THE IMITATION GAME

TABLE OF CONTENTS

MOVIE INFO

- MOVIE RELEASED IN 2014 DIRECTED BY MORTEN TYLDUM AND SCREENED BY GRAHAM MOORE;
- ADAPTATION OF ANDREW HODGES' BIOGRAPHY ENTITLED ALAN TURING OR THE ENIGMA OF INTELLIGENCE;
- INSPIRED BY THE LIFE OF BRITISH MATHEMATICIAN AND CRYPTANALYST ALAN TURING DURING WORLD WAR II;
- KEYS: SOCIETY DURING WORLD WAR II, SCIENCES, ESPIONAGE AND STATE SECRETS.

SUMMARY

IN 1939, NEWLY CREATED
BRITISH INTELLIGENCE
AGENCY MI6 RECRUITS
CAMBRIDGE
MATHEMATICS ALUMNUS
ALAN TURING (BENEDICT
CUMBERBATCH) TO
CRACK NAZI CODES,
INCLUDING ENIGMA --
WHICH CRYPTANALYSTS
HAD THOUGHT
UNBREAKABLE.

TURING'S TEAM, INCLUDING JOAN CLARKE (KEIRA KNIGHTLEY), ANALYZE ENIGMA
MESSAGES WHILE HE BUILDS A MACHINE TO DECIPHER THEM. TURING AND TEAM FINALLY
SUCCEED AND BECOME HEROES, BUT IN 1952, THE QUIET GENIUS ENCOUNTERS
DISGRACE WHEN AUTHORITIES REVEAL HE IS GAY AND SEND HIM TO PRISON.

WHAT'S ENIGMA?

THE ENIGMA MACHINE, THE GERMAN CIPHER DEVICE TURING AIMED TO CRACK, RELIED ON ROTORS THAT SCRAMBLED MESSAGES. INFORMATIONAL THEORY DEALS WITH QUANTIFYING INFORMATION AND ITS TRANSMISSION. TURING'S APPROACH INVOLVED ANALYZING THE STATISTICAL PATTERNS (INFORMATION CONTENT) OF THE ENCRYPTED MESSAGES TO IDENTIFY WEAKNESSES IN THE ENIGMA'S SCRAMBLING PROCESS.

THE TURING BOMBE & AI?

