morocco in the spring.

The Kingdom of Morocco lies in the north-west corner of Africa, with the rugged Mediterranean coast to the north and the fine, sandy beaches of the Atlantic Ocean to the west. The nearest of the Atlantic's Canary Islands, Fuerteventura, is only about sixty miles to the west of Morocco. To the south is the start of the Moroccan part of the Sahara Desert, over 600 miles long and varying from 174 miles to 310 miles wide, sharing its borders with Mauritania and Mali. To the east, beyond the Atlas Mountains, with its highest peak of over 13,600 feet, is the border with Algeria. In the north of the country, overlooking the narrow Strait of Gibraltar, is the touristy city of Tangier with the important sea-port linking North Africa with Europe. We spent the first week on a coach tour travelling along the west coast from Tangier to Rabat, Casablanca and Safi, before turning inland to Marrakech, Meknes and Fez. We spent the second week at a large, comfortable hotel on the Mediterranean coast, just to the east of Tangier. The conducted tours of Tangier were particularly interesting, with a good selection of Moroccan crafts for sale, including fine tapestries, delicate leatherwork, rich embroidery, embossed silver, jewelled weapons and a wide range of pottery. However, we were advised not to venture into the city on our own, without a local guide, because of the aggressive hassle from people selling their wares. We had an excellent Moroccan guide on our coach tour for our first week and she was particularly friendly and helpful. We visited Rabat, the administrative capital of Morocco and the seat of government, where we had our second chance to study the wonderful Moorish art and architecture, including Mosques, the Royal Palace, the historic red-stone Chellah Gate, the Hassan tower and the Mohammed V Mausoleum.

Our next significant stop was at Casablanca, which was the commercial and industrial capital of Morocco and one of the busiest ports in Africa, with major trade routes linking Africa with Europe and South America. We then followed the coast to Safi, but I felt that the best part of the holiday was when we headed inland, as everywhere felt far more authentic, possibly because it no longer seemed to be influenced by European architecture. Our first delight was at Marrakech, the second oldest imperial city in Morocco and dating back to the 11<sup>th</sup> century. As we approached the city, the first things

that we could see were the palm-groves surrounding the high, red-brick walls in the middle of the blazing hot plain of Haouz. This was the great city of the Berbers which had preserved its medieval structure. The colourful, dynamic markets displayed an extraordinary wealth of handicrafts and exciting characters, such as conjurers, snake-charmers, musicians, water-bearers, tradesmen and Arabs with their camel-trains. It was tempting to think that this was some sort of display for the tourists from other countries, but we only had to look around at the vast majority of people who were enjoying the spectacle to realise that this was definitely for the indigenous people and that we were purely incidental.

One of the most memorable visits, for me, was to Fez, Morocco's oldest imperial city. Fez was founded in 808 A.D. by Idriss II and it quickly became an important trading centre, with a population of over half a million inhabitants by the 11<sup>th</sup> century, which included Moors, Berbers, Negroes, Turks, Jews, Christians and Mohammedans. The old area still had the appearance of a medieval city with crowded, narrow streets bustling with people. The main mode of transport, in the extremely narrow streets, appeared to be heavily loaded donkeys and we had to squeeze into the narrow shop entrances to let them pass by. Every corner that we turned brought new sensations of noise, colours and smells. Those sensations all came to a climax when we came across an enclosed area, surrounded by buildings, with a vast array of about 200 dyers' vats. The colourful vats were mostly open, circular, stone-structures about four feet in diameter with low walls. The people that were working there appeared to be trampling the leather or cloth that was to be dyed with their feet, before taking the items out of the vats to dry. It was like looking at a gigantic artist's pallet, with the round, colourful vats jostling for positions in the confined space, but the smell was certainly not so good!

