REMINISCENCES OF MY FATHER RALPH TESTER AND OTHERS (May 2020)

Introduction

These reminiscences are for my children and grandson. Much of them concern my father Ralph Tester and especially my memories of the most interesting years of his life when he worked as a codebreaker at Bletchley Park during World War II from 1941 to 1945.

The Tester family

Ralph was born in 1902, the second youngest of eight children of William (WG) Tester and Mary Tester of 'Bernhurst', Sellindge, Nr Ashford, Kent. WG came from a family of farmers and blacksmiths originating on the borders of Kent and Sussex, north of Hastings. Family tradition has it that they lost their land at Etchingham during the agricultural depression of the 1880s. WG went into business as a village grocer based at Sellindge with his younger brothers. He prospered and opened shops in other villages. He became a JP.

Mary Tester was born Mary Bedwell and came from Romney Marsh in Kent. She had a sister, Alice, who nursed in the Boer War and afterwards at the King Edward VII Hospital for Officers in London. She never married but was important in the Tester family. Mary was commanding, but calm, kind and gentle.

The brothers and sisters in order of age were Leslie, Marjorie, Doris, Brenda, Kathleen, Keith, Ralph and Nina. Another brother, Percy, died in infancy. Keith and Ralph were close and got up to mischief together when young. WG Tester was brought up in the Church of England, but family tradition has it that when young he was reprimanded by the Vicar for failing to doff his cap, and there and then decided to become a Methodist. He certainly became important in the local Methodist community, and he became involved in religious and charitable affairs generally.

World War I

Ralph was twelve when World War I broke out. Brother Leslie joined up, became an officer in the York & Lancaster Regiment and was wounded at the First Battle of Ypres. He recovered, and fought with the British contingent which helped our Italian allies reorganise after their defeat by the Austrians at Caporetto. Leslie won a Military Cross in fighting on the Asiago Plateau in the Italian Alps. I have Leslie's medals and other memorabilia. Brother Keith was a star cadet on the Naval training ship HMS Worcester, but found he could not get into the Royal Navy because of colour blindness. He trained to become a land surveyor.

Aunt Alice Bedwell was busy nursing at King Edward VII Hospital for Officers through the war. She kept a record of every patient, and her records contain the signatures of prominent visitors to the hospital, including King George V and Queen Mary. I have these records.

Ralph had been a pupil at Folkestone Grammar School near Sellindge, but transferred to Simon Langton School in Canterbury – I don't know why he changed schools. All his reports, which we still have, were excellent at both schools. He joined the Cadet Corps and he was in a party of cadets sent over to France in about 1917 to help the forces there, but well away from the front line.

Two other events related to WWI were important to the Tester family. The first was that contingents of Canadian troops were quartered in and around Sellindge before crossing to fight in France. Two of

Ralph's elder sisters, Marjorie and Brenda, were swept off their feet by handsome Canadian officers, Frank Clough-Ormiston and Laurie Whitney. They both married after the war and went to Canada where they started families. Marjorie's children were Marie and Michael, and Brenda's were Pat, Joy, June and Laurie. We have kept in touch with most of them, their children and Keith's children and have met them at family reunions every few years.

To round off the family at this stage, sister Doris had some adventures in North Africa, but married a Surrey Estate Agent, Frank Snowden. They lived in Surrey and Sussex and had no children. They remained close to the family. Brother Keith followed his sisters to Canada to work there, moved to the USA and eloped with a beautiful married Southern Belle called Frances, and had to flee a vengeful husband, ending up in Hawaii, where they had a family and prospered in the sugar plantation business. Their children were Monty, 'KB' and Billy (who died in the USA). Sister Kathleen married a sweet and dignified Frenchman named Georges Bronner (who had fought at Verdun in the war) and tragically died in Paris in 1939 following a minor operation. Georges remained close to the family. Younger sister Nina married a work colleague, Harry Kent-Wright. They moved to the Midlands. We have remained close to their two children, Marigold and Hazel. Marigold died recently, but we are in touch with Hazel, whose son Mark is my godson – Mark is also a volunteer at Bletchley Park. Leslie never married, but joined the Colonial Service after WWI, serving in Nigeria, Mauritius, Tanganyika (Tanzania), Zanzibar and Kenya. He was 'rich Uncle Les' and was inclined to order members of the family about – with the best intentions. He also supported some of them financially.

The second 'event' just about the end of WWI was that WG felt a call to distribute Bibles to Muslims in the Middle East. As a result he neglected his business and the family fell on hard times. Ralph, who was sixteen, was helped at this juncture by a Godfather (one 'Uncle Dick') who arranged for him to be apprenticed to a Chartered Accountant firm in Edinburgh, Whitson Methuen. Leslie and Ralph later clubbed together to support WG and Mary, and they were able to stay at Bernhurst.

Ralph's early career

Ralph enjoyed the work and friends in Edinburgh and Glasgow and always had a great affection for Scotland as a result, but when he qualified as a Scottish Chartered Accountant (a 'CA'), his firm offered him a poor salary and he decided to seek his fortune elsewhere. He joined the accounting firm Price Waterhouse (now part of PWC) in their office in Berlin.

For the next eight or nine years Ralph worked as an auditor or investigator all over Germany and Northern Europe, including Belgium, the Baltic States and Sweden. He quickly learned fluent German (evidence of a gift for languages which might have flourished more had he gone to university) worked hard and well, and enjoyed himself. He became a good tennis and squash player and started taking fine photographs.

While auditing the Shell Company of Sweden, he met Sigrid Laurell who worked there as a research chemist. (I heard that Ralph was invited to a party to meet Sigrid and a lady called Eva Utterstrom, Eva being the expected romantic choice. Having met Eva, I am very glad that he chose Sigrid).

