YAY: MAGNIFICENT HISTORY OF COMPUTERS

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HISTORY OF COMPUTERS

HERE, THE INTRODUCTION...

Throughout human history, the closest thing to a computer was the abacus, which is actually considered a calculator since it required a human operator. Computers, on the other hand, perform calculations automatically by following a series of built-in commands called software.

In the 20th century breakthroughs in technology allowed for the ever-evolving computing machines we see today. But even prior to the advent of microprocessors and supercomputers, there were certain notable scientists and inventors that helped lay the groundwork for a technology that has since drastically reshaped our lives.


COMPUTERS
A BRIEF HISTORY

The Language before the Hardware

The universal language in which computers carry out processor instructions originated in 17th century in the the binary numerical system. Developed by German philosopher and mathematician Gottfried Wilhelm Leibni system came about as a way to represent decimal numbers using only two digits, the number zero and the nu one. His system was partly inspired by philosophical explanations in the classical Chinese text the "I Ching," w understood the universe in terms of dualities such as light and darkness and male and female. While there wa practical use for his newly codified system at the time, Leibniz believed that it was possible for a machine to s make use of these long strings of binary numbers.

In 1847, English mathematician George Boole introduced a newly devised algebraic language built on Leibn His "Boolean algebra" was actually a system of logic, with mathematical equations used to represent stateme logic.

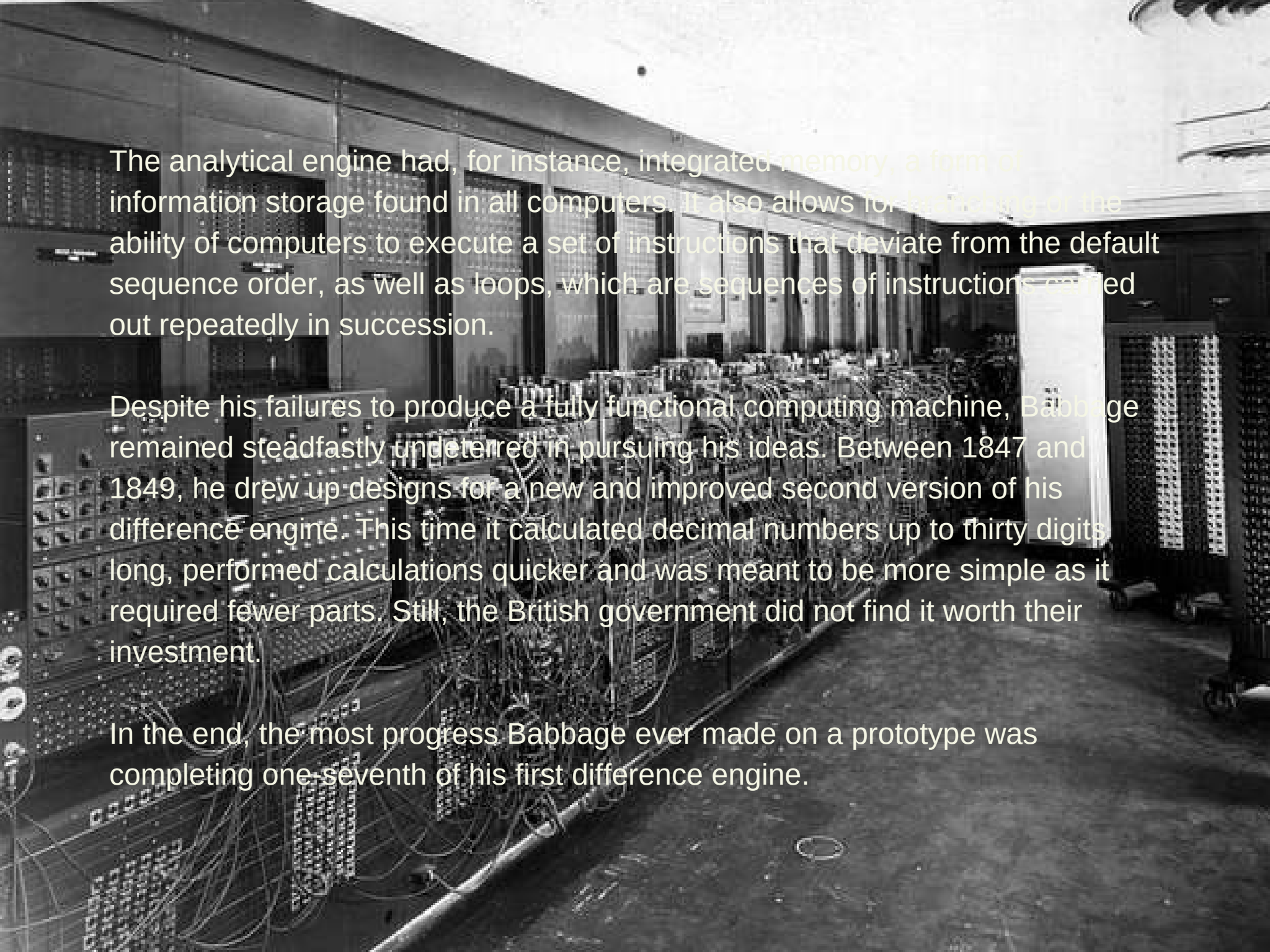
Just as important was that it employed a binary approach in which the relationship between different mathem quantities would be either true or false, 0 or 1. And though there was no obvious application for Boole's alge time, another mathematician, Charles Sanders Pierce spent decades expanding the system and eventually fo 1886 that the calculations can be carried out with electrical switching circuits.

And in time, Boolean logic would become instrumental in the design of electronic computers.

The Earliest Processors

English mathematician Charles Babbage is credited with having assembled the first mechanical computers — at least technically speaking. His early 19th century machines featured a way to input numbers, memory, a processor and a way to output the results. The initial attempt to build the world's first computer, which he called the "difference engine," was a costly endeavor that was all but abandoned after over 17,000 pounds sterling was spent on its development. The design called for a machine that calculated values and printed the results automatically onto a table. It was to be hand cranked and would have weighed four tons. The project was eventually axed after the British government cut off Babbage's funding in 1842.

This forced the inventor to move on to another idea of his called the analytical engine, a more ambitious machine for general purpose computing rather than just arithmetic. And though he wasn't able to follow through and build a working device, Babbage's design featured essentially the same logical structure as electronic computers that would come into use in the 20th century.



The analytical engine had, for instance, integrated memory, a form of information storage found in all computers. It also allows for branching or the ability of computers to execute a set of instructions that deviate from the default sequence order, as well as loops, which are sequences of instructions carried out repeatedly in succession.

Despite his failures to produce a fully functional computing machine, Babbage remained steadfastly undeterred in pursuing his ideas. Between 1847 and 1849, he drew up designs for a new and improved second version of his difference engine. This time it calculated decimal numbers up to thirty digits long, performed calculations quicker and was meant to be more simple as it required fewer parts. Still, the British government did not find it worth their investment.

In the end, the most progress Babbage ever made on a prototype was completing one-seventh of his first difference engine.