

1093-01-111 **Peggy Aldrich Kidwell*** (kidwellp@si.edu), MRC 671, NMAH, Smithsonian Institution, P.O. Box 37012, Washington, DC 20013-7012. *Mathematical Recreations and Machines - Nim, Tic-Tac-Toe, and the Advent of the Digital Computer*. Preliminary report.

The introduction of reliable and relatively inexpensive electrical relays in the 1940s, aided by improvements in electronic circuitry in the course of the twentieth century, made it possible to build a wide array of game-playing machines. Some devices played only a specific games. Others were general purpose computers. The latter were far too expensive to be used solely for playing games. However, interest in intelligence and machine learning, combined with a need to offer public demonstrations of computers, encouraged a range of games. Machine versions of two games, Nim and tic-tac-toe, illustrate this new approach to mathematical recreations. (Received August 06, 2013)