We also had an enjoyable visit to a Berber village, in the foothills of the Atlas mountains, where the white exteriors of the buildings contrasted strongly with the cool-blue painted interiors. After our tour of Morocco we spent a week in a hotel on the coast, to the east of Tangier, where we relaxed and enjoyed the good food. I did venture out of the hotel several times on my own, into the nearby countryside with my ornithological field-

guide to study the local birds. However, after several warnings and one encounter that was much too close for comfort, I decided to stay in the hotel for the last couple of days. The whole holiday was, for us, a wonderful introduction to an Islamic country and to their historic art and customs. All too soon, it was time to return to the UK.

Our second visit to another predominantly Islamic country, in 1989, was to Turkey and we chose it because of its unique location, with only 3% of the country in Europe and 97% in Asia. At one stage we had contemplated driving overland and exploring Turkey on our own, but later on we were pleased that we discounted that option. We finally decided to fly out for a conducted tour of central Turkey for one week, followed by a second week on our own. We flew from Gatwick to Antalya, on the Mediterranean coast, where we joined an organised coach tour with an English-speaking Turkish guide, to explore the Central Anatolian Region. We were to travel around the area by driving in a loop through Konya, Aksaray, Cappadocia, Ankara and Istanbul, before returning to Alanya, where we explored the Mediterranean Region on our own.

Before recounting some of the highlights of our holiday, it might be helpful to give a brief description of the geography of Turkey. It has a land-border with Greece and Bulgaria in Europe, and with Russia, Iran, Iraq and Syria in Asia, totalling nearly 1,600 miles. The majority of Turkey is actually a peninsula surrounded by the Black Sea in the north; the Marmara and Aegean Seas in the west; and the Mediterranean Sea in the south, giving a total coastline of over 5,000 miles. The two mountain chains, in the north and the south of the country, directly link the Balkan extension of the European Alps with the Asian Himalayas. Mount Ararat, at over 17,000 feet, is the highest peak in Turkey and the average altitude of the country is about 3,700 feet above sea level. The Black Sea and the Aegean are connected by the Sea of Marmara and by two narrow straits: the Dardanelles in the west and the almost twenty mile long Bosphorus in the east, straddled by Istanbul. Although the modern Republic of Turkey was formed as recently as 1923, the region has a distinguished history going back over 7,000 years.

We set off on our tour of Central Anatolia from Antalya. That city was founded, as a port, by the King of Pergamon in the 2<sup>nd</sup> century B.C., but it

was annexed by the Ottomans in 1392. Antalya is the home of a regional museum which houses relics from the pre-historical era as well as treasures from the nearby ancient Roman cities of Aspendos and Side. However, it is probably best known to tourists for its airport that brings them to this part of Turkey. From Antalya we followed the attractive Mediterranean coast for about 130 miles and then turned north, for about the same distance, to Konya where we stayed for the night. It was at that stage that we realised how difficult it would have been to find hotels on our own as the road-signs were unintelligible, to us, and there were no bright signs advertising the hotels! Konya was a settlement as early as 2,600 B.C. and became the capital of the Anatolian Seljuks between 1097 and 1308 A.D. There were at least seven mosques and two museums dating back to the 13<sup>th</sup> century in Konya and that is where the great Turkish mystic and poet, Mevlana Jelaleddin Rumi, founded the Mevlevi mystic order. Members of the Mevlevi mystic order are probably better known to Westerners as the “Whirling Dervishes” because of the way that they performed their sacred dance. Their original building was turned into the Melvana Museum in 1927 and it displays artefacts and costumes of the Melvana and his followers including, rugs, musical instruments, manuscripts and domestic items.

The following day we set off towards Aksaray, but after travelling along a hot and barren plain for about 60 miles we stopped at what appeared to be a huge red fort. It was miles from anywhere, or anything. It was a 13<sup>th</sup> century *Caravanserai*, or Caravan Palace, built using local stone in a classical plan; it was just one of those typical buildings built for ancient caravan-trains all over the Turkish Empire. It had a huge entrance gate and a large open court-yard surrounded by a mosque, galleries, toilets, kitchens, Turkish baths and sleeping quarters, where travellers could find a free room and board for the night. The only thing that brought us back into the present century was when we went back outside and saw our modern coach. After that short “comfort break” we were on our way to Kayseri, the capital of the Roman Province of Cappadocia between 380 B.C. and 17 A.D.

