

## THE EDVAC REPORT

Paul Ceruzzi  
National Air & Space Museum  
January 30, 1997

The attached 101-page mimeographed document "First Draft of a Report on the EDVAC..." is considered the most significant document of the Information Age in which we now live. In this Draft, the mathematician John von Neumann describes a plan for the design of a digital computer, the "EDVAC," which was then being designed at the University of Pennsylvania. That description, somewhat modified, not only became the basis for the EDVAC but for nearly every digital computer built ever since, including the one that I am using to compose this memorandum on. It has come to be known among computer circles as the "von Neumann Architecture" of computers, although we now know that at least two or three others besides von Neumann were involved in the preparation of this report. The full story of this report's significance and the true source of its concepts has been argued among scholars, especially in the journal the Annals of the History of Computing, several copies of which are attached.

It is not known how many copies of this Report actually were produced, or how many still exist. Most of the reports produced for that project were stamped "Confidential," or "Secret," but obviously this one was not. We do know that Dr. Herman H. Goldstine, an Army officer associated with the project, made and distributed the copies. Dr. Goldstine recently spoke at a commemoration of the Army's work on computing, at which I was able to pose this question; however he has no recollection of how widely it was distributed. It is my estimate that between 100 to 200 copies were made, of which perhaps no more than 40 survive, probably a lot fewer.

The Smithsonian's copy was owned by Sam Alexander, a scientist at the National Bureau of Standards (now NIST), which at that time was located on Connecticut Avenue in the District. Mr. Alexander was a computer pioneer in his own right; his story needs to be told. I acquired the document from the Bureau in 1985, when it and a lot of other computer-related documents were offered to the Smithsonian. It more properly should have been offered to the National Museum of American History, but at that time they were in the process of hiring a permanent curator of computing and so were unable to act on the offer. I therefore stepped in the breach to prevent the loss of these papers. Since most of the materials were not aerospace-related, I have arranged to have them transferred to the Charles Babbage Institute for the History of Information Processing, at the University of Minnesota. I held this document back because of its special sig-

nificance, and of the connection to Washington, DC through Sam Alexander.

The document is obviously extremely fragile and is not likely to survive much physical handling. Fortunately it has been very accurately reprinted by the Annals, so there should be little need for scholars to consult it frequently.