REPORT of STAR GROUP – VISIT to BLETCHLEY PARK

It was 8-30 on the damp drizzly Monday morning of 5th October when our intrepid group of bleary-eyed third-agers left Keyworth to visit the former codebreaking and cipher centre at Bletchley Park.
As we progressed south along the M1 motorway the weather started to clear and by the time we arrived in Milton Keynes the rain and drizzle had stopped.
For me the first stop was a cup of coffee in the Block C Visitor Centre.

We moved out of the Visitor Centre and towards the lake. We were told that many a wartime romantic coupling around this beautiful lake had led to marriage.

The beautiful Bletchley Park Lake

So… Moving on. We visited the Mansion House with it's curious variety of styles of architecture. The original owners of the estate had travelled abroad extensively and each time they returned home they added an extension in the styles that they visited on their travels.

The Mansion House

At the Mansion we saw the sets that had been designed for the Film "***The Imitation Game***." The attention to detail led one to feel that you were back there in the dark days of WWII.

History of The Mansion

Captain Ridley's Shooting Party

The arrival of ‘Captain Ridley's Shooting Party’ at a mansion house in the Buckinghamshire countryside in late August 1938 was to set the scene for one of the most remarkable stories of World War Two. They had an air of friends enjoying a relaxed weekend together at a country house. They even brought with them one of the best chefs at the Savoy Hotel to cook their food. But the small group of people who turned up at Bletchley Park were far from relaxed. They were members of MI6, and the Government Code and Cypher School (GC&CS), a secret team of individuals including a number of scholars turned Codebreakers. Their job; to see whether Bletchley Park would work as a wartime location, well away from London, for intelligence activity by GC&CS as well as elements of MI6.

The GC&CS mission was to crack the Nazi codes and ciphers. The most famous of the cipher systems to be broken at Bletchley Park was the Enigma. There were also a large number of lower-level German systems to break as well as those of Hitler's allies. At the start of the war in September 1939 the codebreakers returned to Bletchley Park to begin their war-winning work in earnest.
By early 1943 Bletchley Park had developed from a small community of specialist cryptanalysts into a vast and complex global signals intelligence factory. It hit its peak in early 1945 when around 10,000 people worked at Bletchley and its associated outstations.

Breaking Enigma

The most important German System for the transmission of coded signals was ENIGMA. The standard 3-rotor Enigma was capable of being set to approximately 159,000,000,000,000,000,000 possible combinations. Later versions of Enigma had FOUR rotors.
These machines were developed from commercial systems that were used in the pre-war period by banks etc. for sending secure data. Just before the invasion of Poland it came to the notice of Polish Intelligence that Germany was using modified versions for military purposes. Poland shared their work with Britain and France being aware that Germany was about to invade.

The Alan Turing BOMBE Machine

By this time the Germans were changing the Enigma settings daily and the first break into the daily-changing Enigma code took place at Bletchley Park in January 1940.
The **Bombe Machine** was developed by **Alan Turing** and **Gordon Welchman** to speed up the breaking of Enigma so that translated messages were still operationally relevant.
The **Bombe Machine** helped to deduce the day's Enigma Settings of both the rotors and the plug board by eliminating the many incorrect possibilities.

Enigma Machine

The number of different settings for the Enigma machine are staggering. Each rotor could be set to any one of 26 different ring settings. Then the plug board could be set in a vast number of different ways. The settings were also different for the German Army, Navy, Air Force and Secret Service and most were changed daily.
The main task of the codebreakers was to deduce the daily Enigma Settings – so the Bombe became vital.

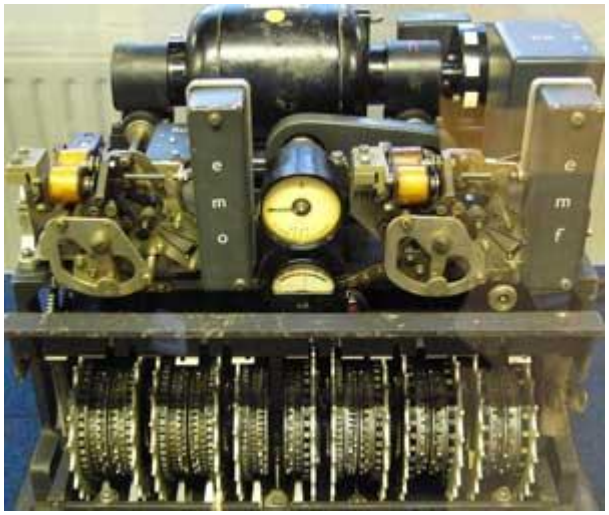
Breaking Lorenz

Even more complex than the Enigma was the Lorenz cipher machine. It was used by Hitler himself, the German High Command and the Field Marshals.
It was much bigger and heavier than the Enigma and had TWELVE wheels. The Codebreakers called the machine Tunny and the coded messages Fish.
Cracking Lorenz, like Enigma, relied upon determining the starting position of the wheels.