THE TURING BOMBE, AN ELECTROMECHANICAL MACHINE BUILT BY TURING'S TEAM, AIMED TO AUTOMATE THE ENIGMA CODEBREAKING PROCESS. BY STATISTICALLY ANALYZING THE ENCRYPTED MESSAGES AT HIGH SPEED, THE BOMBE COULD IDENTIFY POTENTIAL CODE SETTINGS MORE EFFICIENTLY. THIS NOTION CONNECTS TO INFORMATIONAL THEORY'S FOCUS ON OPTIMIZING THE TRANSMISSION AND PROCESSING OF INFORMATION.
THIS PAVED THE WAY FOR FUTURE ADVANCEMENTS IN ARTIFICIAL INTELLIGENCE (AI), WHICH HEAVILY RELIES ON PROCESSING AND ANALYZING INFORMATION.
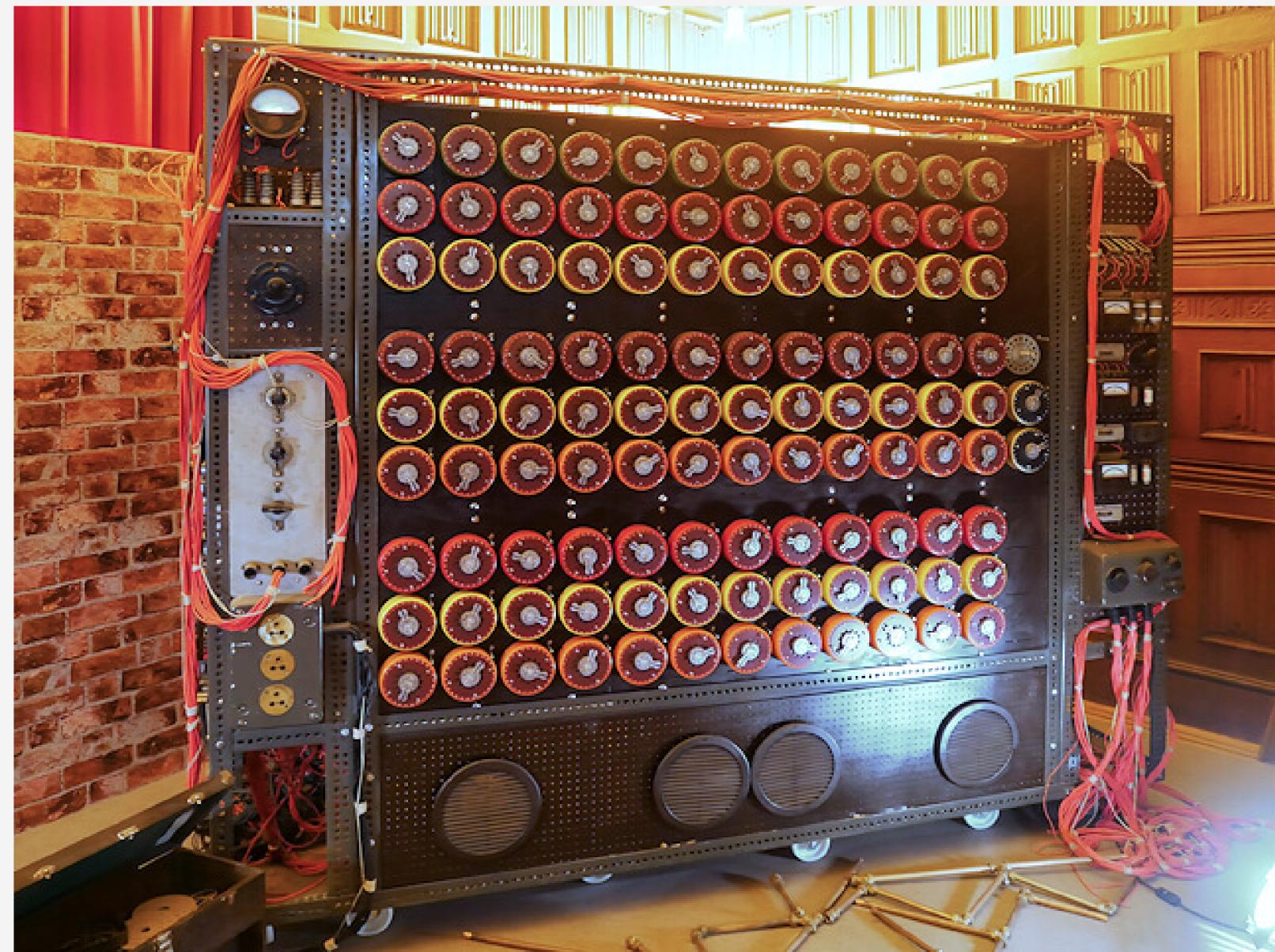