Sigrid

Sigrid was the daughter of Hugo and Erica Laurell (nee Ericsson) and was born in 1898. She had a younger brother, Eric, who died in Sweden in 1942. Hugo was a scientist and inventor. His speciality

was carbide as a light source which was exploited as safe illumination for underground mine workings. Among other places, Hugo built factories in South Africa and Norway and Sigrid spent

some years in each place. Sigrid helped her father in his work there, enjoyed a quite adventurous life, and learned excellent English at a time when the second language for Swedes was usually German. Sigrid was the first woman science graduate of Gothenburg Technical High School. Her mother's family came from a long line of iron founders who owned land and an iron smelter at Granbergsdal, near Orebro and Bofors, in the middle of Sweden just North of the big lakes. Family records go back to 1642 (metal producers had to keep meticulous records) and the family names were patronymics, alternating between Peter Ericsson and Eric Petersson until the name settled down as Ericsson in the mid-19th century. The family lived in a typical Swedish 'Gard' (country house) of three big wood-built houses round a square, in the middle of forest (charcoal fuel for the smelter) and rushing streams and lakes (water power for the smelter).

The iron business had long declined by Sigrid's time, and the family gradually dispersed. The wood built houses deteriorated (one collapsed) and the smelter, after a period of German ownership, closed and became a national monument. The last of the family have recently sold Granbergsdal.

Ralph and Sigrid married at Granbergsdal in 1930 and there is a photograph of the couple and about one hundred Swedes in formal evening wear. None of Ralph's relatives was there and he is the only non-Swedish figure. They spent their honeymoon walking in Norway, and settled down to live in a Berlin suburb called Wannsee, where my sister Karin was born in 1931.

<u>In Germany in the 1930s</u>

Europe and Germany by this time were in deep financial depression, and Price Waterhouse slashed the salaries of its employees. Ralph had done a lot of work with a Price Waterhouse client, Unilever, and they offered him a job as an internal auditor in Germany. He took this job and moved to Dresden on the river Elbe, south of Berlin and near the Czechoslovak border. Unilever had recently bought a group of trading companies, Schicht of Aussig, in Czechoslovakia but with its HQ in Dresden, and Ralph worked all over Czechoslovakia, South Germany and the Balkans. The family lived in a rented flat in a Dresden suburb Weisser Hirsch ('White Stag', named after an inn) overlooking the Elbe. I was born in Dresden in 1934, my birth being registered at the UK Consulate in Leipzig nearby.

We had a happy life in Dresden. Karin went to the local school. We had a nanny, Hildegard Fischer. We made numerous friends and Dresden was a beautiful and lively place with wonderful concerts which Ralph and Sigrid went to. There were visitors from England and Sweden and holidays by the sea in Germany and Kent. The family language was German.

Meanwhile Hitler had taken power in Germany in 1933 and Germany began to change fast. Jewish friends left, and people with names which sounded Jewish changed them. One of our Unilever friends, Rudolph Mehner, appeared in the office in a brown uniform embellished with a Swastika. At Karin's school they made pretty decorations incorporating Swastikas, prayed for Hitler and had to show support for him in various ways. Through the Munich Agreement in 1938, Germany acquired the Sudeten lands, a large swathe of Czechoslovakia along the border with a majority German-speaking population. It also covered the sites of all Czechoslovakia's border fortifications against the Germans.

<u>The move back to England</u>

In 1938 Ralph and Sigrid decided that it would be safer for Sigrid and we children to move to England. One of my first memories is being on the Channel Ferry. We went to Bernhurst, the Tester family home in Sellindge, Kent, where Grandma Tester had recently been widowed. We found that a large part of the Tester family had taken refuge at Bernhurst. Some of the Canadians, badly hit by the Depression,

had returned, as had Nina and Harry and their children. I have some very vague memories of this time, and one vivid one of a bat flying into our bedroom and a large crowd of relatives trying to persuade it to leave. It is also reported that when some soldiers marched past Bernhurst, I stood to attention and gave the Hitler salute. Fortunately they roared with laughter.

We had by this time rented a small house in Raynes Park, near Wimbledon, and I joined Wimbledon High School for Girls, where Karin was a more suitable pupil and could keep an eye on me – she could speak English but I couldn't. Fortunately for me, there were some other boys in my position, from refugee families from Germany.

Raiph's return to England

Ralph stayed in Germany for a while, hoping that war could be averted, and in any case, determined to leave his work for Unilever in good order. He saw that he had to leave in March 1939, when Hitler marched German troops into a defenceless Czechoslovakia. Ralph packed up and travelled to England by train from Dresden via Ostend. He was smartly dressed. The train he caught at the station in Dresden had come from now German-occupied Prague, and was full of people trying to get away. This was their only way out. As was fairly normal in those days, there was a British Quaker lady trying to help them. She spotted Ralph as British and hurried up to him. 'Can you help us with something?' Ralph said 'er … yes'. She discreetly passed him a small black book. 'Don't open it until you are well clear of Germany. Please give it to the Czech Refugee Organisation in London.'

Ralph was in an empty First Class compartment, and hid the book under cushions. He sat as far from it as he could. The train chuntered its way on its long journey through Germany. Ralph said he was very frightened.

The train stopped at a station just on the German side of the frontier with Belgium and a detachment of Gestapo boarded the train and threw the refugees out. Policemen came onto the train to search it. When they got to Ralph's compartment, their search was desultory, and Ralph brought out cigars. The policemen sat down for a few minutes and chatted with Ralph, and then moved on. Eventually, the train puffed across the frontier, and Ralph had a look at the book. It was a comprehensive directory of the Communist Party in Czechoslovakia, and its organisation.

Ralph duly gave the book to the Czech Refugee Organisation in London. He joined the family in Wimbledon, and started work for Unilever in Britain.