The area of Cappadocia, also known as the Goreme Region, has to be seen to be believed and is located within a triangular area surrounded by the cities of Kayseri, Aksaray and Nigde, which are about 80 miles away

from each other. It also happens to be the geographical centre of the Anatolian plains. The area is unique and has been described as “being like the surface of the moon” except that we now know that the moon is not as exciting as Cappadocia. Everything started with the rise of several volcanoes around the area, including Erciyas at nearly 13,000 feet in the east and Hasan at nearly 11,000 feet in the west, and the subsequent spread of volcanic dust, ash and lava over the region. That was followed by thousands of years of erosion from wind, rain, temperature variations and then the effects of earthquakes, which increased the impact of the erosion that is still going on today. Incidentally, it is thought that a 7<sup>th</sup> millennium B.C. fresco of an erupting volcano in this region, found about 125 miles away, was the first ever pastoral painting. The region is split into a considerable number of valleys, with each one carved from the volcanic “tufa” with their own characteristic shapes and colours, which include beige, pink, grey, yellow and white. Although tufa is hard on the surface the inner rock is relatively soft and easy to carve, either by nature or by man. The mysterious landscape has numerous tall, conical, pointed rock-formations, often with a rock cap on top, carved by nature and known as “fairy chimneys”. I normally prefer to admire the works of Mother Nature but the labours of generations of men in this area, working with nature, are outstanding. The buildings carved into the rocks ranged from simple one-man cells to underground cities. The earliest single-nave, vaulted churches carved into the rocks are presumed to date from the 7<sup>th</sup> and 8<sup>th</sup> centuries but many of the others with columns, domes and other architectural elements were from the 11<sup>th</sup> to 13<sup>th</sup> centuries.

It was interesting to note that the doors and windows of the more complex buildings such as monasteries, dormitories, dining-rooms and most of the churches could not be easily seen from the outside. They had been dug in such a way that no enemy could easily reach them; the openings that we could see were caused by later collapses of the outside walls. Narrow and difficult entrances or passages were equipped with round doors, carved in the form of millstones out of excavated rocks, which would be rolled into place from inside the building when needed; ventilation chimneys and windows were also concealed. In addition to those small buildings there were ten known underground cities and two of them, south of

Nevsihr, were open to the public. Those underground cities went down seven or eight stories and included large and small rooms, halls and churches, all with ventilation systems, probably dug by several tribes of people over many generations. One of the underground citadels was thought to have been founded between the 7<sup>th</sup> and 9<sup>th</sup> centuries, to protect the local inhabitants against attacks from the Arabs, and another was considered to be capable of housing up to 20,000 people, which was hard to imagine.

The highlights of Cappadocia, for me, were visiting the rock-churches carved into the local stone. The first one that we visited was the Tokali church in the Goreme valley. The arched entrance-hall was known as the "old" church, whereas the wider inner one, with a vaulted-nave, was the "new" church. The frescoes of the old church, primitive and provincial in style, were thought to be from the early 10<sup>th</sup> century; we were told that those of the new church, in the rare capital style, belonged to the late 10<sup>th</sup> century. The whole of the vaulted ceiling and walls were painted and we were also told that the frescoes were unique in the region; they were highly artistic, with a dominating blue colour and "iconographic" characteristics. The main end-wall of the church had six arched-niches carved into it at floor level and then three rows of frescoes, in friezes, painted above them. The largest, lower, fresco was a complex iconographic painting which included Jesus, angels, two boats with fishermen, and about twenty people, including at least twelve saints, in eight different tableaux's. The middle fresco had eight saints, each standing under a painted archway; the top fresco was also iconographic and included Jesus on a donkey, being led by two saints and another scene, possibly of Mary beside the body of Jesus. We then moved on to visit a complex of underground buildings, all carved into the rocks within the Goreme open air museum, which included the Kizlar Monastery, seven more churches and a large dining-room with many adjacent chambers. It was a wonderful experience and we could have spent much longer in that fascinating region.

