



Heartland Science

Ohio's Legacy of Discovery & Innovation

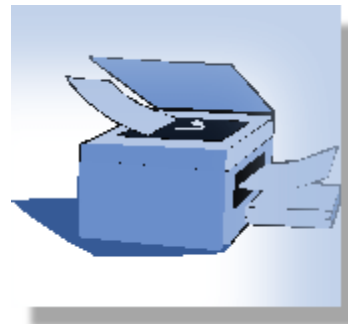


Communications

From Greenbacks to Lexis-Nexis

Xerox Copies

Researchers at the Battelle Memorial Institute in Columbus in the 1940s developed many of the technical innovations that made xerography possible. The xerographic (dry-copying) method had been invented in 1937 by Chester Carlson, a New York City patent attorney, but was little more than a curiosity until Battelle and the Haloid Company (now the Xerox Corporation) solved mechanical engineering problems needed to build Xerox machines. After a myriad of design changes and the challenges of pricing and marketing, Xerox introduced its first office copier in 1958, ten years before Carlson's death.



As a high school student, Carlson needed funding to help support his ailing parents. To raise funds, he published a chemical magazine. Making copies of the magazine was a challenge, and he developed an interest in the printing process. He earned a physics degree at the California Institute of Technology and began his career at the electronics firm P.R. Mallory Company, working in the patent department in 1930.

As part of his work at Mallory, Carlson was expected to review documents and drawings, and to register inventions. Because the patent office required several copies of each document and drawing, Carlson had to duplicate manually. It's clear why Carlson thought a duplicating machine might be a valuable invention. Carlson also was nearsighted and had some arthritis, which likely made his work even more challenging.

Before Xerox Copies?

Before the photocopier, many processes for copying were used around the world. A few of the more popular methods were the ditto, the Gestetner, and the hectograph. The hectograph is a simple way to copy, with a master copy written with a special ink and pressed into a tray of gelatine. The ditto process makes about twenty-five copies, by typing a special ink on a master sheet. The master is mounted onto a drum, and methyl alcohol dissolves a small amount of ink which is transferred to a blank sheet of paper. The Gestetner is a method of stencil duplication, manufactured in large in Britain by the 1880s. Of course, many more copying techniques have existed.

Thanks to the engineers at Battelle, duplicating has become inexpensive, reliable, and convenient.

Find out more...

- [Xerox Photocopiers, Xerography and Chester Carlson](http://inventors.about.com/library/inventors/blxerox.htm) (<http://inventors.about.com/library/inventors/blxerox.htm>)
- [Xerox Corporation](http://www.xerox.com) (www.xerox.com)
- [Chester Carlson Patents](http://www.lib.rochester.edu/index.cfm?PAGE=399) (www.lib.rochester.edu/index.cfm?PAGE=399)