World War II

I don't remember much about school before the beginning of World War II in September 1939, but when war was declared, a well-organised plan evacuated our Wimbledon school to Hanford House in Dorset. Our family were on Summer holidays at Bernhurst, and Karin and I were tipped into a taxi which took us to board at the school in Dorset. A kind teacher called Miss Fryer, who knew some German, took charge of us German-speaking boys, which made life much easier, and Karin helped me too.

I have quite a lot of memories of Hanford House – mainly cold and dark with unappetising food – a lot of very tough rabbits riddled with shot, which the owner, Colonel Lister, a fierce old gentleman, shot by the score. But I also remember lovely walks up Hambledon Hill, and of making friends; and I must have ended up with passable English.

After two terms at Hanford House during the 'phoney war' the School evidently concluded that nothing dangerous was going to happen in the London area and we returned to day school in Wimbledon.

At the same time, my parents, like many others, built an air-raid shelter in the garden, in our case made of old railway sleepers and sand-bags. We had a ceremonial bonfire of Karin's treasured Swastika patterns. The fall of France and the evacuation from Dunkirk happened during the Summer term at school, and we had the first air-raids, lying in the school basement with some of us sobbing.

By the time the Summer holidays came in July 1940, the Battle of Britain was in full swing over London and the South of England. There were fierce air battles overhead and bombing raids during daytime, and there were some bombing raids at night. I, now aged six, remember being terrified on occasion in our shelter during the daylight battles when the action was overhead and the noise was overwhelming. At night, at first, we were woken up to go to the shelter when the air-raid sirens went off, but soon found it easier, and quite fun, to go to bed every night in the shelter. I remember going indoors from the shelter one morning to see the whole sky towards London lit up. My father told me it was sparks from the trains nearby, but I think it must have been when the Docks in London were bombed and set alight. We collected shrapnel in the streets every morning and inspected nearby bomb craters.

Ralph had joined the Home Guard in Wimbledon and appeared in uniform from time to time. Sigrid was trying to teach me to read and write and to speak better English. The air raids got worse.

<u>Move to Caversham</u>

At this point, our life changed. Ralph was recruited from the Home Guard to use his German in the BBC at Caversham near Reading, monitoring German public radio broadcasts. He was allotted lodgings there. Sigrid decided that there was no reason to stay in London. She packed bags for us and hired a car to take us all to Reading. Reading was full of people trying to get out of London, and Karin remembers us tramping the unwelcoming streets trying to find somewhere to stay. Sigrid eventually found a room for the night. We stopped at another hotel for a cup of tea, and the kind owner rang around and eventually found us accommodation which we went to the next morning. We were given a room by a married couple, Mr and Mrs Ballard I was told later that they were big in the 'Black Market' – perhaps with ready access to food which should have been rationed. At any rate, we ate very well there. The Ballards were obviously not pleased to have us living there, but they were quite kind, and in fact their grown-up son took an interest in us and later sent us Christmas cards. Sigrid's lessons for me continued, with good results.

<u>Move to Bletchley</u>

Then Ralph was moved again. He was recruited by the Intelligence Corps to work at Bletchley Park and went to live in lodgings there. After a while we moved to Bletchley as well (in winter 1940) and were billeted on an elderly gentleman, Mr Lane, in Old Bletchley near Bletchley Park, who was

looked after by a housekeeper. There was also a nasty old dog called 'Bruce' who peed on the furniture. It was a gloomy, cold and uncomfortable place with a 'copper' in the kitchen where we had an occasional (rationed) bath in a tub. Sigrid had to help the housekeeper put Mr Lane on the chamber pot. I was shouted at time and again in the back garden by a local boy. In the end I threw a stone at him and hit him in the face. Sigrid had to make peace with the neighbours.

I was sent to the junior part of Bletchley Grammar School nearby. It was a strict place and we had to

work very hard. We learned our tables by repeating them in chorus, with our teacher listening to each boy to make sure that he was actually chanting the tables accurately. It was a very effective way of teaching at our age.

We were very happy when Ralph found quarters for us all through colleagues at the Park. We shared a house with Captain and Mrs Dryden (he was known as 'Pope', worked at the Park, and has written about his experiences) in a village up a hill a few miles from Bletchley called Little Brickhill. The house, the 'Clock House', was part of a stable block with a clock tower built round a gravelled courtyard, which belonged to a big house next door called Bayfield, then occupied by a school. We saw very little of Capt. Dryden, and not much more of Ralph, as they left early (on bicycles) and came home late and exhausted. Mrs Dryden, who was German, was very nice. The accommodation was spacious. We shared a kitchen but otherwise had our own space, so we mostly led our own lives, and it was a good place to live. Next door was a gypsy family who were very friendly and cheery, and kept chickens, which was good when meat was strictly rationed and eggs were in notoriously short supply. Karin remembers that Mrs Colwell, the mother, used to wear a pair of knickers on her head for want of a hat.

We made friends with a family billeted in the village, Col. Charles Newman and his wife and children. I teamed up with Barry and Karin with Diana, or 'Dinky'. When there were soldiers on manoeuvres round the village, Karin and Dinky aged eleven, used to flirt with them, putting ribbons in their hair. Col Newman took a leading part in the Commando raid on St Nazaire in 1943, was captured and became a prisoner of war, but was awarded a VC for his gallantry during the raid.

Karin and I were sent next door to Bayfield School. When I joined it was well organised and fun. After a while, perhaps two terms, that all changed when all the competent staff joined up, leaving a much reduced staff who were not so competent, and the school fell to pieces. There was an epidemic of impetigo among the boarders and boys with impetigo sores put stained bandages on sticks and chased other boys with them. The food in the dining room degenerated into a permanent diet of 'pink pudding', some kind of powdered blancmange. Classes were disorganised and in the end there was an almost permanent riot going on with crowds of boys and girls wandering around, fighting, looking for food and brandishing impetigo weapons.