The next stage of our journey took us to Ankara, the new capital of Turkey, which was established by the Phrygians during the 8<sup>th</sup> century B.C. on the site of an earlier Hittite town, possibly dating back to 2,000 B.C. The citadel, with fifty-foot high walls and forty-two towers, stood about 360 feet

above the city and was built by the Galatians in 278 B.C. However, we were soon on the move again, but this time to the largest, most beautiful city in Turkey, and probably one of the most exciting cities that we ever visited. Istanbul was given that name and made the capital only after WWI, with the formation of the new Turkish Republic. That city has had a long and turbulent history since it was founded in 657 B.C. No less than 122 emperors regarded it as their metropolis, including ten Roman emperors, at various stages between 196 and 396 A.D. It was renamed as Constantinople, by Constantine I, and became the official capital of the Byzantine Empire, with 82 emperors, for the next 1,000 years. It then fell to the Ottoman Empire, in the 15<sup>th</sup> century, for nearly 500 years. The land and sea walls of Istanbul were built between the 5<sup>th</sup> and 12<sup>th</sup> centuries by Byzantine emperors and have a total length of about twelve miles, with 400 towers and forty-five gates. It is almost impossible to say what impressed me the most about Istanbul, but the view from the southern end of the Bosphorus is outstanding, when seen either from a boat or from the land, on both sides of the strait.

The Ayasofya Museum is one of the oldest and most spectacular buildings open to the public. It started off as the Church of St. Sophia and it is a magnificent work of Byzantine art, initially built by Constantine I, in 326 A.D. but then rebuilt in 415 A.D and again, just over 100 years later, after being burnt down during the Mika riots. It was in St. Sophia that the Byzantine emperors were crowned and it was used as a church for 916 years. The church was then converted to a mosque by Sultan Mehmed the Conqueror, who had the first minaret erected. It was then gradually extended and used as a mosque for 482 years before it was converted into a public museum in 1935. The Suleymaniye Mosque is the largest and most splendid mosque in Istanbul and was built by Suleyman the Magnificent, who reigned between 1549 and 1557. It is one of the 84 mosques said to have been built by Sinan, and was built in the early part of his career, before he became a master architect. The white marble used in the mosque was transported from the Mamara Island, the green marble from Arabia and the other coloured marbles from the Yemen. The decoration on the doors and window-shutters included fine ebony inlaid with mother-of-pearl. The Sultan Ahmet Mosque, with its many domes and six minarets, is exceptional whether viewed from

the outside or inside; it was built between 1609 and 1616 and is also known as the "Blue Mosque" because of the overwhelming bluish light that is said to emanate from over 21,000 blue-coloured tiles.

Another really interesting visit was to the Topkapi Palace, the home of the Ottoman sultans for 400 years and built between 1453 and 1478. It was built for Mehmet the Conqueror, but subsequently enlarged by many of the twenty-five sultans who lived there until 1853. The palace covered an area larger than the Vatican and became a museum in 1924; it was far too extensive to describe in detail, but I strongly recommend a visit if you get the opportunity. Other highlights in Istanbul, to whet your appetite if that hasn't been done already, include the sixty foot high obelisk, originally erected before the Egyptian Sun Temple at Heliopolis in 1,546 B.C., but moved to Istanbul in 390 A.D. The Serpentine column, originally erected at the Temple of Apollo to celebrate the victory of the Greeks over the Persians in 497 B.C., was erected by Constantine I in the ancient Hippodrome. The Burnt Column was also erected by Constantine I after bringing it from the temple of Apollo in Rome. The Hippodrome was built by the Romans in 196 A.D. and was used as a place for chariot races as well as for combat between gladiators during the Byzantine period. The Grand Bazaar was also an interesting complex, built in 1461, with eighteen gates, sixty-five streets, five mosques, six fountains, a school and 3,000 shops. As you may have guessed, I could go on forever!

