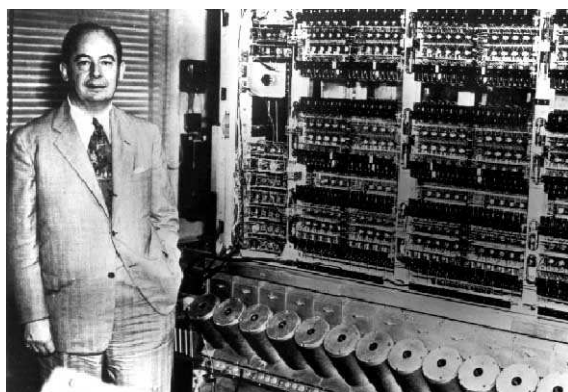


# Chapter 3. Hilbert Spaces and Orthonormal Systems

## Section 3.1. Introduction

**Note.** John von Neumann axiomatized the theory of Hilbert spaces and provided the mathematical foundations of quantum mechanics.



John von Neumann (1903–1957, seen here with the first computer of the Institute for Advanced Study (image from the MacTutor History of Mathematics archive; accessed 4/20/2019)).

**Note.** The text states (see page 87):

“Von Neumann’s work has also provided an almost definite physical interpretation of quantum mechanics in terms of abstract relations in an infinite dimensional Hilbert space.”

*Revised: 4/20/2019*