

## Polish History

### Polish Festival at Bletchley Park

On Sunday June 3, Federation of Poles in Great Britain (G.B.) and Bletchley Park Trust put on a Polish Festival. The festival celebrated the 68<sup>th</sup> anniversary of the handing over of the secrets of Enigma (a very sophisticated, complicated code sending communications machine used by the Germans) by Polish cryptographers to their British and French allies.

The intelligence gained through this source – codenamed **ULTRA** – was a significant aid to the Allied war effort. The exact influence of ULTRA is debated, but a typical assessment is that the end of the European war was hastened by two years because of the decryption of German ciphers.

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### The Polish Cipher Bureau

The story of Poland's pre-World War II successes in deciphering coded messages is becoming better known. Poland's Cipher Bureau is credited with solving the then state-of-the-art German Enigma top secret coding device and sharing this secret success with Great Britain and France. Thus, even though Poland itself was overrun by the German Army at the beginning of the war, this Polish contribution became one of the cornerstones of the Allied victory in World War II.

The Center for Cryptologic History has incorporated these facts into presentations given in the National Cryptologic Museum in Ft. Meade, Maryland.

Uncovering the full story about the activities of the Polish Cipher Bureau before and during WW II has yet to be learned, nevertheless, some of these answers can be answered.

The State of Poland was recreated in 1920, but because of its neighbors, Poland found it was as necessary to strengthen its intelligence service as it was to strengthen its military. They established both a radio intelligence organization with monitoring stations and a cryptologic organization to monitor information about its neighbors.

In the early 1920's the German Navy learned that Great Britain had solved some of Germany's wartime codes and that information derived from German messages directed British naval strategy. To get a more secure method of safeguarding their communications, the German high command adopted the Enigma machine, a commercial Cipher device with German enhanced security features. In addition to its interchangeable rotating disks for scrambling letters of the alphabet, they converted one of the rotors to a reflecting plate and also added a plug board, whereby plugs could be shifted like plugs in a telephone switchboard to also scramble letters. It has been calculated that the possible permutations on an Enigma per letter are 2 to the 380<sup>th</sup> power.

In 1929, Poland's General Staff arranged for a course of study on the *Scientific Foundation of Cryptology* for promising students from the country's universities. Twenty students, carefully chosen, began the course, but only three completed it: Marian Rejewski, Henryk Żygalski, and Jerzy Rożyccki. These three were taken into the Cipher Bureau and had the major role in solving the German Enigma machine and exploiting it.

In early 1930, the radio intelligence and cryptologic organizations were merged into the Cipher Bureau. France, which had a traditional relationship with Poland - and found it expedient to support counterweights to Germany - provided support and training to the Polish Military, and as part of this effort, established an intelligence-sharing arrangement, which included cryptologic information.

The French had access to limited information about the Enigma machine from a German officer, who sold them descriptive data about the machine itself and some keying data. The Cipher Bureau took this information from the French, worked with

intercepted German messages, made a theoretical analysis of the Enigma, and in 1932 created an algorithm for reading these messages. Eventually these three young Polish mathematicians also devised an analytic machine, named the *Bombe*, which would process intercepted Enigma-based communications and enable rapid decipherment of them. The French never solved the Enigma machine.

The French intelligence organization had convened to a tripartite meeting in Paris in January 1939, to discuss progress toward decoding the Enigma. Neither France nor Great Britain had made much progress in solving the Enigma. The Polish representatives who knew the Enigma had been solved, said nothing, but merely observed their opposite numbers.

As Germany's aggressive policy toward Eastern Europe became clearer, France and Great Britain announced that they would assist Poland in defending itself, should the country be attacked. This prompted Poland to make a key contribution to this Allied effort. The Cipher Bureau, with the approval of Poland's Chief of General Staff, decided to share its theoretical and specific achievements against the Enigma with senior cryptologic personnel from France and Great Britain.

In July 1939, another Enigma conference was held, this time in Poland with Rejewski, Rożyccki, and Żygalski in attendance. After initial meetings in Warsaw, the group moved to a site in the small town of Pyry, on the outskirts of the capital, where a section of the Cipher Bureau had its headquarters. Speaking primarily in German, their only common language, the Polish cryptanalysts explained carefully the workings of the Enigma, how it was solved, and demonstrated the operation of the *Bombe*. ***It was at this time that Polish copies of the Enigma were given to representatives of the French Intelligence Service and Britain's Government Code and Cipher School (GC&CS) along with the plans for the Bombe.***

On September 1, 1939, just weeks after the meeting in Pyry, the German Army and Air Force launched an attack on Poland (Great Britain and France never did come to the aid of Poland like they said they would.) The Poles fought back gallantly, but were no match for the most modern military force in Europe. When it became clear that German military might was going to overwhelm Poland's valiant but outclassed forces, the archives of Poland's Cipher Bureau were intentionally destroyed in 1939. They successfully kept the secret of the Enigma's vulnerability from the Germans, but also made it difficult for us to grasp the details of the individual contributions made in this mastermind project. It is known that Marian Rejewski had a major part in working out the theoretical operations of the Enigma. It is known that Jerzy Rożyccki discovered a method of recovering the positions of the interchangeable rotors. It is known that Henryk Żygalski developed ways to process, including a method using paper charts and the early operations of the *Bombe*.