Our return journey from Istanbul took us through the regions west of Central Anatolya, first visiting the Turkish centre of the silk industry, in the Marmara Region, at Bursa - established in 550 B.C. We then moved into the Aegean Region and called at Kutahya, founded by the Phrygians, and well known for its pottery, before moving on to Afyon and then back to the Mediterranean Region, via Egridi, to our base for the next week, at Alanya. The second week was much more relaxed and we decided to stay in a small bed-and-breakfast guest-house, in the centre of the town. That appeared to be a good choice as most of our fellow travellers from the first week decided to stay in five-star hotels further out of town, along the coast. From time to time we would bump into them and, although their hotels were excellent, they all seemed to be unhappy because they were too far away to easily travel

into town to soak up the local atmosphere or to visit different restaurants. Alanya was quite an attractive town and the 100 foot high red-castle tower, standing at the junction of the eastern and northern town walls, was a good landmark for us to keep our bearings. We had a couple of really interesting day-trips to the ruined Roman cities of Aspendos and Perge. Unfortunately, the rivers that originally made those cities important ports and commercial centres gradually silted-up and they became cut off from the Mediterranean, leading to their decline and to their eventual collapse.

Aspendos was said to be founded by the Argonauts, of Greek mythology, as a river port but it later became a bishopric during the Christian era. The most spectacular of the numerous ruins was the 2<sup>nd</sup> century open-air theatre, which could hold 7,500 people, and it is thought to be one of the best preserved Roman theatres in the world. The semi-circular auditorium had ramped seating. The hillside was only partially used to get the required slope to build the ascending forty-one rows of marble-quality limestone seats, as the Romans were able to use their newly developed arch-and-vault building techniques to reach the required height for the top row. There was an upper gallery, behind the top seats, with fifty-nine vaults, where it is thought that the audience may have sheltered during bad weather. The stage was also spectacular, as the backdrop was two storeys tall, highly decorated stone, with twenty columns, five doors, windows and numerous niches for statues. Between the stage and the auditorium there was a semi-circular area for the orchestra. In addition to the Theatre, there were good remains of the Stadium, Basilica, Nymphaeum, Agora, Gymnasium and the magnificent Aqueduct with water-towers at each end. Perge also became very prosperous during the Roman period and was also an important place in the history of Christianity, as the first sermon of Paul was given there. It also had remarkable ruins, including the Theatre, Stadium, City Gate and Walls, Nymphaeum, Agora, a Colonnaded Street and Bath-houses. Unfortunately, it was too hot to sit in the open and sketch, but we still have vivid memories of those two special places.

One day during our second week, in Alanya, I decided to go for a walk and to do some bird-watching while Phyl stayed behind to read. I always took my Zeiss binoculars with me as well as my field-guide *Birds of*

*Britain and Europe*, by Christopher Perrins. (I changed that field-guide in 1992 when a slightly heavier and larger book *Birds of Europe, with North Africa and the Middle East* by Lars Jonsson was published, as it was worth carrying the extra weight.) I had been walking for several hours when I realised that I was slowing down significantly. Clearly, some other people had also noticed my struggle and from out of nowhere a group of small boys ushered me into the garden of their remote farm-house and offered me a seat in the shade. The next minute one of them appeared with a tray of glasses and a pot of mint tea; he put them on a table and then rushed back into the house to collect saucers for the glasses. Within minutes another boy appeared with a bowl of fresh fruit, which I was encouraged to eat. One of the things that had been stressed to us when we arrived in Turkey was only to drink bottled water and never to eat fresh fruit without carefully washing and peeling it first.

I was now in a dilemma, as I didn't wish to offend my young hosts, who were still coaxing me to eat and drink. In the end I suppose we have to rely on our instincts and faith, so I drank the tea, ate some fruit and never had any unwelcome after effects. In the meantime, the boys were very curious as to why I was there, and I could see several young girls peeping around the corner at this odd looking European. I didn't speak their language and they didn't speak English. However, it is amazing how easy it is to communicate when you want to. I showed them my illustrated field-guide to the birds in their area and very soon they were showing me the ones that they recognised. They then wanted to know what my binoculars were for, so I explained how they worked and they were soon making a queue to use them. After a while, they asked if they could take the binoculars to the edge of the garden to look across the valley and they were delighted when I agreed. The excitement that followed was a joy to watch when they discovered that they could see the houses across the valley. I stayed where I was, in the shade, and eventually the girls couldn't resist joining their brothers at the far side of the garden. The girls became even more excited than the boys when they were eventually allowed to use the binoculars. I had had a good rest and decided to make my way back to the town; the children thanked me profusely for allowing them to use my binoculars and the field-

