Enigma

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Robert Harris
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The pretext—I would like to say "justification"—for reviewing this book in a publication of the AMS must be that it is a novel explicitly based on the effective use of mathematical method in the specific context of code-breaking in World War II. The author pays tribute to the inspired work of a group of mathematicians—and one, in particular, Tom Jericho, disciple of Alan Turing—in breaking the German U-boat Enigma code and thus enabling the Allies to win the battle of the Atlantic in 1943. If Hugh Whitemore deserved the award he was given by JPBM for his play "Breaking the Code", dealing with the life of Alan Turing—and I have no doubt he did—on the grounds that he had helped to make the lay public aware of the importance of mathematics, then certainly Robert Harris is deserving of our appreciation for writing an excellent, thrilling novel with a mathematician doing mathematics as hero. (Actually, this is not the first time Robert Harris has done us such a service; on August 15, 1993, he published a review of *Codebreaker: The Inside Story of Bletchley Park*, edited by R. H. Hinsley and Alan Stripp, in the *London Sunday Times* under the heading "The house that won the war".)

It is in fact strange that, whereas the play by Hugh Whitemore, while inspired by the life and work of Alan Turing, was a work of highly imaginative dramatic fiction, *Enigma*, a work of avowed fiction, recreates the atmosphere among those engaged in code-breaking at Bletchley Park with remarkable fidelity. My own period of service at Bletchley Park began on January 12, 1942, and continued until shortly after the end of the war in Europe. For the first year I was in Hut 8 working on the U-boat Enigma code, so I participated in the milieu in which the action of this novel takes place. Early in 1943 I was transferred to work on the Geheimchreiber (or "Fish", as we irreverently called it), an even more sophisticated machine which came to carry practically all the highest-grade German cipher traffic. By the middle of 1943, practically all those who had been working on the naval Enigma were similarly engaged on breaking Fish.

The events in the novel take place in February and March of 1943; moreover, they are, in their essence, fictitious, although the German signals spelled out in the text are authentic. Thus I cannot talk of the authenticity of the events. However, since it is claimed that the book was "meticulously researched", I must point out that there are some details which are not quite right. There is no mention of Fish at all, although some fishy names are assigned to various Enigma channels. Colossus is described as a "superbombe" ("an electronic computer", says Tom Jericho presciently), but in fact Colossus was used to help break Fish, whereas the bombe was

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used to help break Enigma. Bletchley Park is referred to frequently as "Bletchley", an abbreviation I never heard. In the decrypts no symbol is used to provide the space between words. And so on…

But perhaps the most significant departure from reality lies in the Herculean role assigned to Tom Jericho. In this respect one finds the single feature that this novel and "Breaking the Code" share in common—attributing the success to one man. In the case of the play the man was Alan Turing—and Hugh Whitemore's cast list did not really include any other effective cryptanalyst. Robert Harris rightly has a large cast of cryptanalysts, but they seem singularly ineffective except at routine tasks. Both the great intellectual triumphs of the novel are exclusively the brainchildren of Tom Jericho—and both leave him exhausted and emaciated—no wonder! All the successes I recall—and there were many—were very much joint efforts.

Of course, my own recollections are not of agonizing crises, though there were many tasks of great urgency which required us to work continuously for 24 hours or more. So while the work was wonderfully exciting and stimulating, it did not take place under the tension and mutual suspicion which characterize the atmosphere of this novel. Considerations of security abounded but, at least during the war, interfered very little with our effectiveness. For example, contrary to what Harris reports, I never had the smallest difficulty in entering Hut 6 or Hut 3, or any other hut, and was never stopped and asked my business. (There is a strange reference on p. 41 to the sign at the entrance gate being changed from "Government Code and Cipher School" to "Government Communications Headquarters"—I would swear there never was *any* sign. We were not that casual about security!).

My final carp is about the Author's Note saying, "The characters, however, are entirely fictional." Alan Turing makes his first appearance on p. 9 and is referred to quite frequently. Dilly Knox, Gordon Welchman, and Commander Travis all have walk-on parts. What did Harris mean?

To sum up, this is a fine book, a very good thriller, and very pleasing reading to mathematicians, who find in its pages a vindication of their belief that a mathematical education is of great value in many aspects of life far removed from academic mathematical research.