

SECTION 3.2.9 “COMPUTING AND THE MIND OF MAN”

In 1962, a grant from IBM helped create a new television series, “Logic by Machine,” and a number of professionals, including Hamming, were chosen to explain computers to the world at large. Hamming was tasked with describing to a public audience, without formal training, what computers did, why they were important, and what the future would hold. The series director was Richard Moore. The series had six parts, which appeared on National Educational Television, aired by San Francisco’s KQED in 1962.

The [videos](#) show Hamming’s early lecturing style, his deep knowledge, and his insight into the field of computer science. It also shows an ability to explain complex ideas in non-boring and non-technical ways. You may also see some of his early dry humor. Hamming proved up to the difficult task of describing the role and future potential of computers to the common-man.



Figure 3.2.9.1-1: Hamming from the TV Series: Computing and the Mind of Man.

3.2.9.1 Computer and The Mind Of Man - Pt 1.

The following text is extracted from this archived website: <https://archive.org/details/ComputerAndTheMindOfManP1LogicByMachine>

This first episode discussed the computer revolution and the relationship between man and machine. It explained how the computer can process millions of bits of data in seconds and can handle as many arithmetic figures in one minute as a man can handle in a lifetime. This film features Dr. Richard Wesley Hamming of Bell Labs and Prof. Ernest Nagel of Columbia U. In this first show the video footage came from a speech that Hamming had given previously before the American Academy for the Advancement of Science (AAAS).

3.2.9.2 Computer And The Mind Of Man – Part 2, Universe Of Numbers

The following text is extracted from the website:

<https://archive.org/details/ComputerAndTheMindOfManP2UniverseOfNumbers>

This second episode Discusses the history of computer development from the first mechanical calculator invented by Blaise Pascal in the 17th century to Babbage calculator, to ENIAC, the first completely electronic calculator, built in the mid - 1940's. Discusses Von Neumann's binary system. It includes an explanation, in lay terms, of how a computer solves a problem. Features J. Presper Eckert, co-inventor of ENIAC; Richard Hamming of Bell Labs, and Fred Gruenberger of RAND Corp.”

3.2.9.3 Computer And The Mind Of Man Pt 3, The Universal Machine

The following text is extracted from the website:

<https://archive.org/details/ComputerAndTheMindOfManP3TheUniversalMachine>

The third episode explains that the computer is a universal machine in that it is capable of doing whatever man is capable of instructing it to do. It goes on to show how decisions from a computer depend on data and instructions put into it. A.L. Samuel from IBM describes his checkers-playing computer program. UC's Ernest Koenigsberg of CEIR; Also, with J. P. Eckert; Richard Hamming; Fred Gruenberger; Thomas Barron, Shell Development Corp; Charles R. DeCarlo, Director of Education at IBM. Short sequence with R.G. Davis, founder of SF Mime Troupe.

3.2.9.4 Computer And The Mind Of Man – Part 4, The Control Revolution

The following text is extracted from the website:

<https://archive.org/details/ComputerAndTheMindOfManP4TheControlRevolution>

Explains how the development of the computer has made possible the automatic control of routine tasks in government, industry and general business. Shows how computers are used by the Social Security Administration and by several industrial plants including the Numerical Machining Co. in Cleveland and Standard Oil's El Segundo plant. Discussion by Richard Hamming of Bell Labs, Jay Wright Forrester of M.I.T., and George Dantzig of UC School of Engineering.

3.2.9.5 Computer And The Mind Of Man – Part 5, Managers And Models

The following text is extracted from the website:

<https://archive.org/details/ComputerAndTheMindOfManP5ManagersAndModels>

Discusses the design and simulation capabilities of the digital computer, including how the computer is used in a chemical plant, a sugar refinery and a flight center where it plays an important role in the designing and testing of the booster stage of the Saturn rocket" Marshall Space Flight Center, Huntsville, AL's Dr. Helmut Holzer; Thomas Barron, Shell Development; C&H Sugar Refinery in Crockett, CA with IBM 1401 computer and Richard Brooks, Coordinator of Operations & Research; Ernest Koenigsberg, George Dantzig, and; Earl Isaac of Fair-Isaac.

3.2.9.6 Computer And The Mind Of Man, – Part 6, Engine at the Door

The following text is extracted from the website:

<https://archive.org/details/ComputerAndTheMindOfManP6EngineAtTheDoor>

J P Eckert, co - inventor of ENIAC, discusses the question '*WILL MACHINES EVER RUN MAN.*' Dr Ernest Nagel of Columbia University and Dr De Carlo of IBM point out man's responsibility in using science and technology." Also A.L. Samuel of IBM; Richard Hamming of Bell Labs; Larry Roberts of the M.I.T. Speech Recognition program; and Norbert Wiener, M.I.T. Emeritus."