My friend Barry and I played truant, telling our parents that the school had given us the day off, and telling the school that our parents wanted us to stay at home. No-one checked! Our education was thus in the melting pot.

<u>Bletchley Park</u>

What had brought us to Bletchley? Bletchley Park was a big house with extensive grounds just near Bletchley Station on the Euston line to the Midlands and North, some 50 miles from London. The Park as it was known (also as 'BP') had been built about 1875 and bought by the Leon family as a modern 'stately home' in 1883. It was bought in 1938 by The Government Code & Cypher School to

act as an out-of-London base for the UK's codebreaking organisation. It was surrounded by very tight security, both physically and psychologically (if one can use the word thus). To illustrate this, we Ralph's family, did not have the first idea of what he was doing, and I did not find out until the 1970s, when I started finding newly-published books about Bletchley Park. Ralph himself never said much about it until much later in his life – he had signed the Official Secrets Act and that was that.

The way Bletchley Park operated was, in simple terms, as follows. Listening posts round the country and overseas, called 'Y-stations' picked up encoded radio transmissions out of the air and recorded them by hand or by machine if they were from an enemy source or otherwise of interest. They were sent to Bletchley by despatch rider or teleprinter. Bletchley logged them (many were also useful for 'Traffic analysis' ie finding out who was talking to whom, where and how much), and attempted to decode them. Many were messages encoded on the German 'Enigma' coding machine and the story of the eventually successful efforts to decode Enigma messages, both by the important separate Naval Section and the units concentrating on German army and air force messages, is well known.

After the messages were decoded, separate organisations at Bletchley sifted them and distributed the intelligence from them (known as 'Ultra') taking care to ensure that the way the intelligence was used did not betray the fact that Bletchley was breaking the enemy codes. These precautions were successful. Bletchley's radio transmissions used the British 'Typex' machine which the Germans never broke, though they had earlier successfully read British Naval codes. Bletchley broke other lower-level German codes such as police codes and the code used for German harbour and coastal shipping movements called 'Werftschlussel' which yielded important intelligence.

'Fish'

Ralph first worked on German police codes, but then went on to something much more important. One of the ablest people working at Bletchley was Colonel John Tiltman, a career intelligence officer and codebreaker. Amongst other duties he headed a Research Department. The Y-stations had instructions to send Tiltman any unusual transmissions, especially new types of transmission. The Metropolitan Police Y-station at Denmark Hill in London, usually concerned with possible transmissions from German spies in the UK, started picking up transmissions recognised as being unusual and sent copies to Tiltman. A special Y-station was set up at Ivy Farm, Knockholt in Kent to pick up these messages. These included a long message between units in Athens and Vienna which the German operator had to send a second time because the first transmission was garbled. In a cardinal breach of encoding security, the second transmission did not use changed settings, and included some minor but in security terms crucial changes. Tiltman pounced on this material and was able, working over some weeks, to decode large parts of the message.

From this work, Tiltman found that this was a test transmission for a new high-grade communications system using a teleprinter with an encoding machine attached, communicating on-line with another teleprinter plus encoding machine which actually decoded the message automatically. The transmissions were between German Army HQs and German Army Groups all over occupied Europe . The system, which ended up as a communications network covering some 25 links, was known at Bletchley as 'Fish' or 'Tunny'. The messages were often long and carried information of great strategic importance, such as operational plans in full detail for forthcoming campaigns. The actual code machine was the 'Lorenz Schlusselzusatzgerat/42'.

Tiltman gave his workings to a young Cambridge scientist in the Research Department called Bill Tutte and told him to find out as much as he could about it, using logic, mathematics and his imagination. Tutte studied this for some weeks, writing columns of figures, and sometimes staring into the distance, thinking. Someone working in the same room wondered if he was doing anything useful at all. But in the end, he had worked out how the encoding was done, and he and the Research Department had reconstructed the Lorenz machine. Bletchley Park did not see a real Lorenz machine until Ralph

brought one back from Germany in 1945.Tiltman and Tutte's feat has been called the finest piece of codebreaking in the 20th century.

Lorenz

The Lorenz Schlusselzusatzgerat/42 ('Cipher attachment device, 1942 version') was a machine attached to a standard teleprinter keyboard. In normal teleprinter traffic, the keyboard typestroke made electrical impulses travel along a landline or by radio to another teleprinter keyboard at another location which printed out the message sent by the first keyboard. Using Lorenz, the transmitting keyboard fed its impulses into a Lorenz which enciphered it and then transmitted the enciphered message to a distant Lorenz which decoded the message automatically and fed it into an attached teleprinter keyboard which typed out the decoded message. The remote Lorenz had to be set up exactly like the sending Lorenz, using various security systems which the Lorenz provided. Thus, while the message was in the landline, or more importantly in the airwaves, it was in enciphered form. This is what the Y-stations picked up. Unlike morse code, teleprinter transmissions make a continuous undulating sound and they were recorded on paper tape and interpreted by eye to determine alphanumeric characters.

Messages on a teleprinter are transmitted by electrical impulses from the keyboard using binary notation, ie '1' or '0' only. Each alphabetical letter is converted into five impulses (each one '1' or'0' only) according to a standard teleprinter alphabet known as the 'Baudot' code after its inventor. Thus 'A' is 11000, 'B' is 10011 and so on. The Lorenz had two sets of five wheels each, known at Bletchley as the 'chi' wheels and the 'psi' wheels, plus two so-called 'motor' wheels. Each wheel had between 23 and 61 adjustable pins which made each position on the wheel '1' or '0'. Using so-called 'modulo 2' addition, each chi-wheel modified the corresponding impulse from the keyboard and moved one step forward. The modified impulse was further modified by the psi-wheels, whose movements were driven irregularly by the motor wheels. The five impulses from a single letter typed on the keyboard were thus converted to a different arrangement of '1' and '0' which corresponded to a letter in the teleprinter alphabet. This letter was transmitted to the destination.

