

Library News

W.W. Hagerly Library, Drexel University

Volume 1, Issue 3. May 8, 2000

N. Joseph Woodland -- Inventor of Bar Code and Drexel Grad

N. Joseph Woodland, a Drexel graduate, invented the bar code, that ubiquitous technology which touches our lives daily. Woodland, who was a native of Atlantic City, graduated from Drexel in 1947. He also taught at Drexel briefly after receiving his degree.

In 1948, Woodland was approached by Bernard Silver, another member of the faculty, to help him find a way to automate the checkout process at grocery stores. Together, Silver and Woodland tried several ideas but could not get anything to work. Woodland, not to be discouraged but convinced that he was on to something, continued tinkering with the idea. He left Drexel in 1948 and spent the winter of 1948-49 in Miami Beach working on his idea.

Upon returning to Atlantic City in the spring of 1949, Woodland wrote an application for a patent on the basic bar code concept, which involved capturing data through the optical scanning of lines. The lines that Woodland envisioned were actually concentric circles and not "bars" at all. However, the basic idea was the same. The circles could be changed in small ways to encode data in a format that was machine-readable.

In 1952, Woodland received a patent on his plan. With a wife and child to support, however, he soon took a job as a design engineer at IBM. Woodland stayed with IBM for 36 years working on many successful technological innovations including the UPC or "universal product code" which became an international standard. Unfortunately, Woodland's first patent proved to be ahead of its time. Shortly after Woodland's patent expired in 1970, laser and computer technology made widespread use of the barcode possible.

The bar code is one of the most successful information technologies ever invented. Although Woodland understood that the bar code would have tremendous effect on retailing, he did not anticipate its applicability to many other industries as well. Few technologies have been as widely applied as Woodland's 1952 patent idea. One might even say that it was the barcode that enabled retailers like Wal-Mart and Amazon.com to assume their present day gargantuan proportions.

Woodland retired from IBM in 1987. In 1992 he received the National Medal of Technology.

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