

# Structure of von Neumann's IAS processor

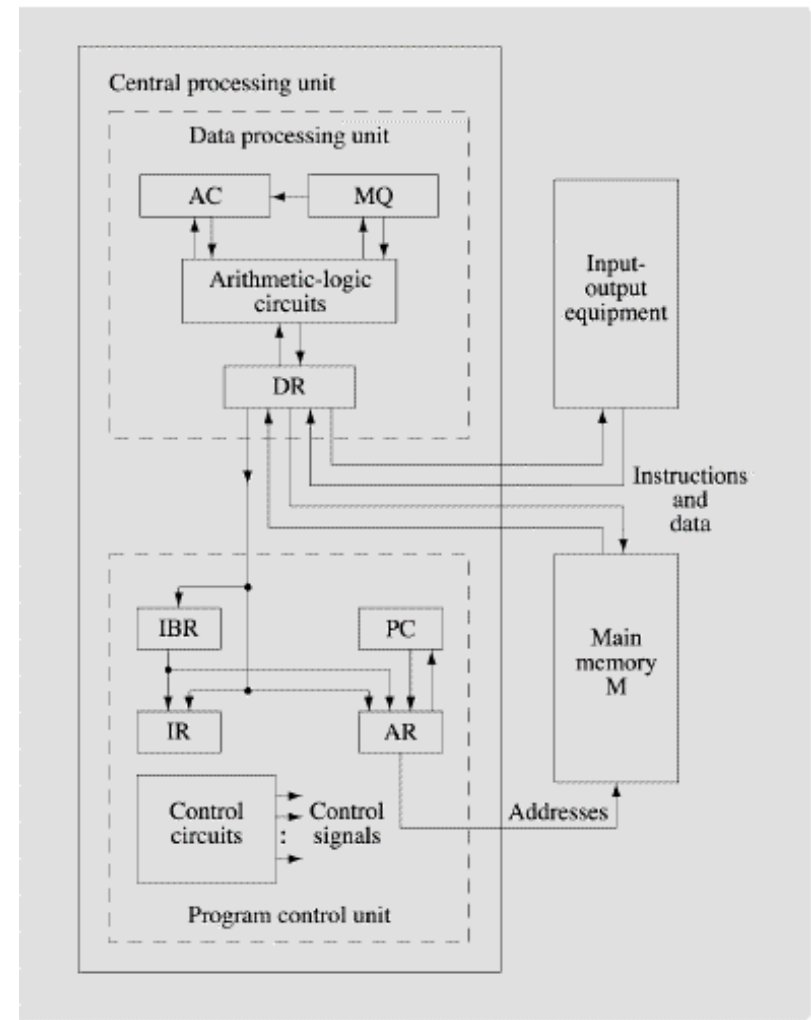
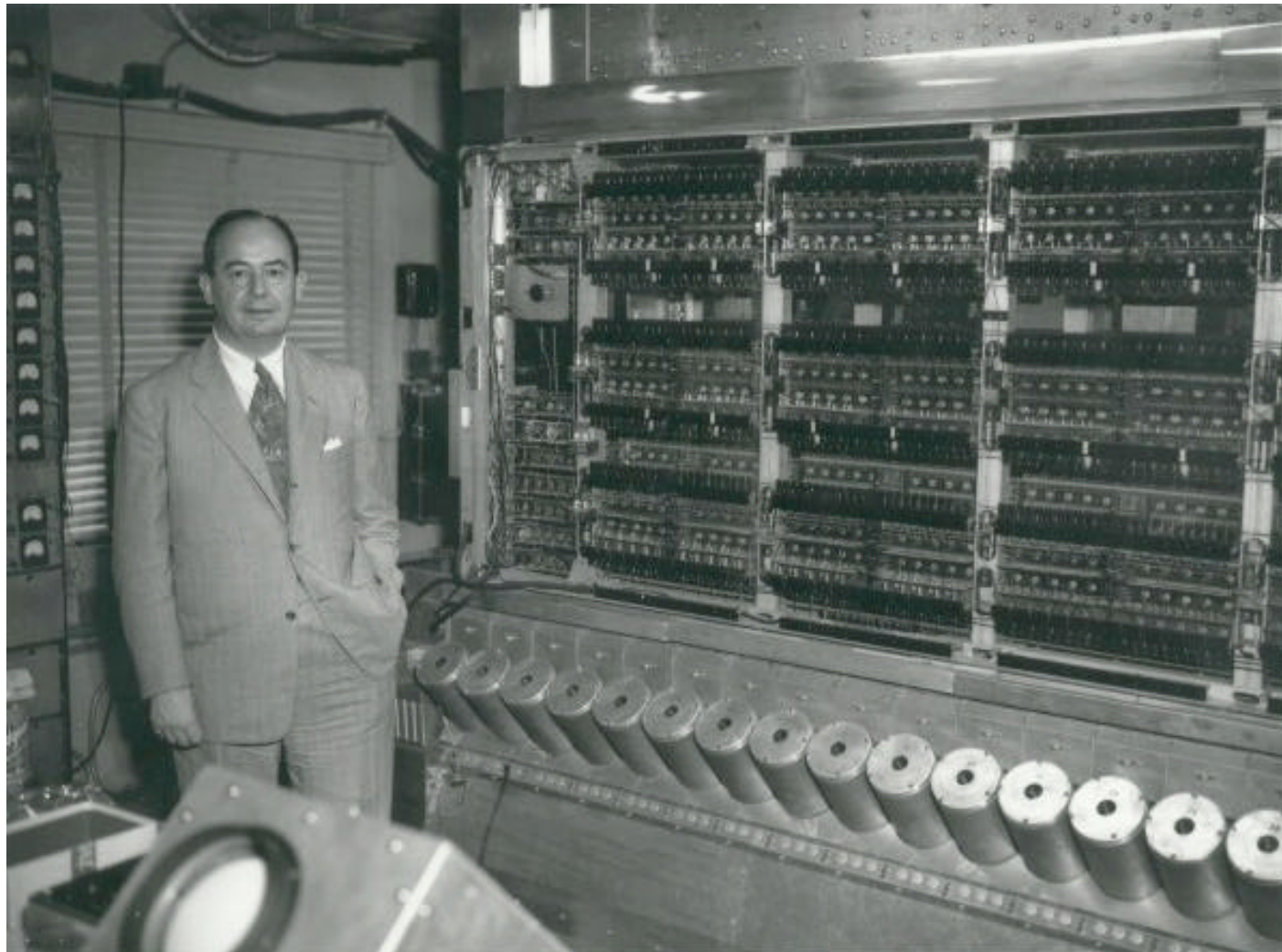