What was typed on the keyboard was 'plaintext'. The items derived from the inner workings of Lorenz and added to the plaintext were the 'keystream'. At the receiving end, Lorenz stripped out the keystream and the receiving keyboard printed out the plaintext. Lorenz could be set up to encipher each message in two ways. The pins on the eight wheels were moved – a total of some 500 pins could be moved – this was the 'wheel pattern'. Each wheel could also be moved to a different starting position – this was the 'wheel setting'. The wheel pattern and the wheel setting were sent to the receiving Lorenz either as a preamble to a transmission or later by transmitting a reference to a list of settings and patterns held by both the sender and the receiver. The patterns and settings were changed for security purposes. As time went on they were changed more and more often.

Although Bletchley Park, through Tiltman and Tutte and the Research team, knew how Lorenz worked and soon had a number of Lorenz messages picked up from the airwaves by the Y-section listening posts, they could not decode them unless they could find the wheel pattern and the wheel setting of each message. Ralph was appointed to head the group of staff tasked with decoding the 'Fish' transmissions. His department was christened 'the Testery'.

The Testery

A formidable team was assembled for Ralph to lead, consisting of mathematicians, linguists and all-rounders, nearly all graduates (which Ralph was not) and in their early twenties. Among those who worked as codebreakers were Roy Jenkins, later a leading politician, Peter Benenson, later founder of Amnesty International, Dr Max Newman, Donald Michie, Jack Good and Peter Hilton, all very gifted mathematicians, Jerry Roberts who later published a book called 'Lorenz', and Tom Colvill who acted as a very efficient general manager of the department. Max Newman, in his forties and a professor of mathematics at Cambridge, started to think about machine methods to speed up codebreaking, and after a while was encouraged to set up his own department, taking some other Testery mathematicians to develop machine aids much further, culminating in the design, construction and deployment of the 'Colossus', the world's first programmable electronic computer.

The main ways into the Lorenz codes were through 'depths' where two messages had the same wheel settings (as in Tiltman's early break) and through 'cribs' where, particularly at the beginning of messages, it was possible to guess what the plaintext was – standard greetings or preambles and so on.

Ralph's gifts were maturity (compared with the youth of most of his staff), a deep knowledge of German, Germany and Europe, experience of organising a department, and a friendly, calm, efficient and supportive management style which many of his staff complimented him on. He managed priorities, helped to solve problems (work and personal) and represented the Testery in inter-departmental negotiations, where he could fight his corner effectively. This became an issue when the Newmanry became a successful and powerful entity, threatening to absorb the Testery altogether.

One of the Testery's early successes was to decode the entire German order of battle, well in advance, of a major German offensive in Russia in 1943, centred round the city of Kursk. Late in life, Ralph talked of decoding pages and pages of army units, tanks, artillery and warplanes and where they were to be deployed. This information was passed straight to the Russians as coming from a highly-placed source in the German High Command. It is interesting to speculate how this information was used. The Russians were probably suspicious of such information coming through official British diplomatic or military channels, but their own extensive intelligence sources would have started to confirm the British information, and there is also the possibility that the Russian spy who had some access to Bletchley Park – John Cairncross – may have confirmed it too. At any rate, the Russians were very well prepared for the battle of Kursk (known as the greatest tank battle in history) and the German attacks were a disastrous failure.

The Testery, the Newmanry and Colossus

Decoding 'Fish' messages by hand was a laborious and unpredictable task. Various techniques were developed to help. Bill Tutte devised a pen and paper method to find out wheel settings called

'rectangling' and Alan Turing offered another called 'Turingery'. The first machine to be used was the British 'Tunny' machine which emulated the Lorenz; so that when wheel settings and wheel patterns had been found, Tunny could be set up to decode the entire message automatically. The machine was operated by women from the Women's Royal Naval Service ('Wrens'). At first, wheel patterns changed every month, but wheel settings, the start point for each wheel, changed for each message. Once one message had been broken, the wheel pattern for the month had been established for all messages, but the settings had to be found for each message.

A machine was devised by Max Newman which automated the 'rectangling' technique to speed up this part of the work. It was called 'Robinson' (after J Heath Robinson, a cartoonist who portrayed

complicated and comical machinery) and could handle large volumes of data mechanically (using PostOffice Research Department skills) and applied statistical methods to identify which of a large number of possible solutions looked most promising. Robinson worked well, but often broke down under pressure

Newman, who now had his own department (the 'Newmanry') thought this could be improved and started work with Tommy Flowers of the Post Office to see if they could design a machine which could handle really large volumes of data with a high standard of accuracy and reliability. The machine they developed used radio valves instead of the vulnerable mechanical relays, and an optical reader which could read very large volumes of figures typed onto a paper tape accurately and fast. Radio valves were much more reliable than relays, but Flowers also found that leaving the valves switched on (instead of constantly turning them on and off which would be instinctive) greatly extended their life.

This electronic machine, of huge size and complexity, was called 'Colossus' and was the world's first programmable electronic computer, pre-dating the US 'ENIAC' by some years. It was, of course, very specialised, designed to do a particular series of tasks, and was not the type of general purpose machine that we are familiar with today. Like the other machines it was operated by Wrens.

<u>1944 and 'D-Day'</u>

In 1944, in the run-up to the Allied D-Day landings in France in June, Fish traffic increased enormously. It potentially provided crucial information to the Allies planning the landings about the location of German forces and fortifications, and it also allowed the Allies to judge how successful their deception strategy was – the careful leaking of false information to the Germans suggesting that the main Allied landings would be in the Calais area, rather than in Normandy where the main landings **did** take place. The Germans in fact prepared for further landings at Calais even after the Normandy landings had been successfully achieved, and this helped the Allies to establish the Normandy bridgehead so that it could resist powerful German counter-attacks and form a secure base for the huge forces poised for the breakout into the rest of France.