HOW IS STATISTICS USED TO CONCEAL THE FACT THAT ALLIES BROKE THE CODE?
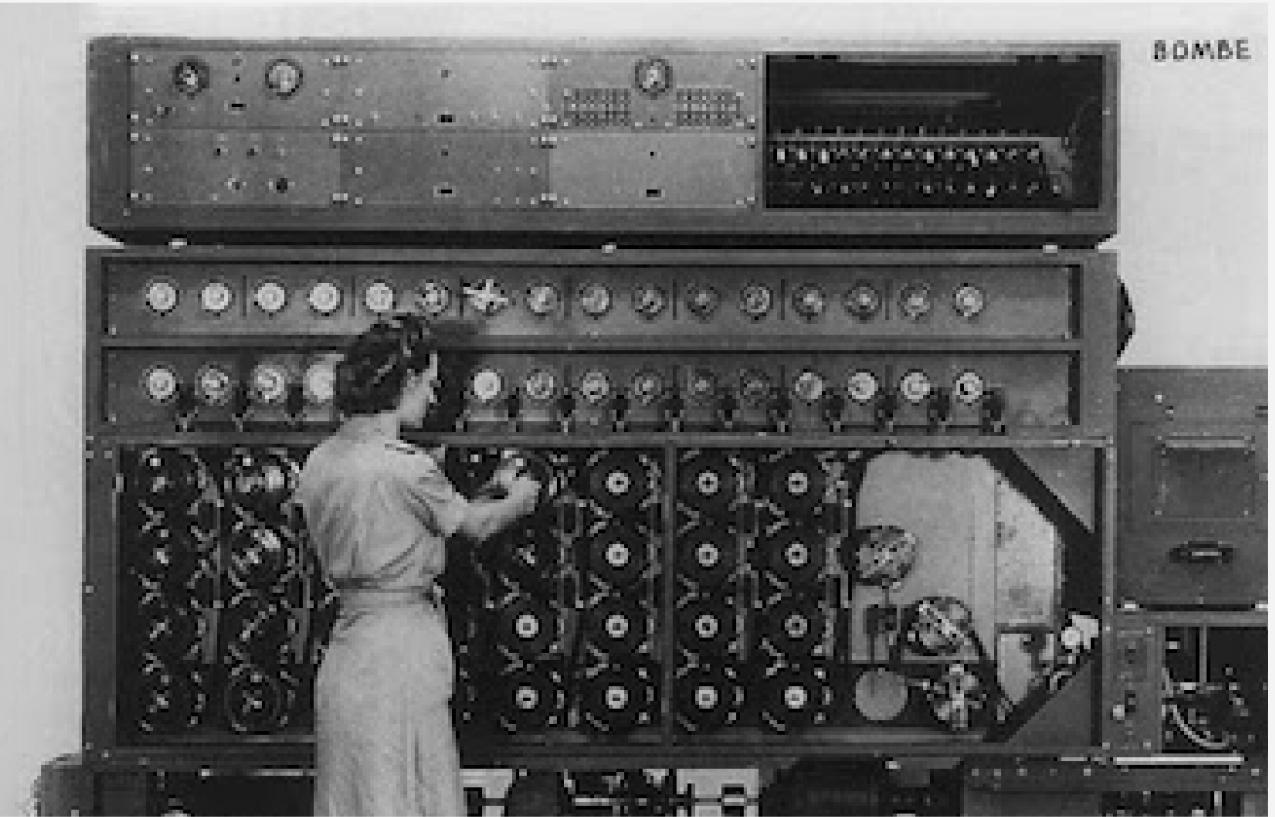
(A) WAIT A FEW DAYS TO SINK SOME U-BOATS, HOPING THEY WON'T HAVE MOVED TOO FAR (AND INTRODUCE RANDOM-NESS INTO YOUR WAIT TIME, AGAIN SO AS TO NOT TIP OFF THE ENEMY)
(B) DON'T EVEN ATTACK THEM AT ALL, TO DRIVE DOWN THE PROBABILITY CALCULATION. YOU PAY THE PRICE OF LETTING SOME U-BOATS SURVIVE THIS MONTH, SO THAT YOU CAN KEEP SINKING THEM EVERY MONTH.
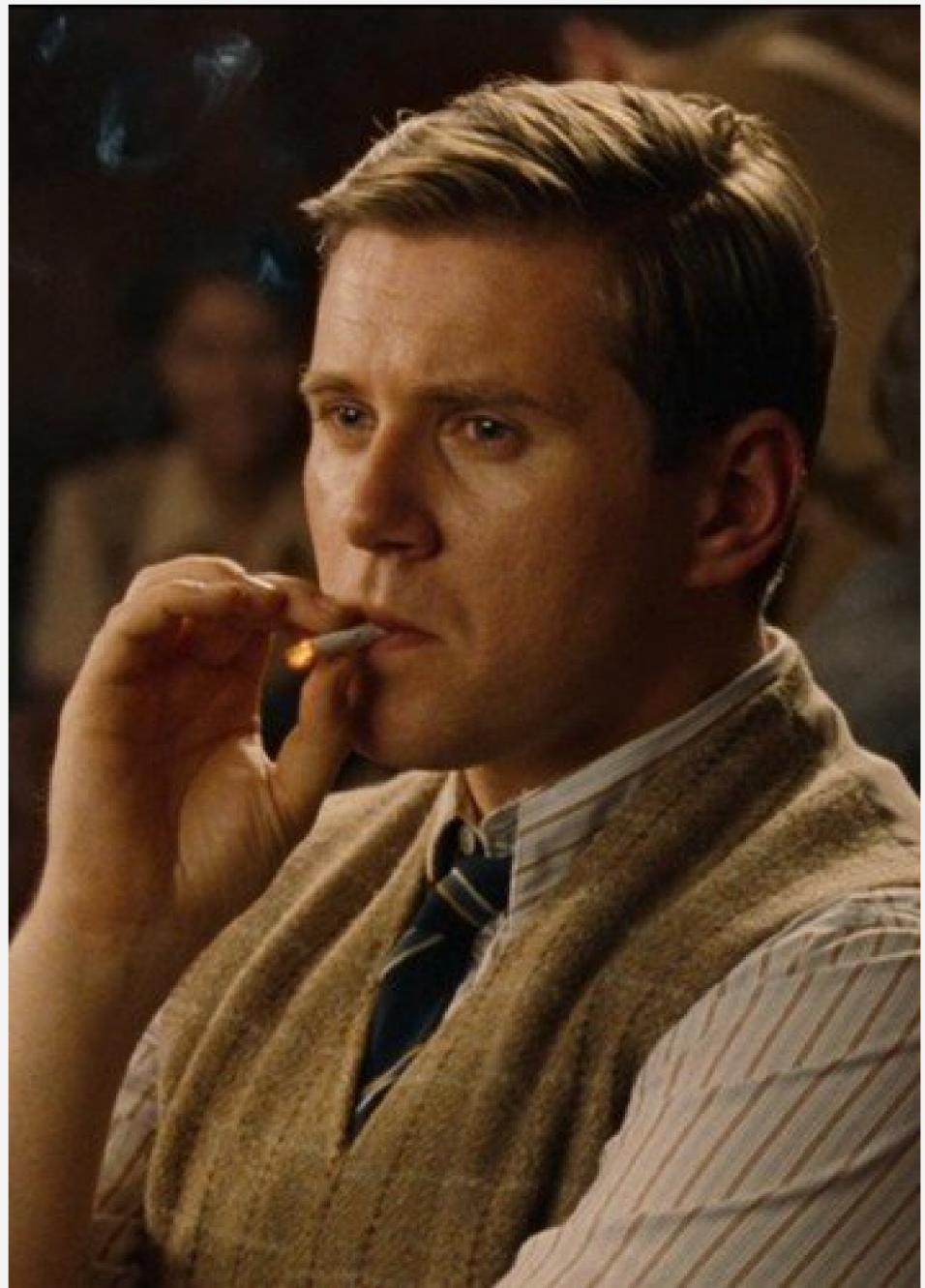
JOHN CAIRNCROSS

STEWART MENZIES