Figure 1

Structure of von Neumann's IAS processor. Reprinted with the permission of the McGraw-Hill Book Company from page 23 of the second edition of *Computer Architecture and Organization* by John P. Hayes, published by the McGraw-Hill Book Company, copyright 1988.

# Von Neumann and the IAS computer at Princeton



# Important Publications

- he wrote *Cybernetics: Or Control and Communication in the Animal and the Machine*, which ending up being the key to advancing the idea that electric brains could be programmed to simulate human brains
- wrote *Theory of Games and Economic Behavior*, which develop game theory

# Later Years

- Hired by IBM as a consultant in the 1950s
- Appointed to the Atomic Energy Commission (AEC) and supported to stockpiling of nuclear weapons, a very controversial opinion
- Died in 1957 of a cancer that spread from his shoulder

# The Controversy of von Neumann

- During his work with John Mauchley and J. Presper Eckert on EDVAC, he wrote a paper entitled “First Draft of a Report on the Electronic Discrete Variable Calculator.”
- Although the paper included work of the entire group, he only put his name on it because he did not intend to publish it.
- The paper became widely distributed without von Neumann’s knowledge, and this caused a split between Mauchley, Eckert, and von Neumann

# *Honeywell vs. Sperry Road*

- John Vincent Atanasoff claimed that he came up with the ideas that Mauchly and Eckert used in their development of ENIAC.
- In a courtroom battle of 1973 it was Atanasoff who got the credit for the development of the first computer.
- Although von Neumann was one of the biggest contributors to the modern world that we enjoy today, few even know his name.

# Our Evaluation

- Von Neumann generated such a sheer amount of new ideas in such a range of different scientific areas that one would have a fair amount of evidence to support a claim that von Neumann was the greatest and most influential scientific mind of the entire 20<sup>th</sup> century.