There was enormous pressure on Bletchley to produce intelligence to help invasion planning and the conduct of the Normandy campaign, and Bletchley produced the goods. Someone who worked at Bletchley told me he saw Ralph after he had been working for 24 hours, then slept for 12 hours, then worked for another 24 hours. He looked dreadful. Meanwhile, from July 1944, wheel patterns were changed daily by the Germans, and better discipline in transmitting messages ensured that there were no more 'depths'. Further tweaks to German security resulted in a brief period when the

Testery could break no messages, but fortunately the tweaks proved so troublesome to the German operators that they were abandoned, allowing the Testery 'in' again.

The way the de-coding tasks were divided between the Testery and the Newmanry settled down, so that Colossus under the Newmanry solved the wheel settings for chi-wheels 1 and 2; the Testery used this to solve the settings for chi-wheels 3 to 6, the psi and motor wheels, and then to break the wheel patterns. Colossus was later used to find wheel patterns as well. The Testery also de-coded the messages on Tunny and dealt with translation and editing.

Life at Little Brickhill and at school

Our family led a thoroughly bucolic life at the Clock House. Karin and I ran wild in the rambling grounds, climbing trees, making camps in the undergrowth, and lighting camp fires for baking potatoes. We all dug in the vegetable patch which was very productive. Long army convoys filled the

roads from time to time and soldiers exercised and fought noisy mock battles nearby. The air was often filled with British planes off on bombing missions over Germany. Sigrid did voluntary work in the village and cooked delicious meals based on fairly sparse rations. Ralph consulted friends at the Park about Karin's and my education on the collapse of Bayfield School. The then Public Orator of Oxford University, Tommy Higham who worked at the Park, recommended an excellent school for Karin, Cedar House School at St Neots in Huntingdon and said 'Sven had better go to the Dragon School in Oxford'. So off I went alone by train in the Summer of 1943 aged 8. The Dragon was a superb school even with a depleted staff in wartime, and after surviving a bizarre year of bullying in my second year, I had a wonderful time there, doing reasonably well academically, developing a keen interest in history through inspiring teaching, and acquiring an enthusiasm (if no outstanding skill) in sports and swimming.

Bletchley Park remained a mysterious but closed book to us (one did not ask questions in those days anyway) but there were peripheral interesting events. Ralph started bringing US soldiers seconded to the Park home to meet us, and the US army took over Bayfield next door. The soldiers there were very kind to me and my friends when we hopped over the fence to visit, with the cookhouse being the favoured destination.

I have one especial memory of Bletchley Park which was important, when I was about nine. Ralph asked me to meet him in Bletchley, I guess on a Sunday. I took the bus in and we went together (presumably by arrangement) to a house in the town. Ralph said 'I am going to introduce you to someone I work with, and I want you to remember him'. We knocked on the door and were greeted by Colonel John Tiltman. Ralph introduced me, and Tiltman and I talked for a few minutes. He said what a wonderful job Ralph was doing. We said a warm goodbye, and Ralph reminded me 'I want you to remember meeting Colonel Tiltman'; and I *have* remembered meeting the man who first broke 'Fish' and accomplished so much else at Bletchley Park.

It may be worth at this point recalling another encounter, many years later, in about the early 1990s. I was involved with running the London branch of the British Chamber of Commerce in Germany. The Chamber had a conference each year, and one year it was held in Stuttgart, in Germany. It was a big affair, and we were given a fine Civic reception in the City Hall. The Burgermeister of Stuttgart at the time was Manfred Rommel, son of Field Marshal Erwin Rommel. Manfred was 14 when his father was forced to commit suicide in 1944. We conference delegates were each given a book

about Stuttgart, for which Manfred had written the foreword. People started queueing to get Manfred to sign their copy; so did I.

When I reached Manfred, I said 'I think my father may have read some of your father's secret despatches'. He said 'Well, someone was certainly reading them, because his supply convoys from Italy to North Africa were all being sunk by British submarines'. He went on to say that his father was a pretty good mathematician and he had personally investigated the technicalities of the codes the Germans were using: he concluded that they couldn't be broken. But, he said, to run convoys they had to co-operate with the Italian Navy 'So you can guess where we thought the leaks were coming from'.

I sent Manfred some books about Bletchley Park and he sent me a kind thank you letter, asking me to give his personal greetings to Ralph, which I did.

Ralph's trip to Germany in May 1945

In May 1945, just as the war in Europe was ending, Ralph, now Major Tester, was appointed with a US Intelligence officer, Arthur Levenson, to travel to Germany under the auspices of 'Ticom', the joint US/British 'Target Intelligence Committee' (whose aim was to collect new German military technology amid the chaos of Europe in 1945) to find and bring back to the UK a Lorenz machine and its operators. Bletchley Park knew that the Lorenz machine serving Field Marshal Kesselring, who was German commander in Italy and the Mediterranean, had retreated up Italy with the German army there and was making for Germany.

Ralph and Arthur, armed with a 'laissez-passer' signed by Eisenhower, drove in a Jeep across France into South Germany and were in Bavaria when the war in Europe ended ('VE-Day', 8 May 1945). Soon after, they found the Lorenz unit where the borders of Germany, Austria and Switzerland meet, near Lake Constance. There were two lorries carrying the teleprinter keyboard with a Lorenz attachment plus other signals equipment and a generator and a dozen drivers and signals operators. These soldiers surrendered enthusiastically to Ralph and Arthur, glad to have someone to look after them in the disintegration of the German army.