guide, but the girls still watched from the corner of the house. I then offered to pay for the tea and fruit and they were clearly uncomfortable with that suggestion and refused to even consider it. I left all of the sweets that I had taken with me on the table and thanked them for their kindness. In all of the time that I was in the garden I didn't see any adults, but the hospitality that was shown to me was genuine and heart-felt and I just wondered whether our children back home would treat strange foreigners with such kindness. I must add that all of the Turkish adults that we met were also outstandingly polite and friendly and we were sorry when it was time to pack our bags and return to London.

When I got home I was soon involved in a new and exciting ornithological project. Over a period of four years, the BTO decided to gather data to produce a new book: *The New Atlas of Breeding Birds in Britain and Ireland: 1988 - 1991*. The data was to be collected by volunteers visiting a minimum of eight tetrads (a tetrad is an area measuring 2km x 2km) of their choice within each 10-km square in the UK and Ireland. Two hours were to be spent in each tetrad and a species list was to be compiled for each square. From those timed visits an index of abundance of each species in each square was calculated by the professional ornithologists. Additional supplementary (non-timed) observations were also requested, to ensure that the species list for each 10-km square was as complete as possible. A total of 551,370 10-km square records were submitted to the Atlas, which gives some idea of the massive area to be covered.

That triggered two projects for me. First, during 1989 and 1990, as the RAFOS Field Activity Liaison Officer, I organised a survey of birds on as many RAF Stations as was possible and we forwarded the relevant information to the BTO for the Atlas project. The reason for those surveys was because civilian ornithologist were not allowed access to those MoD areas. Secondly, and more importantly, we asked the BTO if there were any specific areas that they would like RAFOS to survey, using our expedition experience. The leader of the BTO Atlas project was Dr David Gibbons and, because they were having great difficulty in finding enough volunteers to cover the Western Highlands of Scotland, he was delighted with our offer of help. We were then given details of the 10-km squares that they wished us to

survey and two major RAFOS expeditions were organised, to collect that data, during 1989 and 1990. I contacted the RAF Mountain Rescue Team in Scotland and asked for advice, after telling them the areas that had been allocated to us. The response was not encouraging, as we were told that we had been allocated some of the most dangerous wilderness area in Scotland and that we would be better-off doing our bird-watching on the coast where it would be safer! We thanked them for their advice and then got on with the detailed planning. Both expeditions were extremely exhausting, but the scenery was spectacular and we visited areas of the Highlands that most of us would never have seen otherwise. More importantly, we visited all of the 10-km squares allocated to us by the BTO and collected all of the data requested by them. I could write a book on those expeditions alone, but copies of the expedition reports were registered with the RAFOS Library, for anyone who would like more details.

During my MoD tour of duty at DTES I also successfully completed a Staff College course at RAF Bracknell and a new postgraduate computer course at the RAF College Cranwell. By the end of 1989 I was finding it extremely difficult to walk and needed two walking-sticks to help me to move around. Eventually my three-year tour of duty in London came to an end, but Phyl and I were both thrilled and surprised to be invited to Buckingham Palace; I was presented with the MBE, by the Queen, in October 1989. The invitation to the palace only allowed me to take Phyl and two other people, but we were delighted that David and Michael could join us on that very special occasion. My only real concern during that memorable day, after I had been presented to Her Majesty, was whether I would be able to follow accepted protocol and walk backwards with my two walking sticks without falling over; I'm pleased to say that it wasn't a problem! My new posting then arrived and I was told that I was to be the Officer Commanding the Tornado Radar Repair Unit, at RAF Scampton, in Lincolnshire.