The Germans began using Lorenz in the 2nd half of 1940 but although we could intercept the signals our Codebreakers knew nothing about the machine that was being used to encipher them. Then we had a lucky break. On German operator made a bad mistake. In August 1941 a long message sent between Athens and Vienna was stalled. The operator transmitted a clear twelve-letter indicator which told the receiving operator the exact wheel start positions.
The combination of the use of the same indicator and the abbreviations gave Bletchley's chief cryptanalyst, **John Tiltman**, a way in. It then took Tiltman ten days but he recovered

both German messages in full thanks to the operator's mistake.

Bill Tutte, a Cambridge chemistry graduate, then deduced through mathematical analysis how the Lorenz Machine worked without ever having seen one.



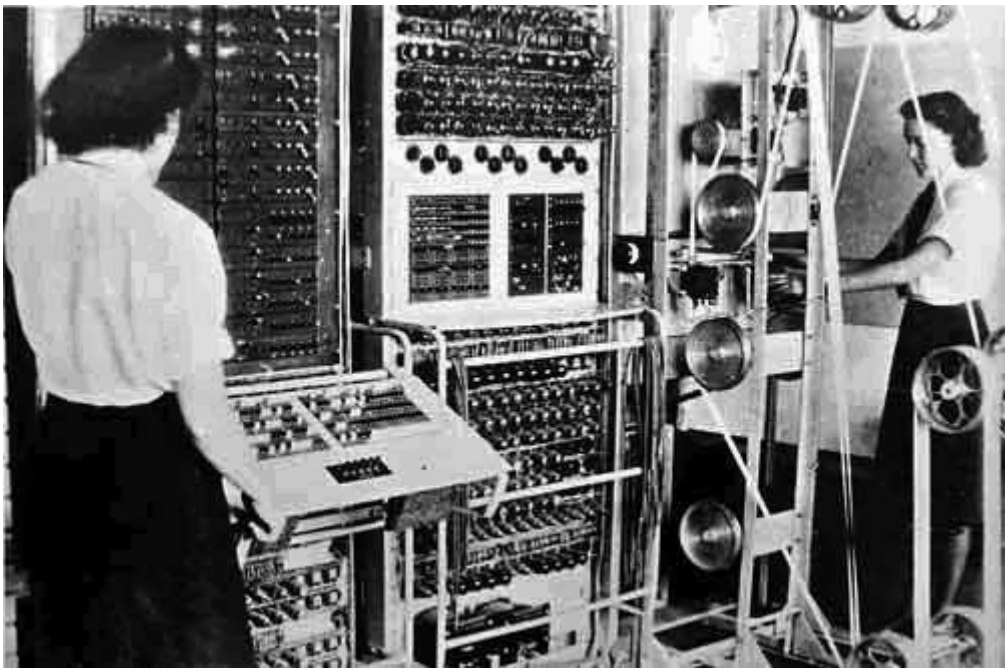
Lorenz Machine

Lunch-time

By this time in the day I was feeling very much like lunch so we lodged ourselves in Hut 4, formerly a WW2 Naval Intelligence Codebreaking Hut, which now houses the newly refurbished café. We had a very pleasant light lunch then followed on to search for COLOSSUS.

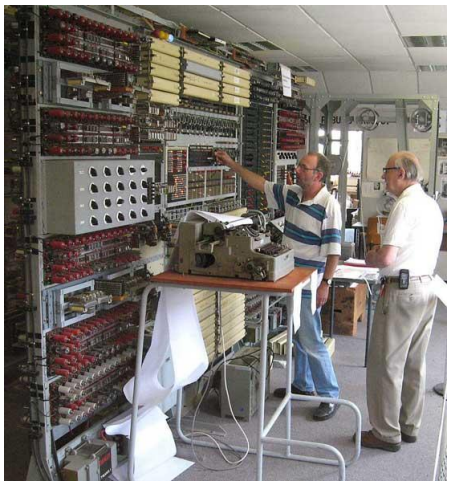
Colossus

From mid-1942 onwards intercepted Lorenz messages were punched on to teleprinter tape and sent via both teleprinter and dispatch rider to The Testery (a new section setup by Ralph Tester) to capitalise on Tiltman's and Tutte's achievements.
By 1943 the Germans had introduced complications which made it virtually impossible to break Lorenz by hand.



The Colossus of Bletchley Park in 1944

The first machine, designed by Max Newman, and his team was christened 'Heath Robinson' after the cartoon designer of fantastic contraptions. It worked but was slow and unreliable so Max Newman called upon Tommy Flowers, a brilliant post-office electronics engineer, who went on to design **Colossus**.



Rebuilding Colossus

Colossus was the **WORLD'S FIRST** practical electronic digital and information processing machine (today we would call it a **computer**.)
Unfortunately I was not able to see Colossus because it is on another part of the site in the

Computer Museum and I only found that out late in the day. Never mind – that is a prime target for my next visit.

Journey Home

Sadly, we had to go and meet our coach-driver (Michele) in the coach park ready to leave the site at 4-30 PM.

Our Coach-driver Michele

But before we left Bletchley Park we couldn't leave without taking a photograph of our group from U3A who had all had a very enjoyable day.

Keyworth & District U3A STAR Group Visit