The little convoy made its way back across Western Europe to the Channel and to Bletchley, where Kesselring's Lorenz is now on display. Ralph said that this expedition was a very satisfying way to finish his work on 'Fish'.

The end of WWII and of Bletchley Park

With the end of the war in Europe, which I remember at the age of ten being celebrated at school in Oxford with a big bonfire in the playground, Bletchley Park in due course closed down and transferred current activities to a new headquarters and later moved as 'GCHQ' to Gloucestershire. The Enigma and Lorenz stories were 'classified' and remained secret for years, especially Lorenz. I think that there was a fear that the Russians might learn too much from the new technology and so, astonishingly, most of the Colossus machines (by now there were several of them) were destroyed,

and all the records of the decoding of Fish messages were also destroyed. At least one Colossus went to GCHQ in secret. It took eleven years for enthusiasts to build a replica Colossus for display at Bletchley, based on a few plans and people's memories.

There was apparently a more immediate reason for secrecy. The Russians captured a number of Lorenz machines as they conquered Eastern Europe and East Germany. They recognised the technology as outstanding and started using the German machines, or their own versions of them, for some of their own communications.

Bletchley Park had been successful in hiding the fact that Lorenz codes had been broken, and GCHQ was apparently able to read Russian codes based on Lorenz for years. The Enigma story became public in the 1970s, and some information about Fish came out at this time too. But most of the information about it was classified until the early 2000s, after Ralph's death, and some of it still is.

Postscript on Bletchley

There has been some controversy about why the achievements of Bletchley Park received so little public recognition and why so few individuals were honoured: after all, Field Marshal Eisenhower declared that Bletchley Park intelligence had probably shortened WWII by two years. One of the reasons was undoubtedly the security blanket thrown around much of the work done.

Alan Turing and Bill Tutte have now been recognised, mainly through private campaigns, and many years later, Jerry Roberts was awarded an OBE, partly for his codebreaking work, but mainly for his work for the restoration of the Park as a museum for the Bletchley Park Trust. When this happened, I was interviewed by a local radio station, and was asked if I resented the fact that my father had not been honoured, and whether Ralph himself would have resented it. I replied, and I know this to be true, that to Ralph the work, its successes and outcome, and its importance, were their own reward, plus the lifelong friendships Ralph made at the Park. He was proud that his department was called the 'Testery' so that his name is remembered. So am I, even though plenty of people say 'Yes, that's where they tested things, isn't it?'

After 1945

Ralph returned easily to civilian life. He re-joined Unilever, who had contributed to his salary throughout the war, and worked as an internal auditor. He travelled widely, to South Africa, India and Pakistan, Australia, Nigeria, Canada, Indonesia, the Philippines and many countries in Europe, and took wonderful photos wherever he went. The family moved from Little Brickhill to Heathfield Road in Acton, West London. I was still boarding at the Dragon until 1948 and Karin had joined St Paul's Girls School in Hammersmith as a day girl. I went on to Westminster School in 1948 and won a scholarship, so that from my second year I was a 'Kings Scholar'.

Back to Germany

In 1951 Ralph was asked to take up appointment as Unilever's head of internal audit for its important business in West Germany, based in Hamburg. He moved to lodgings there immediately and the family followed later. Karin was by now studying Modern Languages at St Hugh's College in Oxford, and I was still at school. Karin and I spent our holidays in Hamburg. We found that many of our friends from Dresden were there, including Hildegard and the Mehner family.

I knew that Hamburg had been dreadfully bombed by the British, using so-called 'area-bombing' techniques – we couldn't hit the factories accurately, so we bombed where the factory-workers lived to disrupt production. I well remember how shocked I was to see the scale of destruction, and I was very nervous of German hostility as a result; but there was none.

As ex-pats in Hamburg, we had a privileged life. We had a maid (a second Hildegard) and Ralph had a chauffeur. I spent a lot of my time bicycling round the city, especially the huge harbour, as I was fascinated by ships, and there were hundreds of them. We made lots of friends, re-learned passable German, and had lots of glamorous parties. Our flat was spacious and we had a garden on the river Alster where it flows into a big lake before joining the Elbe river in the city. A pair of swans, Heinrich and Lisa, nested each year in our garden, and we canoed around the lake and watched birds there – smews and goosanders especially. Ralph and I both learned to drive.

In 1953 I, now a 'Queen's Scholar 'at Westminster School aged 18, attended the Queen's Coronation with the other Scholars to shout 'Vivat Regina Elizabetha!' to Her Majesty as she entered Westminster

Abbey. Ralph and Sigrid watched on television in Hamburg, and Karin came to London the previous night, slept in the rain in the Mall and watched the procession. Later that year I went up to Trinity College in Cambridge on a Westminster School scholarship to read history. I learned later that some of the lecturers I heard had worked at Bletchley Park.

Back to London

In 1956, Ralph, who was looking forward to end his business career in Hamburg, was recalled to London to become Group Head of Internal Audit. To his annoyance he had greatly increased prestige, but less remuneration than in Germany. At the same time, I left Cambridge. I took the 'Foreign Office exam' but did not do well enough. I received an invitation to join MI6 (the Security Service) which Ralph advised me not to take up, and ended up going to interviews with firms of chartered accountants which Ralph had arranged for me. To my surprise, I liked the idea and the people I met at interview, and I duly became an apprentice at Thomson McLintock & Co, a London firm with strong Scottish connections, for whom I worked for thirty years.

Ralph, Sigrid and I lived for a while in a luxurious flat in Ennismore Gardens in Kensington, but in time they bought a lovely house in Otford, near Sevenoaks in Kent, and I moved to somewhat spartan lodgings in Earls Court. Ralph commuted to Unilever at Blackfriars. He hated commuting, but apart from that he and Sigrid had a very enjoyable life in Otford, making friends, gardening, shopping in Sevenoaks and enjoying holidays abroad. Ralph developed an enthusiasm and some discernment in buying antique furniture.