#### Tornado Radar Repair Unit, RAF Scampton

We arrived back in Lincolnshire at the start of a long grey winter and moved into a pleasant married quarter at RAF Scampton, where we soon got

to know our new neighbours. I was now working about five miles north of Lincoln, instead of the five miles to the south of the city, where I had started my career at RAF Waddington. Both RAF Waddington and Scampton have always been "Sister" airfields, with strong similarities; both Stations were built in 1916, both were major bomber bases during WWII and both were major bases for the Vulcan bombers from the 1960s to the 1980s. Moreover, they were two of the few remaining RAF Stations in Lincolnshire from a long list of over 160 RAF bases since 1918.

In general, neither of us enjoyed city life, preferring the countryside, but the contrast from working in London for three years and then returning to Lincolnshire in mid-winter was a shock - even for us. The dull, foggy weekends didn't help, but we were determined to make the most of it and so we soon decided that we would choose a new village pub each weekend and treat ourselves to Sunday lunch. Naturally, we found some excellent places and some that weren't so good, but at least we were exploring our home county for the first time, as we never really had the chance to do that before. One of the early pubs that came at the bottom of our list was the Bottle & Glass, at Scothern. We should have realised that it was not a good choice as soon as we walked in, because the pub was empty. We asked the landlord if he served meals and we were asked to wait a minute while he checked the freezer. Our Sunday lunch that day was rather dry fish and chips and we decided that we certainly were not going to put that on our list of places to return to. Little did we know what was in store for us within the next three years! Some time later we found out that the landlord's wife had died recently and that he was about to give up the pub, so what we found on our first visit was understandable. The other thing that Phyl missed, after being in London, was popping in to small tea-shops or cafes during our days out for simple tea and cakes; there certainly weren't many of them around in Lincolnshire, but we soon found the few that were. It didn't take us long to get in touch with local ornithological organisations and I was soon helping to co-ordinate data collected for the Lincolnshire Bird Club, for their quarterly Newsletters and for their annual reports. I also became involved with local census work and projects for the British Trust for Ornithology (BTO), through their Regional Organiser - Peter Overton. Two of the heaviest ornithological workloads at

that time were organising the two-year project for RAFOS, where we were recording the birds present on over 100 RAF Stations and also co-ordinating the data collected on the two RAFOS expeditions to the Scottish Highlands for the BTO Breeding Atlas project. Both the 1988 and the 1989 Scottish expeditions were outstanding successes, but the latter one was marred when Phyl and I had to return to Grantham for a few days, to attend my father's unexpected funeral.

When I left DTES, at the end of November 1989, I was posted to the Tornado Radar Repair Unit (TRRU) at RAF Scampton. RAF Scampton was part of Strike Command, but the Unit that I was commanding was under the control of the Air Officer Commanding Support Command. In practice that was not a problem and we all worked very well together, without any difficulties. Before going any further I need to explain a little about the TRRU, as the Unit was quite unusual. Prior to my arrival, the TRRU was being run by civilian contractors who designed and built the Foxhunter Radar for the Tornado F3. Initially, the design and build of the modern, complex radar systems were at the contractors' factories, but the MoD decided that the RAF would need to take control of the radar repairs and updates at some stage. Consequently, the TRRU was set up at RAF Scampton, in the old Electronics Centre on the airfield. Like many complex, state-of-the-art developments, the Foxhunter radar seemed to have more than its share of teething problems.

In the past, I understand that airborne electronic and radar systems were given code names, similar to *Foxhunter*, but that they were usually preceded with the word of a colour, such as *Blue Parrot*, *Green Satin*, *Yellow Astor*, *Orange Putter*, *Red Steer*, etc. When the Tornado F2 first came into service with the RAF the radar wasn't working properly. Therefore, the equivalent weight of ballast was put into the nose of the aircraft, to compensate for the missing radar, so that the aircrew could get used to flying this new fighter aircraft without having to wait for the radar to be fitted. When the Foxhunter radar eventually came into service it didn't take very long for the older radar technicians to nick-name it *Blue Circle!*