The military and civilian contingents split up. Rejewski, Żygalski, and Rożyccki escaped to Bucharest and from there eventually to Paris; they carried two copies of the Enigma with them.

The three Polish cryptanalysts worked with the French cryptologic service to provide current intelligence on the German Army during the battle for France. When the Germans overran most of France, the Polish cryptanalysts were once again relocated. First to Algeria, and eventually to Uzes, near Vichy. They worked undercover as foreign workers for a French company and continued to exploit several German systems other than the Enigma. On paper, they were assigned to the Polish Army in Exile in Britain, but operated in France under the designation of "Field Office 300."

Jerzy Rożyccki was dispatched once more to the French territories in North Africa in the summer of 1941. Since these were not under German domination, the Free French in Algeria conducted intercept activities against German forces in the region. Returning to Vichy in 1942, he drowned when his ship went down - two other members of "Field Office 300" and a French intelligence officer were also lost.

In October 1942, the German advances forced the cryptologists to evacuate. Rejewski and Żygalski underwent an odyssey, which took them to Spain, Gibraltar, and Great Britain. Because they were in Vichy (which was under German control), and a Spanish prison for a period of time, they were not taken to Bletchley Park. However, they worked on German secret police ciphers with some coordination from Bletchley Park. In May of 1944, a Polish platoon of signals intelligence



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### Quo vadis the Polish education...?

I have just finished high school, but I already gained the confidence that I was a successful student of Maria Magdalena High School in Poznań, Poland – being chosen the valedictorian at the current year's absolution and graduating with a "red belt" diploma (which is a sign of the high academic record). Now it's high time to share some thoughts concerning a new project regarding a curriculum of "essential reading" obligatory books at Polish schools, which has been drawn lately.

In Poland, each year from the "1<sup>st</sup> class" of elementary school to the end of high school, pupils are required to read books which are included in a national curriculum. All the exams and prior preparations are based on the merits of these readings. It is quite understandable, and I believe it applies splendidly to a Polish educational system that is directed at instant examining. Oh, those beloved exams!

On the other hand, the curriculum is designed to educate students about the major literary personalities, genres, and trends that occurred throughout the years. It is, though, mildly concerned about the ancient writers and poets, such as Plato, Aristotle or Socrates, who are deemed as the fathers of philosophy. Thanks to them, young students would be able to develop critical thinking and reasoning, but it seems, unfortunately, that it is not a key issue now. The list of books also enables teachers to organize their lessons efficiently and to choose from the history of literature quite similar types of readings that would go well with the upbringing, development of self-consciousness and identity amongst the youth. Of course, what might be argued is the fact that making a list involves a close-minded tendency, i.e. "why choose this title, not that one?" which could influence everyone harmfully. I think this is a question of the culture and values that a nation demands to be passed on their children that disregard a number of titles while being very enthusiastic about the others. All the people would never be convinced; neither does it happen now as everyone has its own hobby horse and likes the Renaissance, not the Baroque, for instance.

No matter what one chooses to be appropriate, it is assured that certain values and attitudes such as those represented in the Decalogue (or similar canon that exists in any religions or cultures), plus some that are considered to bring freedom, open-mindedness and peace globally, are universal ones. It should be also said that the books which are selected to a curriculum must provide the whole gamut of experiences, author's attitudes to certain problems as well as the various origins both at the level of the author, and of the place of creation. Therefore, we ought to include books which are glorifying Poland, Poles and polishness (as a group of characteristics of Poles) and those that make fun of the nation and point out the vices of Poles. The curriculum must also consist of the European masterpieces like Balzac's, Dostoyevsky's, Shakespeare's and Kafka's works.

#### Some think differently.

The current Minister of Education with the help of his co-workers as well as with the teachers, as they say, prepared a project that would change the curriculum of "essential reading" obligatory books. It involves the deletion of a number of books that are said to be the European masterpieces or the masterpieces of the Polish literature, like "A different world" ("Inny świat") written by Gustaw Herling-Grudziński in which the author describes the totalitarian system and his imprisonment in the Soviet forced-labor camp, adding a few new titles most from which do not happen to be well-known.

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### China lose to Poland again in men's volleyball World League

*Xinhua - People's Daily Online* reported about China lost their second consecutive match to world runner-up Poland in the men's volleyball World League which they hosted on Sunday.

China was beaten by the visitors on Saturday and bounced back on Sunday from the defeat by winning the first set. However, Poland fought back and took the next three sets for the win 3-1.

"I am satisfied with our players' performances, but the gap between us is too big," said Zhou Jian'an, head coach of the Chinese national team.

"We had our chances but we failed to take them," Zhou said. □

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