Sven and Mary

I qualified as a Scottish Chartered Accountant in 1961, stayed with Thomson McLintock and became a partner. In 1969 Mary Caustin, the love of my life, and I married, living first in a flat I had bought in Earls Court, then in Octavia Street in Battersea and then in Elms Road in Clapham. Laura, our eldest child, was born in 1973, and we adopted Sophie in 1980 and Nick in 1984. We became thoroughly South London people, centred on Battersea Parish Church (St Mary's) where we made lots of friends. Mary became a keen singer and bell-ringer, and I became interested in local history.

Mary's family came from London (Harold, her father) and the isle of Wight (Kathleen, her mother). Mary was born in 1941 in Oxford, where Harold was an academic, having been sent originally to Ruskin College by his Trade Union. He moved to University College for his degree and his research work. He was recruited by the Treasury in WWII and then seconded to UNRRA, and he joined the United Nations organisation in New York. The family moved there and Mary and her elder brother Charles spent their first school years on Long Island. Mary and Charles both came back to England for secondary school, Mary to Headington School and Charles to St Edwards School, both in Oxford. Mary showed much musical talent at school and went on to the Royal Academy of Music to study piano and flute. Charles joined the Inland Revenue after leaving school.

Harold served the United Nations Technical Assistance programme in Libya and Nigeria, and Mary and Charles spent school holidays there.

After the Royal Academy, Mary studied Music Therapy at the Guildhall School of Music and worked at special schools. We met through friends, Rupert and Camilla Shoolbred. I knew Rupert through Thomson McLintock, and Mary knew Camilla through holidays in Libya.

Harold and Kathleen returned to England and lived in a mansion flat in Victoria. Harold, who had been awarded an OBE, worked as a consultant in Saudi Arabia for a while. Later, they moved to Barton-on-Sea in Hampshire, and after Harold's death in 1982, Kathleen moved to the Isle of Wight where she died in 2001. I could not have wished for warmer or more supportive parents-in-law. Sadly, Mary's brother Charles died unexpectedly in 1998.

Karin and Ralph and Sigrid in Oxford

After graduating from Oxford, Karin stayed on to study Social Sciences and Criminology. In 1956 she married Peter Dawe, a brilliant, loveable but at times unstable fellow-student. They had three wonderful children, Gerald, Tim and Bridget. When Ralph retired, he and Sigrid moved to Cumnor Hill, Oxford, to support them. They had a fulfilling and enjoyable life there, punctuated by occasional crises, which they all coped with. Karin took up teaching and made very good friends at the school in 'Jericho' in Oxford.

Sweden

But for WWII, we as a family would have had much closer connections with Sweden, and this was always a regret to Sigrid. Her parents had both died before 1939, but Sigrid was close to her brother Eric who was a scientist and gifted amateur artist. She was greatly saddened by his early death in 1942 from TB, but could not of course visit him or go to his funeral.

Sigrid was anxious to go to Sweden as soon as possible after 1945, and she, Karin and I went in the summer of 1946. We had a wonderful time. We went by ship to Gothenburg, meeting numerous relatives there. Karin and I then had a lovely week on a holiday island just north of Gothenburg called Gaso, while Sigrid had a minor operation. We then went to two places in the middle of Sweden, the second of them Granbergsdal, Sigrid's mother's family home, which I loved. (We slept in an attic and I can still recall the sweet smell of the wooden structure). Then we went to Stockholm with superb museums and the harbour, and lots of relatives, and then home to Tilbury over a very rough North Sea. The food on the ships and in Sweden was amazing after six years of rationing in Britain.

After this, we had occasional visits to Sweden – I spent a month at the University of Uppsala on an exchange scheme with Trinity College – and lots of Swedes came to England to visit. It is difficult to disentangle the family tree, but the people we got to know seem to have been rather distant cousins – Stig and Elsie Laurenius who lived in Landskrona in the South of Sweden, Ingela Manson, Asa and her husband, Markus, both medics who worked for a time in London, and Karin and Gunnar Englund and their children from Granbergsdal. Stig and Elsie were especially close, and Stig said he thought of Ralph as a second father. Karin had 'au-paired' for Stig's sister Maj Beer, becoming great friends with Maj's son Jan-Alan.

Relationships are a bit more distant now, but fortunately the Swedes are very anglophile and love coming to England.

Final years

Sigrid's health had been fragile for some years, but she coped well. However, in 1979 she had a stroke, lingered for a week or two (speaking only Swedish) and died. Ralph lived on his own in good health for some time and settled down to learn Swedish, which he had always resisted. He was soon able to write long letters to Swedish relatives.

Karin's and Peter's children had left home. Gerald is an ecologist and writer. Tim lost an arm in a motor cycle accident in his teens but did not let that hold him back. He had a successful business-related career, but very sadly died recently. Bridget is a doctor (she lived with us in London for a while when studying) and married a surgeon, Graham Robbins. Their two children are both doctors. Peter and Karin lived a quiet life in Oxford, with Karin very much involved with the church and a choir in North Hinksey. Peter died suddenly in 1996. When Ralph started to need help, Karin moved in with him and looked after him. He died quite suddenly in 1998 at the age of 96, and is buried with Sigrid in Cumnor churchyard.

Ralph and Sigrid were model parents who gave me a wonderful start in life, and always took a loving interest in my doings. Ralph's time at Bletchley was 'the time of his life'. Sigrid remained interested in science and could have had a scientific career. She had regrets that she was not able to be closer to her family in Sweden, but she enjoyed life and loved England, and was an inspiration to her children and grandchildren.

---------- oOo ----------

Slct May 2020