COLOSSUS -- WORLD WAR II COMPUTER
(The First Word Processor)

Computer History Vignettes

By Bob Bemer FN S M L

I was there at a very dramatic moment of the invitational International Research Conference on the History of Computing, in Los Alamos, New Mexico, beginning 1976 June 10. Others there may have recounted it, but I can add a facet to this jewel of a revelation.

The conference started on a Thursday, and I had been in New York City for the very overcrowded National Computer Conference, as well as for the 18th RAND symposium, run by Fred Gruenberger and Paul Armer. On Wednesday the 9th I was glad to depart that city to Albuquerque, with Dr. Heinz Zemanek (President of IFIP, the International Federation for Information Processing) as my seatmate. He regaled me with some wonderful stories of early European computing devices, and various usages in Austria as well, where he had created a computer history museum. I rented a car at the airport and drove us to Los Alamos.

I was so weary of New York that I bought steak, canned corn, a metal grill, charcoal, reading material, and Scotch. I then took myself all alone to a little mesa East of Los Alamos, and viewed a 1000 foot sheer drop while I had a wonderful, solitary dinner.

On Friday evening a reception was given by the Director of the Los Alamos Labs, in the Red Room of the Ray Bradbury Science Museum. That alone could have warned me of science non-fiction to come. Among the many that I conversed with was a medium-sized Englishman named Dr. A. W. M. Coombs, who was so excited about something that he was literally bouncing up and down. Not being bashful I asked (and he didn't mind) about the cause of his excitement, and he replied "You'll know tomorrow morning -- you'll know".

Saturday morning we regathered in the Auditorium of the Physics Division. I sat third row from the front, a couple seats in from the right, to get a good view of all the famous attendees. To my left in the same row, three empty seats intervening, was the bouncy Englishman, all smiles and laughter. In front of him, two seats to his left, was Professor Konrad Zuse, who had already told the conference about his use of relay computers to trim the control surfaces on the V-1 buzz bombs going to London, and how Hitler had refused to allow him to develop an electronic computer for Germany during World War II (Hitler said it would not be needed, because the V-2 rockets were going to be so successful). In the fifth row, again to the left, was Dr. John Mauchly, of ENIAC fame.

On stage came Prof. Brian Randell, asking if anyone had ever wondered what Alan Turing had done during World War II? He then showed slides of a place called Bletchley Park, home base of the British cryptographic services during that period. After a while he showed us a slide of a lune-shaped aperture device he had found in a drawer whilst rummaging around there. Turned out it was part of a 5000-character-per-second (!) paper tape reader.

From there he went on to tell the story of Colossus, the world's really first electronic computer, used to break the German Enigma cipher. Of course everyone knows about it now. Much has been written on the subject. And most have agreed that the Allies could very well have lost the war without the services of Colossus and its successors in unbuttoning Enigma. But that day at Los Alamos was close to the first time the British Official Secrets Act had permitted any disclosures.

My decision to keep everyone in view paid off. I looked at Mauchly, who had thought up until that moment that he was involved in inventing the world's first electronic computer. I have heard the expression many times about jaws dropping, but I had really never seen it happen before. And Zuse -- with a facial expression that could have been anguish. I'll never know whether it was national, in that Germany lost the war in part because he was not permitted to build his electronic computer, or if it was professional, in that he could have taken first honors in the design of the world's most marvelous tool.

But my English friend (who told us all about it later) was the man doing the day-to-day running of Colossus. I saw then why he was so terribly excited. Just imagine the relief of a man who, a third of a century later, could at last answer his children on "What did you do in the war, Daddy?"

FURTHER INFORMATION

You can find many discussions and pictures of Colossus and the German Enigma cipher machine on the WEB, but always remember that the Web is seldom retrofitted with stories that happened prior to its existence.

Here are some I found by searching ***"colossus +enigma"***:

TOPIC		***pp***	***pics***
Visit Bletchley Park	See	2	1
England's Colossus rebuild project	See	5	9
Obituary - Tommy Flowers	See	4	1
McMaster U Brief history of Colossus	See	2	0
McMaster U Brief history of Enigma & Colossus	See	2	0
McMaster U. timeline on Enigma	See	4	1
McMaster U course outline bibliography	See	1	0
Course outline on Enigma	See	2	1
Brunel U course announcement on Colossus	See	2	2
Bletchley Park Official Website	See	?	?
Invitation to Bletchley Park lecture - Australia, 1998	See	2	0
IEEE Computer Society summary	See	1	3
UK Enigma & Codebreaking Exhibition - 1998	See	1	1
Enigma, Bombe, Colossus & Co.	See	4	4

And of course don't forget the book centered about Colossus, Anthony Cave Brown's masterpiece **"Bodyguard of Lies"**.

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